

LAMPIRAN

Lampiran 1 Data Gangguan PLN Rayon Kota Pekalongan

No.	Bulan	Rayon	Feeder	Jam Padam	Jam Nyala	Lama Padam (Menit)
1	Januari	Pekalongan Kota	PKL11	9:39	9:48	9
2	Januari	Pekalongan Kota	PKL08	19:12	20:03	51
3	Januari	Pekalongan Kota	PKL12	17:13	18:01	48
4	Januari	Pekalongan Kota	PKL04	3:54	4:02	8
5	Februari	Pekalongan Kota	PKL15	18:34	20:52	138
6	Februari	Pekalongan Kota	PKL04	16:13	17:53	100
7	Maret	Pekalongan Kota	PKL02	3:31	6:33	182
8	April	Pekalongan Kota	PKL14	18:42	20:44	122
9	April	Pekalongan Kota	PKL12	19:15	20:29	74
10	Mei	Pekalongan Kota	PKL01	15:24	16:38	74
11	Juni	Pekalongan Kota	PKL01	21:25	21:54	29
12	Juni	Pekalongan Kota	PKL15	22:04	1:58	234
13	Juli	Pekalongan Kota	PKL07	3:06	3:13	7
14	Agustus	Pekalongan Kota	PKL04	19:52	20:17	25
15	Agustus	Pekalongan Kota	PKL07	4:02	4:08	6
16	Agustus	Pekalongan Kota	PKL14	10:44	10:51	7
17	Oktober	Pekalongan Kota	PKL11	14:13	17:43	210
18	Oktober	Pekalongan Kota	PKL06	22:43	22:50	7
19	Nopember	Pekalongan Kota	PKL08	0:17	2:53	156
20	Nopember	Pekalongan Kota	PKL06	11:16	11:26	10
21	Nopember	Pekalongan Kota	PKL07	6:32	7:30	58
22	Nopember	Pekalongan Kota	PKL10	15:27	16:29	62
23	Nopember	Pekalongan Kota	PKL08	18:19	19:22	63
24	Nopember	Pekalongan Kota	PKL02	0:40	0:53	13
25	Desember	Pekalongan Kota	PKL11	3:12	3:18	6
27	Desember	Pekalongan Kota	PKL06	23:57	0:56	59
28	Desember	Pekalongan Kota	PKL12	20:00	20:18	18
29	Desember	Pekalongan Kota	PKL01	14:12	14:22	10
30	Desember	Pekalongan Kota	PKL11	18:24	18:51	27

Lampiran 2 Data Jumlah Pelanggan di PLN Rayon Kota Pekalongan

No.	Nama Feeder	Jumlah Pelanggan
1	PKL01	19432
2	PKL02	9958
3	PKL04	17510
4	PKL06	22976
5	PKL07	32546
6	PKL08	6414
7	PKL09	23111
8	PKL10	31825
9	PKL11	1235
10	PKL12	25155
11	PKL14	4858
12	PKL15	2119

Lampiran 3 Hasil Export Aplikasi KALINDA

	A	B	C	D	E	F	G	H	I	J
1	nomor	nama_feeder	nilai_SAIFI	nilai_SAIDI	nilai_CAIDI	nilai_ASAI				
2	1	PKL01	0.296	0.186	0.628378	99.9979				
3	2	PKL02	0.101	0.162	1.60396	99.9982				
4	3	PKL04	0.355	0.197	0.55493	99.9978				
5	4	PKL06	0.35	0.147	0.42	99.9983				
6	5	PKL07	0.495	0.195	0.393939	99.9978				
7	6	PKL08	0.098	0.146	1.4898	99.9983				
8	7	PKL09	0	0	0	100				
9	8	PKL10	0.161	0.166	1.03106	99.9981				
10	9	PKL11	0.025	0.026	1.04	99.9997				
11	10	PKL12	0.383	0.293	0.765013	99.9967				
12	11	PKL14	0.049	0.053	1.08163	99.9994				
13	12	PKL15	0.021	0.067	3.19048	99.9992				

Lampiran 4 Kode Sumber

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.salman.perhitungankeandalanjaringandistribusi">

    <uses-permission
        android:name="android.permission.READ_EXTERNAL_STORAGE" />
    <uses-permission
        android:name="android.permission.WRITE_EXTERNAL_STORAGE" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/noActionBar">
        <activity android:name=".activity.SplashActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity android:name=".activity.BoardingActivity">
        </activity>
        <activity
            android:name=".activity.intro.IntroActivity"
            android:screenOrientation="portrait" />
        <activity
            android:name=".activity.MainActivity"
            android:screenOrientation="portrait" />
        <activity
            android:name=".activity.input.InputActivity"
            android:screenOrientation="portrait" />
        <activity
            android:name=".activity.input.InputFormActivity"
            android:screenOrientation="portrait" />
        <activity
            android:name=".activity.analisis.AnalisisActivity"
            android:screenOrientation="landscape" />
        <activity
            android:name=".activity.hasil.HasilActivity"
            android:screenOrientation="landscape" />
        <activity
            android:name=".activity.MenuAnalisaActivity"
            android:screenOrientation="portrait" />
        <activity
            android:name=".activity.AboutActivity"
            android:screenOrientation="portrait" />
        <activity
            android:name=".activity.UserGuideActivity"
            android:screenOrientation="portrait" />
    </application>

