Program No:1 **Date: 21.09.2023**

Aim:

Design a login form with username and password using linear layout and toast valid credentials

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
 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"
 android:orientation="vertical"
 tools:context=".MainActivity">
 <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="LOGIN" />
 <EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:hint="username"
    android:id="@+id/et1" />
 <EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:id="@+id/et2" />
 <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="LOGIN"
    android:id="@+id/b"/>
</LinearLayout>
```

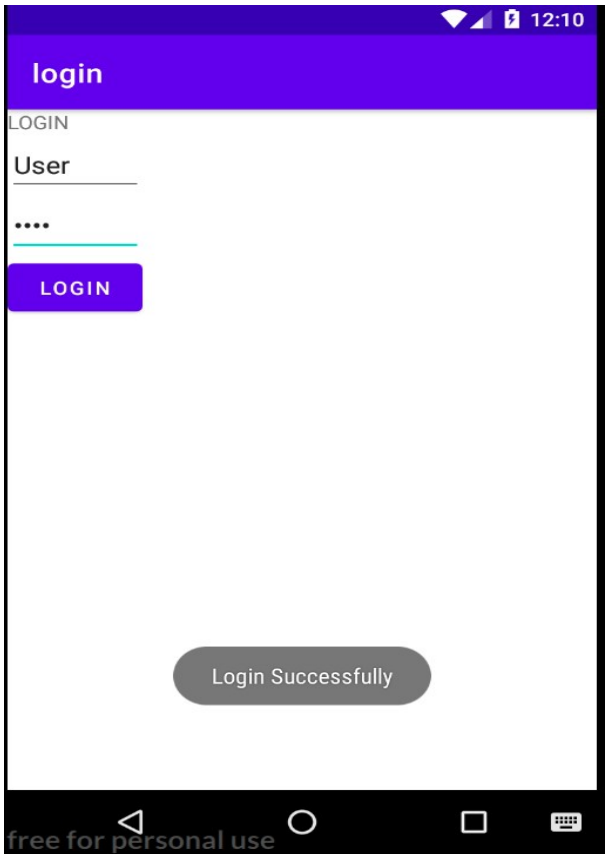
MainActivity.java:

```
package com.example.login;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity_main);
     EditText et1=findViewById(R.id.et1);
     EditText et2=findViewById(R.id.et2);
     Button b=findViewById(R.id.b);
     b.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
           String a=et1.getText().toString();
           String b=et2.getText().toString();
            if (a.equals("User")&& b.equals("123")) Toast.makeText(getApplicationContext(),"Login
Successfully",Toast.LENGTH_SHORT).show();
           else
              Toast.makeText(getApplicationContext(),"Login Failed",Toast.LENGTH_SHORT).show();
        }
      });
   }
}
```

Result

Program compiled successfully and output verified.

Output


12:10
login
LOGIN
User
....
LOGIN
Login Successfully
free for personal use

Program No:2 **Date: 05.10.2023**

Aim:

Write a program to demonstrate activity lifecycle.

Program Code:

MainActivity.java:

```
package com.example.lifecycle;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
 }
 @Override
 protected void onStart() {
    super.onStart();
    Log.d("lifecycle", "onStart invoked");
 }
 @Override
 protected void onResume() {
    super.onResume();
    Log.d( "lifecycle", "onResume invoked");
 }
 @Override
 protected void onPause() {
    super.onPause();
    Log.d("lifecycle", "onPause invoked");
 }
 @Override
 protected void onStop() {
    super.onStop();
```

```
    Log.d("lifecycle", "onStop invoked");
  }
  @Override
  protected void onRestart() {
    super.onRestart();
    Log.d("lifecycle", "onRestart invoked");
  }
  @Override
  protected void onDestroy(){
    super.onDestroy();
    Log.d("lifecycle", "onDestroy invoked");
   }
}
```

Result

Program completed successfully and output verified.

Output

