Exercise 1 - Designing Health Insurance Form using GUI Components

Objective

Generate a Health Insurance registration form to register the patient details under each group. Patient Details - Title, Patient Name, Patient Phone Number (Mobile or Landline use Checkbox), Address, Age, DOB, Gender, Marital Status

Employer Details - Patient Employer, Employment Status (full time, parttime, unemployed, retired, student, other Checkbox)

Emergency contact Details - Name, Relationship, Address, Phone Number Use Submit (Button) to submit the details and display the contents. Use the Reset button to clear the form. Display using Table layout.

Algorithm

- 1. Initialize Form Data:
 - a. Initialize variables to store patient details, employer details, and emergency contact details.
- 2. Create XML Form:
 - Design an XMLL form with input fields for Patient Details (Title, Name, Phone Number, Address, Age, DOB, Gender, Marital Status), Employer Details (Employer, Employment Status), and Emergency Contact Details (Name, Relationship, Address, Phone Number).
 - b. Use checkboxes for Phone Number and Employment Status.
- 3. Implement Submit Button:
 - a. Attach an onclick listener to the Submit button.
 - b. On submission, collect data from the input fields and store it in the corresponding variables and send through intent
- 4. Table Layout:

- a. Design a table to display the collected data in a tabular format.
- b. Use rows and columns to represent different sections of the form.
- 5. Implement Reset Button:
 - a. Attach an event listener to the Reset button.
 - b. On reset, clear all input fields and reset the variables.
- 6. Submit Event Handling:
 - a. On form submission, populate the table with the collected data.
 - b. Display the table to show the user a summary of the submitted details.

Features used

- 1. LinearLayout with EditText, RadioButton, Spinner etc
- 2. Onclicklisteners
- 3. TableLayout to display form

Source Code

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http:/schemas.android.com/apk/res/android"</pre>
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http:/schemas.android.com/tools"
   android:layout width="match parent"
   android:layout height="match parent">
   <LinearLayout</pre>
       android:layout width="match parent"
       android:layout_height="match_parent"
       android:layout_marginLeft="16dp"
       android:layout_marginRight="16dp"
       android:layout_marginBottom="8dp"
       android:orientation="vertical"
       tools:context=".MainActivity">
       <TextView
            android:id="@+id/titleTextView"
            android:layout_width="match_parent"
            android:layout_height="128dp"
```

```
android:gravity="center"
    android:text="Health Insurance Registration"
    android:textSize="32sp"
    android:textStyle="bold"
    android:typeface="serif" >
<TextView
    android:id="@+id/title"
    android:layout_width="match_parent"
    android:layout_height="32dp"
    android:gravity="left"
    android:text="Patient Details"
    android:textSize="22sp"
    android:textStyle="bold"
    android:typeface="serif" >
<TextView
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Name"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/editName"
    android:layout_width="match_parent"
    android:layout height="54dp"
    android:hint="Name:"
    android:inputType="text"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/number"
    android:layout width="match parent"
    android:layout height="26dp"
```

```
android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Number"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<RadioGroup
    android:id="@+id/radio_group_id"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="4dp">
    < RadioButton
        android:id="@+id/phone radio button id"
        android:layout_width="wrap_content"
        android:layout height="wrap content"
        android:text="Phone" >
    <RadioButton
        android:id="@+id/landline_radio_button_id"
        android:layout_width="wrap_content"
        android:layout height="wrap content"
        android:text="Landline" >
/RadioGroup>
<EditText
    android:id="@+id/editNumber"
    android:layout width="match parent"
    android:layout height="54dp"
    android:hint="Number:"
    android:inputType="phone" >
<TextView
    android:id="@+id/address"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Address"
    android:textSize="18sp"
```

```
android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/editAddress"
    android:layout_width="match_parent"
    android:layout_height="54dp"
    android:hint="Address:"
    android:inputType="text"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/age"
    android:layout width="match parent"
    android:layout_height="26dp"
    android:layout marginTop="16dp"
    android:gravity="left"
    android:text="Age"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/editAge"
    android:layout width="match parent"
    android:layout_height="54dp"
    android:hint="Age:"
    android:inputType="number"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/dob"
    android:layout width="match parent"
    android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="DOB"
    android:textSize="18sp"
```

```
android:textStyle="bold"
    android:typeface="normal" >
<DatePicker</pre>
    android:id="@+id/dobPicker"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center" >
<TextView
    android:id="@+id/gender"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Gender"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<RadioGroup
    android:id="@+id/gender group"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="4dp">
    <RadioButton
        android:id="@+id/male"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Male" >
    <RadioButton
        android:id="@+id/female"
        android:layout width="wrap content"
        android:layout_height="wrap_content"
        android:text="Female" >
/RadioGroup>
<TextView
    android:id="@+id/marital_status"
    android:layout_width="match_parent"
```