</manifest>
```

MainActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity;
import android.Manifest;
import android.app.ProgressDialog;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.os.Environment;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;
import com.ajts.androidmads.library.SQLiteToExcel;
import com.google.gson.Gson;
import com.google.gson.reflect.TypeToken;
import com.karumi.dexter.Dexter;
import com.karumi.dexter.PermissionToken;
import com.karumi.dexter.listener.PermissionDeniedResponse;
import com.karumi.dexter.listener.PermissionGrantedResponse;
import com.karumi.dexter.listener.PermissionRequest;
import com.karumi.dexter.listener.single.PermissionListener;
import com.salman.perhitungankeandalanjaringandistribusi.DatabaseHandler;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.activity.hasil.HasilActivity;
import com.salman.perhitungankeandalanjaringandistribusi.activity.input.InputActivity;
import com.salman.perhitungankeandalanjaringandistribusi.activity.intro.IntroActivity;
import com.salman.perhitungankeandalanjaringandistribusi.model.HasilData;
import java.util.ArrayList;
import java.util.List;
public class MainActivity extends AppCompatActivity {
    private View viewIntro, viewInputan, viewHasil, viewSaifiSaidi,
viewExport, viewAbout, viewGuide;
    private DatabaseHandler db;
    private ProgressDialog pd;
    private TextView toolbarTitle;
    private List<HasilData> hasilDataList = new ArrayList<>();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        db = new DatabaseHandler(this);
        pd = new ProgressDialog(MainActivity.this);
        pd.setMessage("Tunggu Sebentar. . .");
        pd.setCanceledOnTouchOutside(false);
        initView(); }
    private void permissionReq() {
Dexter.withActivity(MainActivity.this).withPermission(Manifest.permission
.WRITE_EXTERNAL_STORAGE).withListener(new PermissionListener() {
@Override public void onPermissionGranted(PermissionGrantedResponse
response) {if (hasilDataList.size() > 0) {
        db.deleteHitung();
        for (int i = 0; hasilDataList.size() > i; i++) {
HasilData hasilData = hasilDataList.get(i);
db.addHasil(newHasilData(hasilData.getNama_feeder(), hasilData.getnilai_SA
IFI(), hasilData.getNilai_SAIDI(), hasilData.getNilai_CAIDI(), hasilData.get
Nilai_ASAI()
));
}
String directory_path
=Environment.getExternalStoragePublicDirectory(Environment.DIRECTORY_DOWN
LOADS).getPath();
```

```

SQLiteToExcel sqliteToExcel = new SQLiteToExcel(MainActivity.this,
"indeks_keandalan",
directory_path);sqliteToExcel.exportSingleTable("hasil", "hasil.xls",
newSQLiteToExcel.ExportListener() {
@Override
public void onStart() {
pd.show();}
@Override
public void onCompleted(String filePath) {pd.dismiss();
Toast.makeText(MainActivity.this, "Data hasil indeks keandalan telah
berhasil di export ke dalam excel", Toast.LENGTH_LONG).show(); }
@Override
public void onError(Exception e) {pd.dismiss();
Toast.makeText(MainActivity.this, "Data hasil indeks keandalan telah
gagal di export ke dalam excel", Toast.LENGTH_LONG).show(); }
} else {
Toast.makeText(MainActivity.this, "Belum menghitung data",
Toast.LENGTH_SHORT).show(); }
@Override
public void onPermissionDenied(PermissionDeniedResponse response)
{Toast.makeText(MainActivity.this, "Permission ditolak, export gagal",
Toast.LENGTH_SHORT).show(); }
@Override public void
onPermissionRationaleShouldBeShown(PermissionRequest permission,
PermissionToken token) { /* ... */ }.check(); }
private void initView() {
toolbarTitle = findViewById(R.id.toolbarTitle);
toolbarTitle.setText(R.string.app_name);
viewIntro = findViewById(R.id.viewIntro);
viewInputan = findViewById(R.id.viewInputan);
viewHasil = findViewById(R.id.viewHasil);
viewSaifiSaidi = findViewById(R.id.viewSaifiSaidi);
viewExport = findViewById(R.id.viewExport);
viewAbout = findViewById(R.id.viewAbout);
viewGuide = findViewById(R.id.viewGuide);
viewIntro.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent intent = new Intent(MainActivity.this, IntroActivity.class);
intent.putExtra("title", "Intro");
startActivity(intent);
}
});
viewInputan.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent intent = new Intent(MainActivity.this, InputActivity.class);
intent.putExtra("title", "Inputan");startActivity(intent);
}
});
viewHasil.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
if (hasilDataList.size() > 0) {
Intent intent = new Intent(MainActivity.this, HasilActivity.class);
startActivity(intent);
} else {
Toast.makeText(MainActivity.this, "Belum melakukan input data",
Toast.LENGTH_SHORT).show(); }
}
});
});

```

```

        viewSaifiSaidi.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
    if (hasilDataList.size() > 0) {
Intent intent = new Intent(MainActivity.this, MenuAnalisaActivity.class);
startActivity(intent);
    } else {
Toast.makeText(MainActivity.this, "Belum melakukan
input data", Toast.LENGTH_SHORT).show();
    }
    }
});
viewExport.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
    if (hasilDataList.size() > 0) {
permissionReq();
    } else {
Toast.makeText(MainActivity.this, "Belum melakukan input data",
Toast.LENGTH_SHORT).show();
    }
    }
});
viewAbout.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent intent = new Intent(MainActivity.this, AboutActivity.class);
startActivity(intent);
    }
});
viewGuide.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent intent = new Intent(MainActivity.this,
UserGuideActivity.class);
startActivity(intent);
    }
});
}

@Override
protected void onResume() {
super.onResume();
SharedPreferences prefs = getSharedPreferences("pref",
MODE_PRIVATE);
String text = prefs.getString("dataHasil", "");

if (text.isEmpty()) {
hasilDataList = new ArrayList<>();
} else {
hasilDataList = new Gson().fromJson(text, new
TypeToken<List<HasilData>>() {
}.getType());
}
}
}
}

```

BoardingActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.support.v4.view.ViewPager;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.TextView;
import com.rd.PageIndicatorView;
import com.rd.animation.type.AnimationType;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.model.Boarding;
import java.util.ArrayList;
import java.util.List;
public class BoardingActivity extends AppCompatActivity {
    private ViewPager viewPager;
    private TextView btStart;
    private PageIndicatorView tabLayout;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_splashpic);
        SharedPreferences.Editor editor = getSharedPreferences("pref",
MODE_PRIVATE).edit();
        editor.putString("isShowing", "true");
        editor.apply();
        initView(); }
    public void initView() {
        tabLayout = findViewById(R.id.pageIndicatorView);
        viewPager = findViewById(R.id.viewpager);
        btStart = findViewById(R.id.btStart);
        btStart.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(BoardingActivity.this,
MainActivity.class);
                startActivity(intent);
                finish();
            }
        });
        List<Boarding> splashPic = new ArrayList<>();
        splashPic.add(new Boarding(R.drawable.bg_1, R.drawable.petir_1,
"Intro", "Penjelasan singkat tentang keandalan jaringan distribusi
listrik.));
        splashPic.add(new
Boarding(R.drawable.bg_2,R.drawable.petir_2,"Perhitungan indeks
keandalan", "Menghitung indeks keandalan jaringan distribusi listrik.));
        splashPic.add(new
Boarding(R.drawable.bg_3,R.drawable.petir_3,"Analisa", "Menganalisa hasil
indeks keandalan jaringan distribusi listrik.));
        final BoardingPagerAdapter adapterPager = new
BoardingPagerAdapter(this, splashPic);

        viewPager.setAdapter(adapterPager);
        tabLayout.setAnimationType(AnimationType.DROP);
        tabLayout.setViewPager(viewPager);
    }
}
```

SplashActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.util.Log;
import com.salman.perhitungankeandalanjaringandistribusi.DatabaseHandler;
import com.salman.perhitungankeandalanjaringandistribusi.R;

public class SplashActivity extends AppCompatActivity {
    private DatabaseHandler db;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_splash);
        SharedPreferences.Editor editor = getSharedPreferences("pref",
MODE_PRIVATE).edit();
        editor.putString("dataHasil", null);
        editor.putString("dataSaifiSaidi", null);
        editor.putString("inputData", null);
        editor.apply();

        db = new DatabaseHandler(this);
        db.deleteHitung();

        SharedPreferences prefs = getSharedPreferences("pref",
MODE_PRIVATE);
        final String text = prefs.getString("isShowing", "");

        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                if (text.isEmpty()) {
                    startActivity(new Intent(SplashActivity.this,
BoardingActivity.class));
                } else {
                    startActivity(new Intent(SplashActivity.this,
MainActivity.class));
                }
                finish();
            }
        }, 2500);
    }
}
```


IntroActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity.intro;
import android.graphics.PorterDuff;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.view.MenuItem;
import android.widget.TextView;
import com.joanzapata.pdfview.PDFView;
import com.salman.perhitungankeandalanjaringandistribusi.R;
public class IntroActivity extends AppCompatActivity {
    private static final String PDF_FILE = "intro.pdf";
    private PDFView pdfView;
    private Toolbar toolbar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_intro);
        toolbar = findViewById(R.id.toolbar);

        setSupportActionBar(toolbar);
        TextView toolbarTitle = findViewById(R.id.toolbarTitle);
        toolbarTitle.setText("INTRODUCTION");

        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);

        toolbar.getNavigationIcon().setColorFilter(getResources().getColor(R.color.toolbar_title), PorterDuff.Mode.SRC_ATOP);

        pdfView = findViewById(R.id.pdfView);

        pdfView.fromAsset(PDF_FILE)
            .defaultPage(1)
            .onPageChange(null)
            .load();
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case android.R.id.home:
                finish();
                return true;

            default:
                return super.onOptionsItemSelected(item);
        }
    }
}
```

InputActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity.input;
import android.content.Intent;
import android.content.SharedPreferences;
import android.graphics.PorterDuff;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;
import android.support.v7.widget.Toolbar;
import android.util.Log;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;
import com.google.gson.Gson;
import com.google.gson.reflect.TypeToken;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.model.DataSaifiSaidi;
import com.salman.perhitungankeandalanjaringandistribusi.model.HasilData;
import com.salman.perhitungankeandalanjaringandistribusi.model.InputData;
import java.text.DecimalFormat;
import java.util.ArrayList;
import java.util.List;
public class InputActivity extends AppCompatActivity {
    private TextView viewAdd, viewCalculate;
    private RecyclerView rvData;
    private InputAdapter adapter;
    private List<InputData> inputDataList = new ArrayList<>();
    private int totalJumlahPelanggan;
    private List<HasilData> dataHasil = new ArrayList<>();
    private List<DataSaifiSaidi> dataSaifiSaidis = new ArrayList<>();
    private Toolbar toolbar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_input);
        toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        TextView toolbarTitle = findViewById(R.id.toolbarTitle);
        toolbarTitle.setText("DATA ENTRY");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        toolbar.getNavigationIcon().setColorFilter(getResources().getColor(R.color.toolbar_title), PorterDuff.Mode.SRC_ATOP);
        initView();
        initData(); }
    public void initData() {
        SharedPreferences prefs = getSharedPreferences("pref", MODE_PRIVATE);
        String text = prefs.getString("inputData", "");
        if (text.isEmpty()) {
            inputDataList.add(new InputData("PKL01", 3, 1.883, 19432));
            inputDataList.add(new InputData("PKL02", 2, 3.2, 9958));
            inputDataList.add(new InputData("PKL04", 4, 2.216, 17510));
            inputDataList.add(new InputData("PKL06", 3, 1.26, 22976));
            inputDataList.add(new InputData("PKL07", 3, 1.183, 32546));
            inputDataList.add(new InputData("PKL08", 3, 4.5, 6414));
            inputDataList.add(new InputData("PKL09", 0, 0, 23111));
            inputDataList.add(new InputData("PKL10", 1, 1.03, 31825));
            inputDataList.add(new InputData("PKL11", 4, 4.2, 1235));
            inputDataList.add(new InputData("PKL12", 3, 2.3, 25155));
            inputDataList.add(new InputData("PKL14", 2, 2.15, 4858));
```

```

        inputDataList.add(new InputData("PKL15", 2, 6.2, 2119));
    } else {
        inputDataList = new Gson().fromJson(text, new
TypeToken<List<InputData>>() {
    }.getType());
    }
    viewCalculate.setVisibility(View.VISIBLE);
    LinearLayoutManager layoutManager = new
LinearLayoutManager(InputActivity.this, LinearLayoutManager.VERTICAL, false);
    adapter = new InputAdapter(InputActivity.this, inputDataList);
    rvData.setLayoutManager(layoutManager);
    rvData.setAdapter(adapter);
    adapter.notifyDataSetChanged();
    for (int i = 0; inputDataList.size() > i; i++) {
        totalJumlahPelanggan = totalJumlahPelanggan + (int)
Math.round(inputDataList.get(i).getJumlahPelanggan());
    }
    public void initView() {
        viewAdd = findViewById(R.id.viewAdd);
        viewCalculate = findViewById(R.id.viewCalculate);
        rvData = findViewById(R.id.rvData);
        viewAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {Intent intent = new
Intent(InputActivity.this, InputFormActivity.class);
                startActivityForResult(intent, 1);
            }
        });
        viewCalculate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                dataHasil.clear();
                dataSaifiSaidis.clear();
                for (int i = 0; inputDataList.size() > i; i++) {
                    double saifi;
                    double saidi;
                    double caidi;
                    double asai;
                    double asui;

String namaFeeder = inputDataList.get(i).getNamaFeeder();
                    double frekuensiGangguan = inputDataList.get(i).getFrekuensiGangguan();
                    double durasiGangguan = inputDataList.get(i).getDurasiGangguan();
                    double jumlahPelanggan = inputDataList.get(i).getJumlahPelanggan();
                    //SAIFI
                    if (frekuensiGangguan != 0) {
                        saifi =
Double.parseDouble(new DecimalFormat("###.###").format((frekuensiGangguan
*jumlahPelanggan) / totalJumlahPelanggan).replaceAll(",", "."));
                    } else {
                        saifi = 0;
                    }
                    //SAIDI
                    if (durasiGangguan != 0) {
                        saidi = Double.parseDouble(new DecimalFormat("###.###").format((durasiGangguan
* jumlahPelanggan) / totalJumlahPelanggan).replaceAll(",", "."));
                    } else {
                        saidi = 0;
                    }
                    //CAIDI
                    if (saidi == 0 || saifi == 0) {
                        caidi = 0;
                    } else {
                        caidi = saidi / saifi;
                    }
                    //ASAI
                    asai = ((8760 - saidi) / 8760) * 100;
                    DataSaifiSaidi dataSaifiSaidi = new DataSaifiSaidi();
                    dataSaifiSaidi.setNamaFeeder(namaFeeder);
                    dataSaifiSaidi.setNilaiSaifi(saifi);
                    dataSaifiSaidi.setNilaiSaidi(saidi);
                }
            }
        });
    }
}