```
2023-10-05 10:02:19.437 2767-2767/com.example.lifecycle D/lifecyle: onStart invoked
2023-10-05 10:02:19.452 2767-2767/com.example.lifecycle D/lifecycle: onResume invoked
```

Program No:3 **Date: 06.10.2023**

Aim:

Implementing basic arithmetic operation of a simple calculator.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  android:orientation="vertical"
  tools:context=".MainActivity">
  <EditText
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/et1"
     android:hint="Enter first no:"/>
  <EditText
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/et2"
     android:hint="Enter second no:"/>
  <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/tv1"
     android:hint="Result"/>
  <Button
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="clear"
     android:id="@+id/c"/>
```

```
 <LinearLayout
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:orientation="horizontal">
      <Button
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="ADD"
         android:id="@+id/b1"/>
      <Button
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="SUB"
         android:id="@+id/b2"/>
      <Button
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="MUL"
         android:id="@+id/b3"/>
      <Button
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="DIV"
         android:id="@+id/b4"/>
   </LinearLayout>
   </LinearLayout>
```

MainActivity.java:

```
package com.example.calculator;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

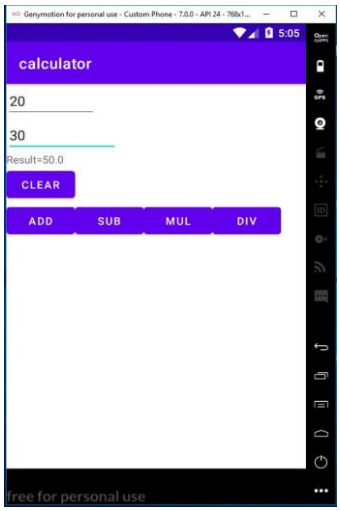
```
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText et1, et2;
        Button b1, b2, b3, b4, c;
        TextView tv1;
        et1 = findViewById(R.id.et1);
        et2 = findViewById(R.id.et2);
        tv1 = findViewById(R.id.tv1);
        b1 = findViewById(R.id.b1);
        b2 = findViewById(R.id.b2);
        b3 = findViewById(R.id.b3);
        b4 = findViewById(R.id.b4);
        c = findViewById(R.id.c);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double a = Double.parseDouble(et1.getText().toString());
                Double b = Double.parseDouble(et2.getText().toString());
                Double r = a + b;
                tv1.setText("Result=" + String.valueOf(r));
            }
        });
        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double a = Double.parseDouble(et1.getText().toString());
                Double b = Double.parseDouble(et2.getText().toString());