```
android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Marital Status"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<Spinner
    android:id="@+id/marital status spinner"
    android:layout width="match parent"
    android:layout height="wrap content"
    android:entries="@array/marital status options" >
<TextView
    android:id="@+id/employer"
    android:layout width="match parent"
    android:layout height="32dp"
    android:layout marginTop="48dp"
    android:gravity="left"
    android:text="Employer Details"
    android:textSize="22sp"
    android:textStyle="bold"
    android:typeface="serif" >
<TextView
    android:id="@+id/employer_name"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Employer Name"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/editEmployerName"
    android:layout_width="match_parent"
    android:layout height="54dp"
```

```
android:hint="Employer Name:"
    android:inputType="text"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/employment_status"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout marginTop="16dp"
    android:gravity="left"
    android:text="Employment Status"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<Spinner
    android:id="@+id/employment status spinner"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:entries="@array/employment_status_options" >
<TextView
    android:id="@+id/emergency"
    android:layout width="match parent"
    android:layout_height="32dp"
    android:layout_marginTop="48dp"
    android:gravity="left"
    android:text="Emergency Details"
    android:textSize="22sp"
    android:textStyle="bold"
    android:typeface="serif" >
<TextView
    android:id="@+id/emergency_name"
    android:layout width="match parent"
    android:layout height="26dp"
    android:layout marginTop="16dp"
    android:gravity="left"
    android:text="Emergency Contact Name"
```

```
android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/edit emergency name"
    android:layout_width="match_parent"
    android:layout_height="54dp"
    android:hint="Employer Contact Name:"
    android:inputType="text"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/emergency_relationship"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout marginTop="16dp"
    android:gravity="left"
    android:text="Relationship"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/edit_emergency_relationship"
    android:layout_width="match_parent"
    android:layout_height="54dp"
    android:hint="Relationship:"
    android:inputType="text"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/emergency_address"
    android:layout width="match parent"
    android:layout height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Address"
    android:textSize="18sp"
```

```
android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/edit_emergency_address"
    android:layout width="match parent"
    android:layout_height="54dp"
    android:hint="Address:"
    android:inputType="text"
    android:textColor="#0000FF"
    android:typeface="sans" >
<TextView
    android:id="@+id/emergency_phone"
    android:layout_width="match_parent"
    android:layout_height="26dp"
    android:layout_marginTop="16dp"
    android:gravity="left"
    android:text="Phone"
    android:textSize="18sp"
    android:textStyle="bold"
    android:typeface="normal" >
<EditText
    android:id="@+id/edit_emergency_phone"
    android:layout_width="match_parent"
    android:layout_height="54dp"
    android:hint="Phone Number:"
    android:inputType="phone"
    android:textColor="#0000FF"
    android:typeface="sans" >
<Button
    android:id="@+id/submit"
    android:layout width="match parent"
    android:layout_height="64dp"
    android:layout_marginTop="32dp"
    android:backgroundTint="#4CAF50"
    android:gravity="center"
    android:hint="Register"
```

```
android:onClick="openTableActivity" >

<Button

android:id="@+id/reset"
    android:layout_width="match_parent"
    android:layout_height="64dp"
    android:layout_marginTop="16dp"
    android:backgroundTint="#F44336"
    android:gravity="center"
    android:hint="Reset"
    android:onClick="resetFormFields" >
    /LinearLayout>
/ScrollView>
```

MainActivity.java

```
package com.example.a1;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.Spinner;
import java.util.Calendar;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState);
       setContentView(R.layout.activity_main);
   }
   public void openTableActivity(View view) {
```