```

```

        dataSaifiSaidi.setNilaiCaidi(caidi);
        dataSaifiSaidi.setNilaiAsai(asai);
        dataSaifiSaidi.setStandartNilaiSaifi(0);
        dataSaifiSaidi.setStandartNilaiSaidi(0);
        dataSaifiSaidi.setStandartNilaiCaidi(0);
        dataSaifiSaidi.setStandartNilaiAsai(0);
        HasilData hasilData = new HasilData();
        hasilData.setNama_feeder(namaFeeder);
        hasilData.setnilai_SAIPI(saifi);
        hasilData.setNilai_SAIDI(saidi);
        hasilData.setNilai_CAIDI(caidi);
        hasilData.setNilai_ASAI(asai);
        dataHasil.add(hasilData);
        dataSaifiSaidis.add(dataSaifiSaidi); }

SharedPreferences.Editor editor =
getSharedPreferences("pref",MODE_PRIVATE).edit();
        editor.putString("dataHasil", new Gson().toJson(dataHasil));
        editor.putString("dataSaifiSaidi", new
Gson().toJson(dataSaifiSaidis));
        editor.putString("inputData", new
Gson().toJson(inputDataList));
        editor.apply();
Toast.makeText(InputActivity.this, "Hitung
sukses!",Toast.LENGTH_SHORT).show();
        finish(); } }); }

@Override
public boolean onOptionsItemSelected(MenuItem item) {
    switch (item.getItemId()) {
        case android.R.id.home:
            finish();
            return true;
        default:
            return super.onOptionsItemSelected(item); } }

@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data)
{ if (requestCode == 1) {
    if (data != null) {
        String intentData = data.getStringExtra("inputData");
        InputData inputData = new Gson().fromJson(intentData, InputData.class);
        inputDataList.add(inputData);
        LinearLayoutManager layoutManager=newLinearLayoutManager(InputActivity.this,
LinearLayoutManager.VERTICAL, false);
        adapter = new InputAdapter(InputActivity.this, inputDataList);
        rvData.setLayoutManager(layoutManager);
        rvData.setAdapter(adapter);
        adapter.notifyDataSetChanged();
        viewCalculate.setVisibility(View.VISIBLE); }
    } else { if (data != null) {
        String intentData = data.getStringExtra("inputData");
        int pos = Integer.parseInt(data.getStringExtra("position"));
        InputData inputData = new Gson().fromJson(intentData, InputData.class);
        if (inputData != null) { inputDataList.set(pos, inputData);
        } else {inputDataList.remove(pos); }
        LinearLayoutManager layoutManager=newLinearLayoutManager(InputActivity.this,
LinearLayoutManager.VERTICAL, false);
        adapter = new InputAdapter(InputActivity.this, inputDataList);
        rvData.setLayoutManager(layoutManager);
        rvData.setAdapter(adapter);
        adapter.notifyDataSetChanged();
        viewCalculate.setVisibility(View.VISIBLE); } }
        for (int i = 0; inputDataList.size() > i; i++) {
totalJumlahPelanggan = totalJumlahPelanggan+
(int)Math.round(inputDataList.get(i).getJumlahPelanggan()); } }}

```

InputFormActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity.input;
import android.content.Intent;
import android.graphics.PorterDuff;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.view.MenuItem;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import com.google.gson.Gson;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.model.InputData;
public class InputFormActivity extends AppCompatActivity {
    private EditText etName, etFrekuensi, etDurasi, etJumlah;
    private TextView viewAdd, viewDelete;
    private String pos;
    private InputData inputData;
    private Toolbar toolbar;
    private int requestCode=1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_form_input);
        toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        getSupportActionBar().setTitle(getIntent().getStringExtra("title"));
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        toolbar.getNavigationIcon().setColorFilter(getResources().getColor(R.color.toolbar_title), PorterDuff.Mode.SRC_ATOP);
        initView();
    }
    public void initView() {
        etName = findViewById(R.id.etName);
        etFrekuensi = findViewById(R.id.etFrekuensi);
        etDurasi = findViewById(R.id.etDurasi);
        etJumlah = findViewById(R.id.etJumlah);
        viewAdd = findViewById(R.id.viewAdd);
        viewDelete = findViewById(R.id.viewDelete);
        String intentData = getIntent().getStringExtra("inputData");
        pos = getIntent().getStringExtra("position");
        if ( intentData!=null && !intentData.isEmpty() ) {
            viewAdd.setText("Ubah");
            viewDelete.setVisibility(View.VISIBLE);
            requestCode= 2;
            inputData = new Gson().fromJson(intentData, InputData.class);
            etName.setText(inputData.getNamaFeeder());
            etFrekuensi.setText(inputData.getFrekuensiGangguan() + "");
            etDurasi.setText(inputData.getDurasiGangguan() + "");
            etJumlah.setText(inputData.getJumlahPelanggan() + "");
            viewDelete.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    Intent intent1 = new Intent();
                    intent1.putExtra("position", pos);
                    intent1.putExtra("inputData", "");
                    setResult(requestCode, intent1);
                    finish();
                }
            });
        }
    }
};
```

```

viewAdd.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String name = etName.getText().toString();
        String frekuensi = etFrekuensi.getText().toString();
        String durasi = etDurasi.getText().toString();
        String jumlah = etJumlah.getText().toString();
        if (name.isEmpty()) {
            Toast.makeText(InputFormActivity.this, "Nama tidak
boleh kosong!", Toast.LENGTH_SHORT).show();
            return;
        }
        if (frekuensi.isEmpty()) {
            Toast.makeText(InputFormActivity.this, "Frekuensi
gangguan tidak boleh kosong!", Toast.LENGTH_SHORT).show();
            return;
        }
        if (durasi.isEmpty()) {
            Toast.makeText(InputFormActivity.this, "Durasi
gangguan tidak boleh kosong!", Toast.LENGTH_SHORT).show();
            return;
        }
        if (jumlah.isEmpty()) {
            Toast.makeText(InputFormActivity.this, "Jumlah
pelanggan tidak boleh kosong!", Toast.LENGTH_SHORT).show();
            return;
        }

        InputData inputData = new InputData();
        inputData.setNamaFeeder(name);

        inputData.setFrekuensiGangguan(Double.parseDouble(frekuensi));
        inputData.setDurasiGangguan(Double.parseDouble(durasi));
        inputData.setJumlahPelanggan(Double.parseDouble(jumlah));

        Intent intent1 = new Intent();
        intent1.putExtra("position", pos);
        intent1.putExtra("inputData", new
Gson().toJson(inputData));
        setResult(requestCode, intent1);
        finish();
    }
});
}