                Double r = a - b;
```

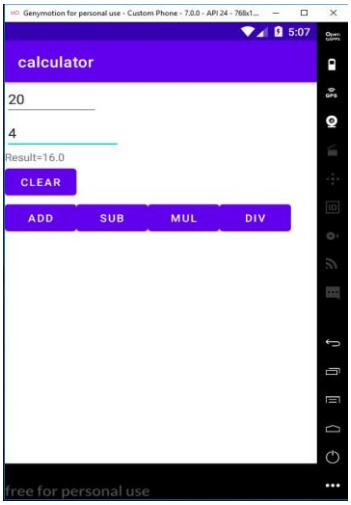
```
tv1.setText("Result=" + String.valueOf(r));
        }
    });
    b3.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Double a = Double.parseDouble(et1.getText().toString());
            Double b = Double.parseDouble(et2.getText().toString());
            Double r = a * b;
            tv1.setText("Result=" + String.valueOf(r));
        }
    });
    b4.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Double a = Double.parseDouble(et1.getText().toString());
            Double b = Double.parseDouble(et2.getText().toString());
            Double r = a / b;
            tv1.setText("Result=" + String.valueOf(r));
        }
    });
    c.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            et1.setText("");
            et2.setText("");
            tv1.setText("");
        }
    });
  }
}
```

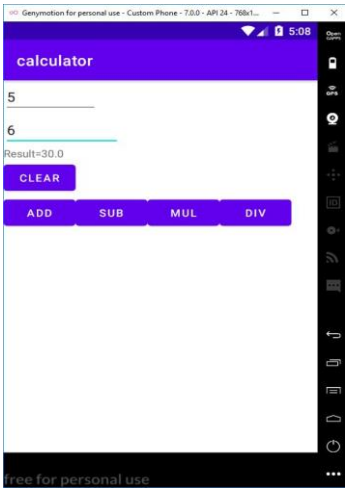
Result

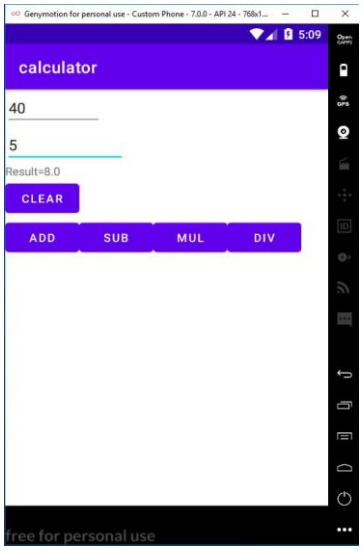
Program compiled successfully and output verified.

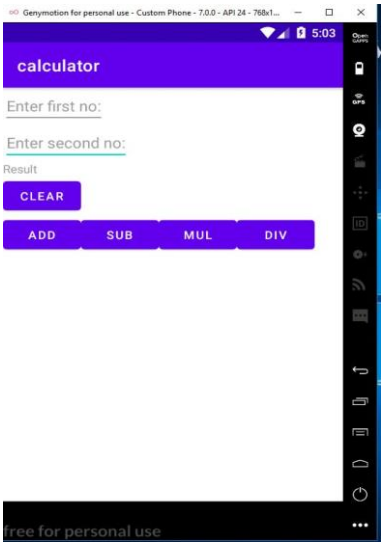
Output











Program No:4 **Date: 12.10.23**

Aim: Implement validation on various UI controls.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  tools:context=".MainActivity"
  android:orientation="vertical">
  <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="REGISTRATION"
     android:textColor="@color/design_default_color_error"
     android:textSize="30dp"/>
  <EditText
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:hint="NAME"
     android:id="@+id/name"/>
  <EditText
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:hint="MOBILE NUMBER"
     android:id="@+id/mobno"/>
  <EditText
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:hint="AGE"
     android:id="@+id/age"/>
```

```
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="GENDER"
        android:textSize="20dp"
        android:textColor="@color/design_default_color_primary"/>
     <RadioGroup
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/rgroup">
        <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/rb1"
            android:text="Male"/>
        <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/rb2"
            android:text="Female"/>
    </RadioGroup>
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="i agree all terms and conditions"
        android:id="@+id/cb"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:id="@+id/b"/>
</LinearLayout>
```