```
Intent intent = new Intent(this, TableActivity.class);
        intent.putExtra("name", ((EditText)
findViewById(R.id.editName)).getText().toString()); if
        (((RadioButton)
findViewById(R.id.phone_radio_button_id)).isChecked())
            intent.putExtra("number_type", "Phone");
        else if (((RadioButton)
findViewById(R.id.phone_radio_button_id)).isChecked())
            intent.putExtra("number_type", "Landline");
        intent.putExtra("number", ((EditText)
findViewById(R.id.editNumber)).getText().toString());
        intent.putExtra("address", ((EditText)
findViewById(R.id.editAddress)).getText().toString());
        intent.putExtra("age", ((EditText)
findViewById(R.id.editAge)).getText().toString());
       DatePicker datePicker = findViewById(R.id.dobPicker);
        int day = datePicker.getDayOfMonth();
        int month = datePicker.getMonth();
        int year = datePicker.getYear();
        Calendar calendar = Calendar.getInstance();
        calendar.set(year, month, day);
        intent.putExtra("dob", calendar.getTime().toString());
        if (((RadioButton) findViewById(R.id.male)).isChecked())
intent.putExtra("gender", "Male");
        else if (((RadioButton) findViewById(R.id.female)).isChecked())
            intent.putExtra("gender", "Female");
        intent.putExtra("marital_status", ((Spinner))
findViewById(R.id.marital_status_spinner)).getSelectedItem().toString());
        intent.putExtra("employer_name", ((EditText)
  findViewById(R.id.editEmployerName)).getText().toString());
         intent.putExtra("employment_status", ((Spinner))
findViewById(R.id.employment_status_spinner)).getSelectedItem().toString());
        intent.putExtra("emergency_name", ((EditText))
findViewById(R.id.edit_emergency_name)).getText().toString());
        intent.putExtra("emergency_relationship", ((EditText)
```

```
findViewById(R.id.edit_emergency_relationship)).getText().toString());
              intent.putExtra("emergency_address", ((EditText)
   findViewById(R.id.edit_emergency_address)).getText().toString());
            intent.putExtra("emergency_phone", ((EditText)
findViewById(R.id.edit_emergency_phone)).getText().toString());
       startActivity(intent);
   }
   public void resetFormFields(View view) {
        ((EditText) findViewById(R.id.editName)).setText("");
        ((RadioButton)
findViewById(R.id.phone_radio_button_id)).setChecked(false);
        ((RadioButton)
findViewById(R.id.landline_radio_button_id)).setChecked(false);
        ((EditText) findViewById(R.id.editNumber)).setText("");
        ((EditText) findViewById(R.id.editAddress)).setText("");
        ((EditText) findViewById(R.id.editAge)).setText("");
        ((DatePicker) findViewById(R.id.dobPicker)).updateDate(1970, 0, 1);
        ((RadioButton) findViewById(R.id.male)).setChecked(false);
        ((RadioButton) findViewById(R.id.female)).setChecked(false); ((Spinner)
        findViewById(R.id.marital_status_spinner)).setSelection(0);
        ((EditText) findViewById(R.id.editEmployerName)).setText("");
        ((Spinner)
findViewById(R.id.employment_status_spinner)).setSelection(0);
        ((EditText) findViewById(R.id.edit_emergency_name)).setText("");
        ((EditText)
findViewById(R.id.edit_emergency_relationship)).setText(""); ((EditText)
   findViewById(R.id.edit_emergency_address)).setText(""); ((EditText)
   findViewById(R.id.edit_emergency_phone)).setText(""); }
}
activity_table.xml
<?xml version="1.0" encoding="utf-8"?>
<TableLayout xmlns:android="http:/schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:stretchColumns="*">
```

```
<TableRow>
    <TextView
        android:id="@+id/textView_title1"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:text="Patient details"
        android:textAlignment="center"
        android:textSize="48px"
        android:textStyle="bold" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_name"
        android:layout width="100dp"
        android:layout height="wrap content"
        android:text="Name" >
    <TextView
        android:id="@+id/textView_name_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_number"
        android:layout_width="100dp"
        android:layout height="wrap content"
        android:text="Number" >
    <TextView
        android:id="@+id/textView_number_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
```

/TableRow>

```
<TableRow>
    <TextView
        android:id="@+id/textView_address"
        android:layout_width="100dp"
        android:layout height="wrap content"
        android:text="Address" >
    <TextView
        android:id="@+id/textView_address_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView age"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:text="Age" >
    <TextView
        android:id="@+id/textView_age_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_dob"
        android:layout width="100dp"
        android:layout height="wrap content"
        android:text="DOB" >
    <TextView
        android:id="@+id/textView dob value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
```

```
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView gender"
        android:layout width="100dp"
        android:layout_height="wrap_content"
        android:text="Gender" >
    <TextView
        android:id="@+id/textView_gender_value"
        android:layout width="match parent"
        android:layout height="wrap content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView marital status"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:text="Marital Status" >
    <TextView
        android:id="@+id/textView marital status value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_title2"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:layout marginTop="32px"
        android:text="Employer details"
        android:textAlignment="center"
        android:textSize="48px"
        android:textStyle="bold" >
```

```
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_employer_name"
        android:layout width="100dp"
        android:layout_height="wrap_content"
        android:text="Employer Name" >
    <TextView
        android:id="@+id/textView_employer_name_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_employment_status"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:text="Employement Status" >
    <TextView
        android:id="@+id/textView_employment_status_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView title3"
        android:layout width="100dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="32px"
        android:text="Emergency details"
        android:textAlignment="center"
        android:textSize="48px"
        android:textStyle="bold" >
```