@Override
public boolean onOptionsItemSelected(MenuItem item) {
    switch (item.getItemId()) {
        case android.R.id.home:
            finish();
            return true;

        default:
            return super.onOptionsItemSelected(item);
    }
}
}
}

```

HasilActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity.hasil;
import android.content.SharedPreferences;
import android.graphics.PorterDuff;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;
import android.support.v7.widget.Toolbar;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import com.google.gson.Gson;
import com.google.gson.reflect.TypeToken;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.model.HasilData;
import java.util.ArrayList;
import java.util.List

public class HasilActivity extends AppCompatActivity {
    private View viewEmpty;
    private RecyclerView rvData;
    private HasilAdapter adapter;
    private List<HasilData> hasilDataList = new ArrayList<>();
    private Toolbar toolbar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_hasil);
        viewEmpty = findViewById(R.id.viewEmpty);
        SharedPreferences prefs = getSharedPreferences("pref", MODE_PRIVATE);
        String text = prefs.getString("dataHasil", "");
        if (text.isEmpty()) {
            viewEmpty.setVisibility(View.VISIBLE);
            hasilDataList = new ArrayList<>();
        } else {
            hasilDataList = new Gson().fromJson(text, new
TypeToken<List<HasilData>>() {
            }.getType());
            toolbar = findViewById(R.id.toolbar);
            setSupportActionBar(toolbar);
            TextView toolbarTitle = findViewById(R.id.toolbarTitle);
            toolbarTitle.setText("RESULTS");
            getSupportActionBar().setDisplayHomeAsUpEnabled(true);
            getSupportActionBar().setDisplayHomeAsUpEnabled(true);
            toolbar.getNavigationIcon().setColorFilter(getResources().getColor(R.color
.toolbar_title), PorterDuff.Mode.SRC_ATOP);
            initView();
        }
        public void initView() {
            rvData = findViewById(R.id.rvData);
            LinearLayoutManager layoutManager=newLinearLayoutManager(HasilActivity.this
,LinearLayoutManager.VERTICAL, false);
            adapter = new HasilAdapter(HasilActivity.this, hasilDataList);
            rvData.setLayoutManager(layoutManager);
            rvData.setAdapter(adapter);
            adapter.notifyDataSetChanged()
        }
        @Override
        public boolean onOptionsItemSelected(MenuItem item) {
            switch (item.getItemId()) {case android.R.id.home: finish();
            return true;
            default:
            return super.onOptionsItemSelected(item); } } }
```

AnalisisActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity.analisis;
import android.content.SharedPreferences;
import android.graphics.PorterDuff;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.LinearLayoutManager;
import android.support.v7.widget.RecyclerView;
import android.support.v7.widget.Toolbar;
import android.text.Html;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import com.google.gson.Gson;
import com.google.gson.reflect.TypeToken;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.model.AnalisaData;
import com.salman.perhitungankeandalanjaringandistribusi.model.DataSaifiSaidi;
import com.salman.perhitungankeandalanjaringandistribusi.model.DetailAnalisa;
import java.text.DecimalFormat;
import java.text.DecimalFormatSymbols;
import java.util.ArrayList;
import java.util.List;
import java.util.Locale;
public class AnalisisActivity extends AppCompatActivity {
    private RecyclerView rvData;
    private AnalisisAdapter adapter;
    private List<DataSaifiSaidi> dataSaifiSaidis1 = new ArrayList<>();
    private View viewEmpty;
    private TextView tvText;
    private View viewHeader, viewHeader2;
    private View tvAsai, tvCaidi, tvSaidi, tvSaifi;
    private Toolbar toolbar;
    private String standar;
    private String saidiCheck, saifiCheck, caidiCheck, asaiCheck;
    private boolean shownSaifi = false, shownSaidi = false, shownCaidi =
false, shownAsai = false;
    private TextView tvAnalisa;
    private TextView tvHeader1Saifi, tvHeader1Saidi;
    private TextView tvStandarAsai, tvStandarCaidi, tvStandarSaidi,
tvStandarSaifi;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_analisis);
        SharedPreferences prefs = getSharedPreferences("pref", MODE_PRIVATE);
        String text = prefs.getString("dataSaifiSaidi", "");
        standar = getIntent().getStringExtra("standar");
        viewEmpty = findViewById(R.id.viewEmpty);
        if (text.isEmpty()) {
            viewEmpty.setVisibility(View.VISIBLE);
            dataSaifiSaidis1 = new ArrayList<>();
        } else {
            dataSaifiSaidis1 = new Gson().fromJson(text, new
TypeToken<List<DataSaifiSaidi>>() { }.getType());
        }
        toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        TextView toolbarTitle = findViewById(R.id.toolbarTitle);
        toolbarTitle.setText("Data Analisis");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        toolbar.getNavigationIcon().setColorFilter(getResources().getColor(R.color.to
```



```

olbar_title), PorterDuff.Mode.SRC_ATOP);
    initView();}
    public void initView() {
        tvAnalisa = findViewById(R.id.tvAnalisa);
        rvData = findViewById(R.id.rvData);
        tvText = findViewById(R.id.tvText);
        tvHeader1Saifi = findViewById(R.id.tvHeader1Saifi);
        tvHeader1Saidi = findViewById(R.id.tvHeader1Saidi);
        tvAsai = findViewById(R.id.tvAsai);
        tvCaidi = findViewById(R.id.tvCaidi);
        tvSaidi = findViewById(R.id.tvSaidi);
        tvSaifi = findViewById(R.id.tvSaifi);
        tvStandarAsai = findViewById(R.id.tvStandarAsai);
        tvStandarCaidi = findViewById(R.id.tvStandarCaidi);
        tvStandarSaidi = findViewById(R.id.tvStandarSaidi);
        tvStandarSaifi = findViewById(R.id.tvStandarSaifi);
        viewEmpty = findViewById(R.id.viewEmpty);
        viewHeader = findViewById(R.id.viewHeader);
        viewHeader2 = findViewById(R.id.viewHeader2);
        if (standar.equals("SPLN")) {
            viewHeader.setVisibility(View.VISIBLE);
            tvText.setText("Standarisasi Nilai Indeks Keandalan berdasarkan SPLN");
            shownSaidi = true;
            shownSaifi = true;
            for (int i = 0; dataSaifiSaidis1.size() > i; i++) {
                dataSaifiSaidis1.get(i).setStandartNilaiSaifi(3.2);
                dataSaifiSaidis1.get(i).setStandartNilaiSaidi(21.09);}
            tvHeader1Saifi.append("\n< " +
            dataSaifiSaidis1.get(0).getStandartNilaiSaifi() + "\n(k/p/t)");
            tvHeader1Saidi.append("\n< " +
            dataSaifiSaidis1.get(0).getStandartNilaiSaidi() + "\n(j/p/t)");}
        if (standar.equals("IEEE")) {
            tvText.setText("Standarisasi Nilai Indeks Keandalan berdasarkan IEEE");
            viewHeader2.setVisibility(View.VISIBLE);
            tvStandarSaidi.setVisibility(View.VISIBLE);
            tvSaidi.setVisibility(View.VISIBLE);
            tvStandarSaifi.setVisibility(View.VISIBLE);
            tvSaifi.setVisibility(View.VISIBLE);
            tvStandarCaidi.setVisibility(View.VISIBLE);
            tvCaidi.setVisibility(View.VISIBLE);
            tvStandarAsai.setVisibility(View.VISIBLE);
            tvAsai.setVisibility(View.VISIBLE);
            shownSaidi = true;
            shownCaidi = true;
            shownSaifi = true;
            shownAsai = true;
            for (int i = 0; dataSaifiSaidis1.size() > i; i++) {
                dataSaifiSaidis1.get(i).setStandartNilaiSaifi(1.45);
                dataSaifiSaidis1.get(i).setStandartNilaiSaidi(2.30);
                dataSaifiSaidis1.get(i).setStandartNilaiCaidi(1.47);
                dataSaifiSaidis1.get(i).setStandartNilaiAsai(99.92); } }
        if (!standar.equals("IEEE") && !standar.equals("SPLN")) {
            tvText.setText("Standarisasi Nilai Indeks Keandalan berdasarkan " + standar);
            viewHeader2.setVisibility(View.VISIBLE);
            saidiCheck = getIntent().getStringExtra("standarSaidi");
            saifiCheck = getIntent().getStringExtra("standarSaifi");
            caidiCheck = getIntent().getStringExtra("standarCaidi");
            asaiCheck = getIntent().getStringExtra("standarAsai");
            if (saidiCheck != null) {
                tvStandarSaidi.setVisibility(View.VISIBLE);
                tvSaidi.setVisibility(View.VISIBLE);
                saidiCheck = saidiCheck.replace(", ", ".");
                for (int i = 0; dataSaifiSaidis1.size() > i; i++) {

```