MainActivity.java:

```
package com.example.registration;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText name;
    EditText mobno;
    EditText age;
    RadioGroup rgroup;
    RadioButton male;
    RadioButton female;
    CheckBox chbox;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = findViewById(R.id.name);
        mobno = findViewById(R.id.mobno);
        age = findViewById(R.id.age);
        rgroup = findViewById(R.id.rgroup);
        male = findViewById(R.id.rb1);
        female = findViewById(R.id.rb2);
        chbox = findViewById(R.id.cb);
        button = findViewById(R.id.b);
```

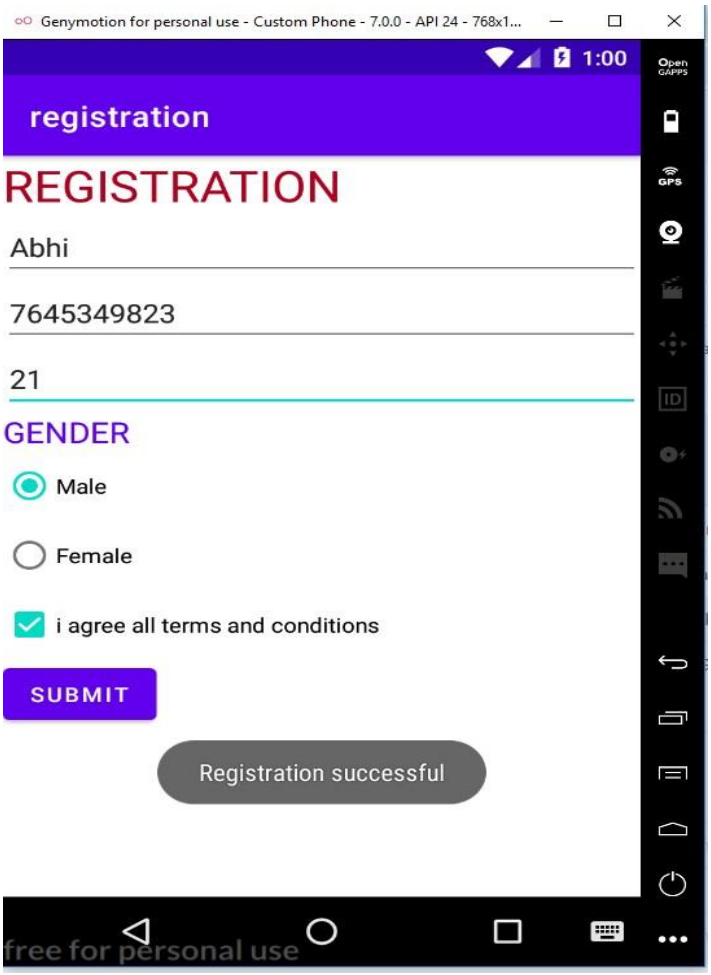
```
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if (error()) {
                    Toast.makeText(getApplicationContext(), "Registration successful",
Toast.LENGTH_LONG).show();
                }
            }
        });
    }
    private boolean error() {
        if (name.getText().toString().length() == 0) {
            Toast.makeText(getApplicationContext(), "Please enter the name",
Toast.LENGTH_LONG).show();
            return false;
        } else if (mobno.getText().toString().length() == 0) {
            Toast.makeText(getApplicationContext(), "please enter mobile number",
Toast.LENGTH_LONG).show();
            return false;
        } else if (mobno.getText().toString().length() != 10) {
            Toast.makeText(getApplicationContext(), "please enter 10 numbers",
Toast.LENGTH_LONG).show();
            return false;
        } else if (age.getText().toString().length() == 0) {
            Toast.makeText(getApplicationContext(), "please enter age", Toast.LENGTH_LONG).show();
            return false;
        } else if (!male.isChecked() && !female.isChecked()) {
            Toast.makeText(getApplicationContext(), "please choose radio button",
Toast.LENGTH_LONG).show();
            return false;
        } else if (!chbox.isChecked()) {
            Toast.makeText(getApplicationContext(), "Please click on checkbox",
Toast.LENGTH_LONG).show();
            return false;
    } else {
```

```
return true;
        }
    }
}
```

Result

Program compiled successfully and output verified.

Output



Program No:5 **Date: 20.10.23**

Aim:

Program to design a registration activity and store registration details in local memory of phone using intent and shared preferences.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
 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"
 tools:context=".MainActivity"
 android:orientation="vertical">
 <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Registration"
    android:textColor="@color/black"
    android:textSize="25dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    android:layout_gravity="center" />
 <EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:hint="Enter your Name"
    android:id="@+id/name"/>
 <EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
        android:hint="Enter your Age"
        android:id="@+id/age"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter your Email"
        android:inputType="textEmailAddress"
        android:id="@+id/email"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter your Address"
        android:id="@+id/address"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter your qualification"
        android:id="@+id/quali"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:id="@+id/b"/>
</LinearLayout>
```

MainActivity.java

```
package com.example.register;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