```
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_emergency_name"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:text="Emergency name" >
    <TextView
        android:id="@+id/textView_emergency_name_value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_emergency_relationship"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:text="Emergency relationship" >
    <TextView
        android:id="@+id/textView emergency relationship value"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
/TableRow>
<TableRow>
    <TextView
        android:id="@+id/textView_emergency_address"
        android:layout width="100dp"
        android:layout height="wrap content"
        android:text="Emergency address" >
    <TextView
        android:id="@+id/textView_emergency_address_value"
```

```
android:layout_width="match_parent"
    android:layout_height="wrap_content" >
/TableRow>

<TextView
    android:id="@+id/textView_emergency_phone"
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:text="Emergency phone" >

    <TextView
    android:id="@+id/textView_emergency_phone_value"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >
/TableRow>

/TableLayout>
```

TableActivity.java

```
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class TableActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_table);

        Intent intent = getIntent();
        Bundle extras = intent.getExtras();
        if (extras = null) return;

        ((TextView))
```

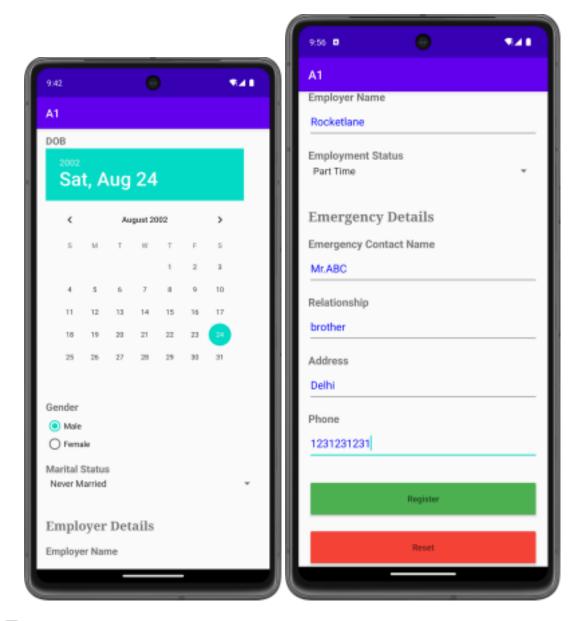
```
findViewById(R.id.textView_name_value)).setText(extras.getString("name"));
        ((TextView)
findViewById(R.id.textView_number_value)).setText(extras.getString("number"));
        ((TextView)
findViewById(R.id.textView_address_value)).setText(extras.getString("address") );
        ((TextView)
findViewById(R.id.textView_age_value)).setText(extras.getString("age"));
        ((TextView)
findViewById(R.id.textView_dob_value)).setText(extras.getString("dob"));
        ((TextView)
findViewById(R.id.textView_gender_value)).setText(extras.getString("gender"));
        ((TextView)
findViewById(R.id.textView_marital_status_value)).setText(extras.getString("ma
rital_status"));
        ((TextView)
findViewById(R.id.textView_employer_name_value)).setText(extras.getString("emp
loyer_name"));
        ((TextView)
findViewById(R.id.textView_employment_status_value)).setText(extras.getString(
"employment_status"));
        ((TextView)
findViewById(R.id.textView_emergency_name_value)).setText(extras.getString("em
ergency_name"));
        ((TextView)
findViewById(R.id.textView_emergency_relationship_value)).setText(extras.getSt
ring("emergency_relationship"));
        ((TextView)
findViewById(R.id.textView_emergency_address_value)).setText(extras.getString(
"emergency_address"));
        ((TextView)
findViewById(R.id.textView_emergency_phone_value)).setText(extras.getString("e
mergency_phone"));
   }
}
```

strings.xml

```
<resources>
    <string name="app_name">A1 /string>
```

```
<string-array name="marital_status_options">
       <item>Never Married /item>
       <item>Married /item>
       <item>Widowed /item>
       <item>Divorced /item>
       <item>Separated /item>
   /string-array>
   <string-array name="employment_status_options">
       <item>Full Time /item>
       <item>Part Time /item>
       <item>Unemployed /item>
       <item>Retired /item>
       <item>Student /item>
       <item>Other /item>
   /string-array>
   <string name="title_activity_table">All Details /string>
/resources>
```

Output Screenshots



Result

Thus a basic registration form was implemented.

Best Practices

- 1. User friendly design
- 2. Readable layouts

Learning outcomes

- Basic GUI components and layouts that are available
- Passing data between activities