```

dataSaifiSaidis1.get(i).setStandartNilaiSaidi(Double.parseDouble(new
DecimalFormat("##.###",new
DecimalFormatSymbols(Locale.US)).format(Double.parseDouble(saifiCheck))));
        shownSaifi = true;}
        if (saifiCheck != null) {
            tvStandarSaifi.setVisibility(View.VISIBLE);
            tvSaifi.setVisibility(View.VISIBLE);
            saifiCheck = saifiCheck.replace(",",".");
            for (int i = 0; dataSaifiSaidis1.size() > i; i++) {
dataSaifiSaidis1.get(i).setStandartNilaiSaifi(Double.parseDouble(new
DecimalFormat("##.###",new
DecimalFormatSymbols(Locale.US)).format(Double.parseDouble(saifiCheck))));
        shownSaifi = true; }
        if (caidiCheck != null) {
            tvStandarCaidi.setVisibility(View.VISIBLE);
            tvCaidi.setVisibility(View.VISIBLE);
            caidiCheck = caidiCheck.replace(",",".");
            for (int i = 0; dataSaifiSaidis1.size() > i; i++) {
            dataSaifiSaidis1.get(i).setStandartNilaiCaidi(Double.parseDouble(new
DecimalFormat("##.###",new
DecimalFormatSymbols(Locale.US)).format(Double.parseDouble(caidiCheck))));
        shownCaidi = true; }
        if (asaiCheck != null) {
            tvStandarAsai.setVisibility(View.VISIBLE);
            tvAsai.setVisibility(View.VISIBLE);
            asaiCheck = asaiCheck.replace(",",".");
            for (int i = 0; dataSaifiSaidis1.size() > i; i++) {
            dataSaifiSaidis1.get(i).setStandartNilaiAsai(Double.parseDouble(new
DecimalFormat("##.###",new
DecimalFormatSymbols(Locale.US)).format(Double.parseDouble(asaiCheck))));
        shownAsai = true;
    }
    LinearLayoutManager layoutManager1=
newLinearLayoutManager(AnalisisActivity.this,LinearLayoutManager.VERTICAL,false);
        adapter = new AnalisisAdapter(AnalisisActivity.this,
dataSaifiSaidis1, shownSaifi, shownSaidi, shownCaidi, shownAsai);
        rvData.setLayoutManager(layoutManager1);
        rvData.setAdapter(adapter);
        adapter.notifyDataSetChanged();
        tvStandarSaifi.append("\n< " +
dataSaifiSaidis1.get(0).getStandartNilaiSaifi() + "\n(k/p/t)");
        tvStandarSaidi.append("\n< " +
dataSaifiSaidis1.get(0).getStandartNilaiSaidi() + "\n(j/p/t)");
        tvStandarCaidi.append("\n< " +
dataSaifiSaidis1.get(0).getStandartNilaiCaidi() + "\n(j/k/t)");
        tvStandarAsai.append("\n> " +
dataSaifiSaidis1.get(0).getStandartNilaiAsai() + "\n(%)"");
        dataAnalisa(); }
    private void dataAnalisa() {
        List<AnalisaData> dataList = new ArrayList<>();
        for (int i = 0; dataSaifiSaidis1.size() > i; i++) {
            DataSaifiSaidi dataSaifiSaidi = dataSaifiSaidis1.get(i);
            AnalisaData analisaData = new AnalisaData();
            analisaData.setNamaFeeder(dataSaifiSaidi.getNamaFeeder());
            analisaData.setAnalisaSaifi("");
            analisaData.setAnalisaSaidi("");
            analisaData.setAnalisaCaidi("");
            analisaData.setAnalisaAsai("");
            if (dataSaifiSaidi.getStandartNilaiSaidi() != 0 &&
dataSaifiSaidi.getNilaiSaidi() >= dataSaifiSaidi.getStandartNilaiSaidi())
{analisaData.setAnalisaSaidi("true");
} else if (dataSaifiSaidi.getStandartNilaiSaidi() != 0 &&
dataSaifiSaidi.getNilaiSaidi() <= dataSaifiSaidi.getStandartNilaiSaidi())

```