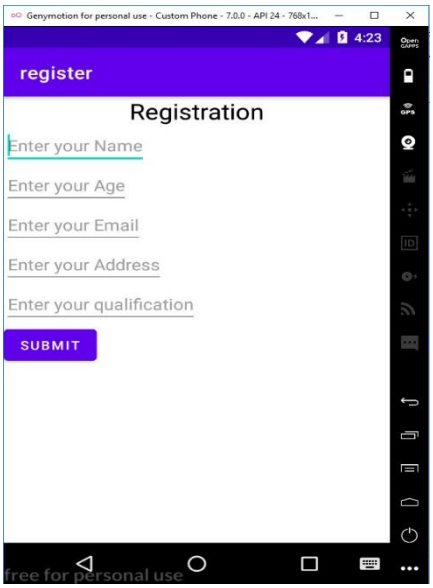
```
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    EditText name,age,email,quali,address;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name=findViewById(R.id.name);
        age=findViewById(R.id.age);
        email=findViewById(R.id.email);
        address=findViewById(R.id.address);
        quali=findViewById(R.id.quali);
        button=findViewById(R.id.b);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent(MainActivity.this,MainActivity2.class);
                startActivity(i);
            }
        });
    }
    @Override
    protected void onResume(){
        super.onResume();
        SharedPreferences sh= getSharedPreferences("sharedpref",MODE_PRIVATE);
        String s1=sh.getString("name","");
        int a=sh.getInt("age",0);
        String s2=sh.getString("email","");
        String s3=sh.getString("address","");
        String s4=sh.getString("qualification","");
        name.setText(s1);
        age.setText(String.valueOf(a));
```

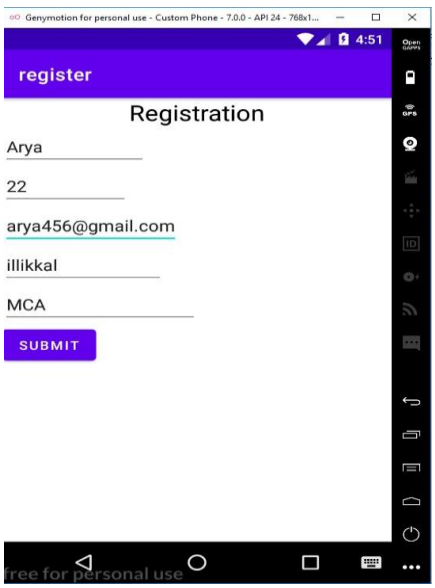
```
        email.setText(s2);
        address.setText(s3);
        quali.setText(s4);
    }
    @Override
    protected void onPause(){
        super.onPause();
        SharedPreferences sh=getSharedPreferences("sharedpref",MODE_PRIVATE);
        SharedPreferences.Editor myedit=sh.edit();
        myedit.putString("name",name.getText().toString());
        myedit.putInt("age",Integer.parseInt(age.getText().toString()));
        myedit.putString("email",email.getText().toString());
        myedit.putString("address",address.getText().toString());
        myedit.putString("qualification",quali.getText().toString());
        myedit.commit();
    }
}
```

Result

Program compiled successfully and output verified.

Output





Program No:6 **Date: 20.10.23**

Aim:

Design a simple calculator using GridLayout.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<GridLayout xmlns:android="http://schemas.android.com/apk/res/android"
 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"
 tools:context=".MainActivity"
 android:orientation="vertical">
 <TextView
    android:layout_height="wrap_content"
    android:layout_width="wrap_content"
    android:text="First Number"
    android:textColor="@color/black"
    android:layout_row="0"
    android:layout_column="0"/>
 <EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/et1"
    android:layout_row="0"
    android:layout_column="1" />
 <TextView
    android:layout_height="wrap_content"
    android:layout_width="wrap_content"
    android:text="Second Number"
    android:textColor="@color/black"
    android:layout_row="1"
    android:layout_column="0"/>
```

```
<EditText
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/et2"
    android:layout_row="1"
    android:layout_column="1"/>
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/txt1"
    android:layout_column="0"
    android:layout_row="2"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Clear"
    android:id="@+id/b5"
    android:layout_row="3"
    android:layout_column="0"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b1"
    android:text="ADD"
    android:layout_column="0"
    android:layout_row="4"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b2"
    android:text="SUB"
    android:layout_column="1"
    android:layout_row="4"/>
```

```
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b3"
        android:text="MUL"
        android:layout_row="4"
        android:layout_column="2"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b4"
        android:text="DIV"
        android:layout_row="4"
        android:layout_column="3"/>
</GridLayout>
```

MainActivity.java