```

{analisaData.setAnalisaSaidi("false"); }
if (dataSaifiSaidi.getStandartNilaiSaifi() != 0 &&
dataSaifiSaidi.getNilaiSaifi() >= dataSaifiSaidi.getStandartNilaiSaifi())
{analisaData.setAnalisaSaifi("true");
} else if (dataSaifiSaidi.getStandartNilaiSaifi() != 0 &&
dataSaifiSaidi.getNilaiSaifi() <= dataSaifiSaidi.getStandartNilaiSaifi())
{analisaData.setAnalisaSaifi("false"); }
    if (dataSaifiSaidi.getStandartNilaiCaidi() != 0 &&
dataSaifiSaidi.getNilaiCaidi() >= dataSaifiSaidi.getStandartNilaiCaidi())
{analisaData.setAnalisaCaidi("true");
} else if (dataSaifiSaidi.getStandartNilaiCaidi() != 0 &&
dataSaifiSaidi.getNilaiCaidi() <= dataSaifiSaidi.getStandartNilaiCaidi()) {
analisaData.setAnalisaCaidi("false"); }
    if (dataSaifiSaidi.getStandartNilaiAsai() != 0 &&
dataSaifiSaidi.getNilaiAsai() <= dataSaifiSaidi.getStandartNilaiAsai()) {
    analisaData.setAnalisaAsai("true");
} else if (dataSaifiSaidi.getStandartNilaiAsai() != 0 &&
dataSaifiSaidi.getNilaiAsai() >= dataSaifiSaidi.getStandartNilaiAsai()) {
    analisaData.setAnalisaAsai("false"); }
    dataList.add(analisaData); }
for (int i = 0; dataList.size() > i; i++) {
    int pos = i + 1;
    String data = handleAnalisa(dataList.get(i).getAnalisaSaifi(),
dataList.get(i).getAnalisaSaidi(), dataList.get(i).getAnalisaCaidi(),
dataList.get(i).getAnalisaAsai());
    if (i == 0) {
        tvAnalisa.setText(Html.fromHtml(pos + ". Berdasarkan standar " + standar + ",
Feeder " + dataSaifiSaidis1.get(i).getNamaFeeder() + " dinyatakan " + data));
    } else {
        tvAnalisa.append(Html.fromHtml("<br /><br />" + pos + ". Berdasarkan standar
" + standar + ", Feeder " + dataSaifiSaidis1.get(i).getNamaFeeder() + "
dinyatakan " + data));} } }
private String handleAnalisa(String saifi, String saidi, String caidi, String
asai) {
    String result = "";
    List<DetailAnalisa> stringList = new ArrayList<>();
    List<DetailAnalisa> trueData = new ArrayList<>();
    List<DetailAnalisa> falseData = new ArrayList<>();
    if (!saifi.isEmpty()) {stringList.add(new DetailAnalisa("indeks
SAIFI", Boolean.valueOf(saifi))); }
    if (!saidi.isEmpty()) { stringList.add(new DetailAnalisa("indeks SAIDI",
Boolean.valueOf(saidi))); }
    if (!caidi.isEmpty()) {stringList.add(new DetailAnalisa("indeks CAIDI",
Boolean.valueOf(caidi))); }
    if (!asai.isEmpty()) {stringList.add(new DetailAnalisa("indeks ASAI",
Boolean.valueOf(asai)));}
    for (int i = 0; stringList.size() > i; i++) {
    if (stringList.get(i).isHasil()) {trueData.add(stringList.get(i)); } }
    for (int i = 0; stringList.size() > i; i++) {
    if (!stringList.get(i).isHasil()) {falseData.add(stringList.get(i)); } }
    if (falseData.size() == stringList.size()) {
    if (dataSaifiSaidis1.get(0).getStandartNilaiAsai() != 0) {
    result = "<b>handal</b> karena seluruh indeks keandalan tidak melebihi dan
kurang dari batas yang ditetapkan.";
    } else {
    result = "<b>handal</b> karena seluruh indeks keandalan tidak melebihi dari
batas yang ditetapkan.";
    }
    } else if (trueData.size() == stringList.size()) {
    if (dataSaifiSaidis1.get(0).getStandartNilaiAsai() != 0) {
    result = "<b>tidak handal</b> karena semua indeks keandalan melebihi dan
kurang dari batas yang ditetapkan.";
    } else {
    result = "<b>tidak handal</b> karena semua indeks keandalan melebihi dari

```

```

batas yang ditetapkan."; }
    } else {
    if (dataSaifiSaidis1.get(0).getStandartNilaiAsai() != 0) {
    result = "<b>kurang handal</b> karena ada indeks keandalan yang melebihi
atau kurang dari batas yang ditetapkan yaitu ";
    } else {result = "<b>kurang handal</b> karena ada indeks keandalan yang
melebihi dari batas yang ditetapkan yaitu ";}
        if (trueData.size() > 1) {
            for (int i = 0; trueData.size() > i; i++) {
                if (i < trueData.size() - 1) {
                    result = result + trueData.get(i).getNamaIndeks() + ", ";
                } else if (i == trueData.size() - 1) {
                    result = result + "dan " + trueData.get(i).getNamaIndeks(); } }
            } else {
                result = result + trueData.get(0).getNamaIndeks(); } }
        return result; }
private void handleTitle( boolean shownSaifi, boolean shownSaidi, boolean
shownCaidi, boolean shownAsai) {
if(shownSaidi && shownSaifi && shownCaidi && shownAsai){tvText.append("
nilai SAIDI, SAIFI, CAIDI dan ASAI berdasarkan inputan");
} else if (shownSaidi && shownSaifi && shownCaidi){tvText.append(" nilai
SAIDI, SAIFI dan CAIDI berdasarkan inputan");
} else if (shownSaifi && shownSaifi && shownAsai){tvText.append(" nilai
SAIDI, SAIFI dan ASAI berdasarkan inputan");
} else if (shownSaidi && shownCaidi && shownAsai) {tvText.append(" nilai
SAIDI, CAIDI dan ASAI berdasarkan inputan");
} else if (shownSaifi && shownCaidi && shownAsai){tvText.append(" nilai
SAIFI, CAIDI dan ASAI berdasarkan inputan");
} else if (shownSaidi && shownSaifi){tvText.append(" nilai SAIDI dan SAIFI
berdasarkan inputan");
} else if (shownSaidi && shownCaidi){tvText.append(" nilai SAIDI dan
CAIDI berdasarkan inputan");
} else if (shownSaidi && shownAsai){tvText.append(" nilai SAIDI dan ASAI
berdasarkan inputan");
} else if (shownSaifi && shownCaidi){tvText.append(" nilai SAIFI dan CAIDI
berdasarkan inputan");
} else if (shownSaifi && shownAsai){tvText.append(" nilai SAIFI dan ASAI
berdasarkan inputan");
} else if (shownCaidi && shownAsai){tvText.append(" nilai CAIDI dan ASAI
berdasarkan inputan");
} else if (shownSaidi){tvText.append(" nilai SAIDI berdasarkan inputan");
} else if (shownSaifi){tvText.append(" nilai SAIFI berdasarkan inputan");
} else if (shownCaidi){tvText.append(" nilai CAIDI berdasarkan inputan");
} else if (shownAsai){tvText.append(" nilai ASAI berdasarkan inputan"); } }
@Override
public boolean onOptionsItemSelected(MenuItem item) {
    switch (item.getItemId()) {case android.R.id.home:finish();
        return true;
        default:
            return super.onOptionsItemSelected(item);} } }

```

AnalisisAdapterActivity.java

```
package com.salman.perhitungankeandalanjaringandistribusi.activity.analisis;
import android.content.Context;
import android.support.v7.widget.RecyclerView;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import com.salman.perhitungankeandalanjaringandistribusi.R;
import com.salman.perhitungankeandalanjaringandistribusi.model.DataSaifiSaidi;
import java.text.DecimalFormat;
import java.util.List;
public class AnalisisAdapter extends
RecyclerView.Adapter<AnalisisAdapter.MyViewHolder> {
    boolean shownSaifi, shownSaidi, shownCaidi, shownAsai;
    private Context context;
    private List<DataSaifiSaidi> saifiSaidiList;
    public AnalisisAdapter(Context context, List<DataSaifiSaidi>
saifiSaidiList, boolean shownSaifi, boolean shownSaidi, boolean shownCaidi,
boolean shownAsai) {
        this.context = context;
        this.saifiSaidiList = saifiSaidiList;
        this.shownSaifi = shownSaifi;
        this.shownSaidi = shownSaidi;
        this.shownCaidi = shownCaidi;
        this.shownAsai = shownAsai;}
    @Override
    public MyViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
        View itemView = LayoutInflater.from(parent.getContext())
            .inflate(R.layout.item_analisis, parent, false);
        return new MyViewHolder(itemView);}
    @Override
    public void onBindViewHolder(MyViewHolder holder, int position) {
        if (shownSaifi) {
            holder.tvSaifi.setVisibility(View.VISIBLE);
            holder.tvStandarSaifi.setVisibility(View.VISIBLE);
        } else {
            holder.tvSaifi.setVisibility(View.GONE);
            holder.tvStandarSaifi.setVisibility(View.GONE);}
        if (shownSaidi) {
            holder.tvSaidi.setVisibility(View.VISIBLE);
            holder.tvStandarSaidi.setVisibility(View.VISIBLE);
        } else {
            holder.tvSaidi.setVisibility(View.GONE);
            holder.tvStandarSaidi.setVisibility(View.GONE);}
        if (shownCaidi) {
            holder.tvCaidi.setVisibility(View.VISIBLE);
            holder.tvStandarCaidi.setVisibility(View.VISIBLE);
        } else {
            holder.tvCaidi.setVisibility(View.GONE);
            holder.tvStandarCaidi.setVisibility(View.GONE);}
        if (shownAsai) {
            holder.tvAsai.setVisibility(View.VISIBLE);
            holder.tvStandarAsai.setVisibility(View.VISIBLE);
        } else {
            holder.tvAsai.setVisibility(View.GONE);
            holder.tvStandarAsai.setVisibility(View.GONE);}
        final DataSaifiSaidi inputData = saifiSaidiList.get(position);
        int pos = position + 1;
        holder.tvNumber.setText(pos + "");
        holder.tvName.setText(inputData.getNamaFeeder());
        holder.tvSaifi.setText(new
```

```

DecimalFormat("###.###").format(inputData.getNilaiSaifi()) + "");
holder.tvSaifi.setText(new
DecimalFormat("###.###").format(inputData.getNilaiSaidi()) + "");
holder.tvCaidi.setText(new
DecimalFormat("###.###").format(inputData.getNilaiCaidi()) + "");
String asai = inputData.getNilaiAsai() + "";
if (asai.length() > 6) {
    asai = asai.substring(0, 5);}
holder.tvAsai.setText(asai + "");
double standarSaifi = inputData.getStandartNilaiSaifi();
double standarSaidi = inputData.getStandartNilaiSaidi();
double standarCaidi = inputData.getStandartNilaiCaidi();
double standarAsai = inputData.getStandartNilaiAsai();
if (inputData.getNilaiSaidi() < standarSaidi) {
    holder.tvStandarSaidi.setText(context.getString(R.string.done));
} else {
    holder.tvStandarSaidi.setText(context.getString(R.string.cross));
}
if (inputData.getNilaiSaifi() < standarSaifi) {
    holder.tvStandarSaifi.setText(context.getString(R.string.done));
} else {
    holder.tvStandarSaifi.setText(context.getString(R.string.cross));
}
if (inputData.getNilaiCaidi() < standarCaidi) {
    holder.tvStandarCaidi.setText(context.getString(R.string.done));
} else {
    holder.tvStandarCaidi.setText(context.getString(R.string.cross));
}
if (inputData.getNilaiAsai() > standarAsai) {
    holder.tvStandarAsai.setText(context.getString(R.string.done));
} else {
    holder.tvStandarAsai.setText(context.getString(R.string.cross));
} }
@Override
public int getItemCount() {
    return saifiSaidiList.size(); }
public class MyViewHolder extends RecyclerView.ViewHolder {
    public TextView tvNumber, tvName, tvSaifi, tvSaidi, tvCaidi, tvAsai,
tvStandarSaifi, tvStandarSaidi, tvStandarCaidi, tvStandarAsai;
    public MyViewHolder(View view) {
        super(view);
        tvNumber = view.findViewById(R.id.tvNumber);
        tvName = view.findViewById(R.id.tvName);
        tvSaifi = view.findViewById(R.id.tvSaifi);
        tvSaidi = view.findViewById(R.id.tvSaidi);
        tvCaidi = view.findViewById(R.id.tvCaidi);
        tvAsai = view.findViewById(R.id.tvAsai);
        tvStandarSaifi = view.findViewById(R.id.tvStandarSaifi);
        tvStandarSaidi = view.findViewById(R.id.tvStandarSaidi);
        tvStandarCaidi = view.findViewById(R.id.tvStandarCaidi);
        tvStandarAsai = view.findViewById(R.id.tvStandarAsai);
    }
}
}
}
}

```

activity_about.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <include layout="@layout/toolbar" />
    <ScrollView
        xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
        android:layout_height="match_parent">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_margin="10dp"
            android:orientation="vertical">
            <ImageView
                android:layout_width="75dp"
                android:layout_height="75dp"
                android:layout_gravity="center"
                android:layout_margin="10dp"
                android:src="@drawable/kalinda3" />
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:gravity="center"
                android:text="KALINDA\n
KALKULATOR INDEKS KEANDALAN\n
versi 1.0.0\n" />
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:gravity="center"
                android:text="Aplikasi ini dibuat guna menyelesaikan
tugas akhir di Fakultas Teknik Program Studi Teknik Elektro Universitas
Muhammadiyah Yogyakarta. Aplikasi ini dibuat oleh:\n
\n
Nama    : Salman Muntaqo Aprilian\n
\n
NIM     : 20150120033\n
" />
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:padding="10dp"
                android:text="Isi dari aplikasi ini mencakup:\n
1. Informasi singkat mengenai keandalan sistem distribusi beserta indeks
yang digunakan.\n
\n
2. Kalkulator untuk menghitung besaran angka dari indeks keandalan sistem
distribusi.\n
\n
3. Analisis singkat dari hasil perhitungan indeks keandalan sistem
distribusi.\n" />
        </LinearLayout>
    </ScrollView>
</LinearLayout>
```


UserGuideActivity.java

```
package com.salman.perhitungankeandalanjarindingandistribusi.activity;
import android.graphics.PorterDuff;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.view.MenuItem;
import android.widget.TextView;
import android.widget.Toast;
import com.salman.perhitungankeandalanjarindingandistribusi.R;
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import me.biubiubiu.justifytext.library.JustifyTextView;
public class UserGuideActivity extends AppCompatActivity {
    private Toolbar toolbar;
    private StringBuilder text = new StringBuilder();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_user_guide);
        toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        TextView toolbarTitle = findViewById(R.id.toolbarTitle);
        toolbarTitle.setText("MANUALS");
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        toolbar.getNavigationIcon().setColorFilter(getResources().getColor(R.color.toolbar_title), PorterDuff.Mode.SRC_ATOP);
        BufferedReader reader = null;
        try {
            reader = new BufferedReader(
                new
                InputStreamReader(getAssets().open("Panduan.txt")));
            String mLine;
            while ((mLine = reader.readLine()) != null) {
                text.append(mLine);
                text.append('\n');
            }
        } catch (IOException e) {
            Toast.makeText(getApplicationContext(), "Error reading
file!", Toast.LENGTH_LONG).show();
            e.printStackTrace();
        } finally {
            if (reader != null) {
                try {
                    reader.close();
                } catch (IOException e) {
                }
            }
            JustifyTextView output = findViewById(R.id.tvText);
            output.setText(text);
        }
    }
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case android.R.id.home:
                finish();
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }
}
```