```
package com.example.gridcalculator;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button b1=findViewById(R.id.b1);
        Button b2=findViewById(R.id.b2);
        Button b3=findViewById(R.id.b3);
        Button b4=findViewById(R.id.b4);
```

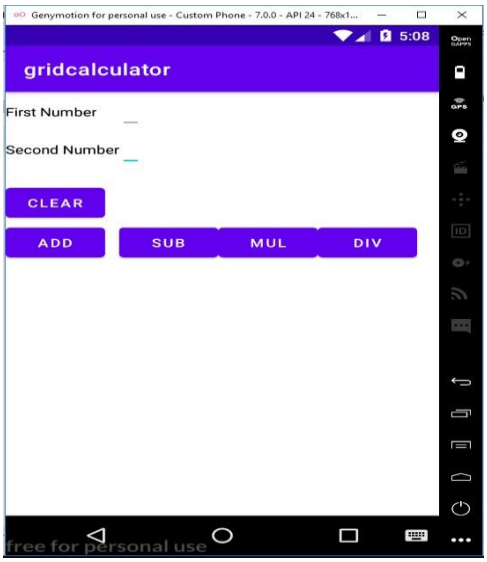
```
Button b5=findViewById(R.id.b5);
EditText et1=findViewById(R.id.et1);
EditText et2=findViewById(R.id.et2);
TextView txt1=findViewById(R.id.txt1);
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1+a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});
b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1-a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});
b3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1*a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});
b4.setOnClickListener(new View.OnClickListener() {
    @Override
```

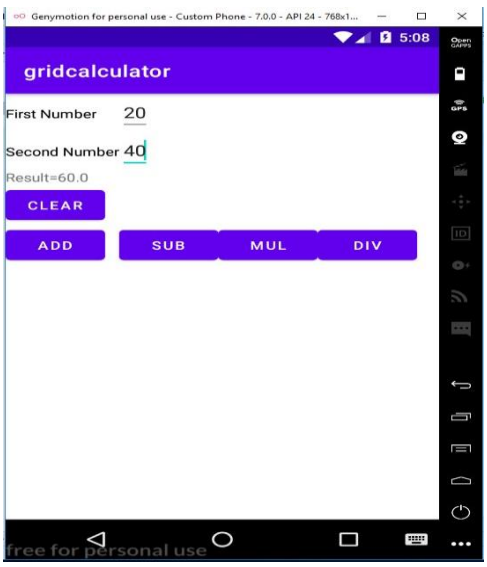
```
        public void onClick(View view) {
            Double a1=Double.parseDouble(et1.getText().toString());
            Double a2=Double.parseDouble(et2.getText().toString());
            Double r=a1/a2;
            txt1.setText("Result="+String.valueOf(r));
        }
    });
    b5.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            et1.setText("");
            et2.setText("");
            txt1.setText("");
        }
    });
  }
}
```

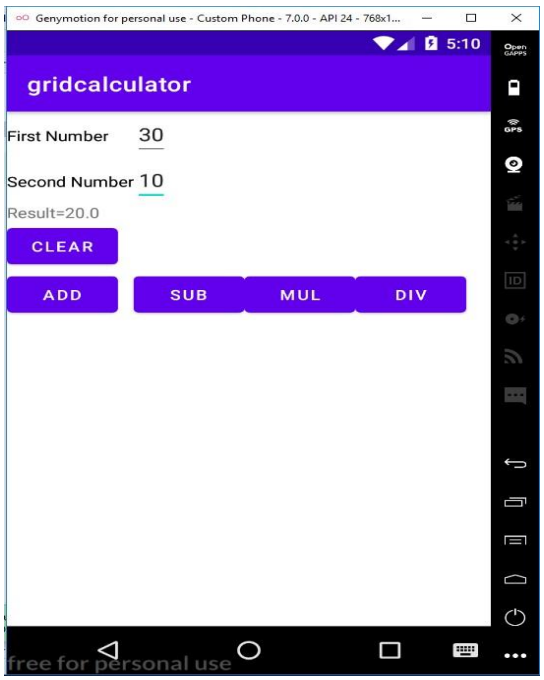
Result

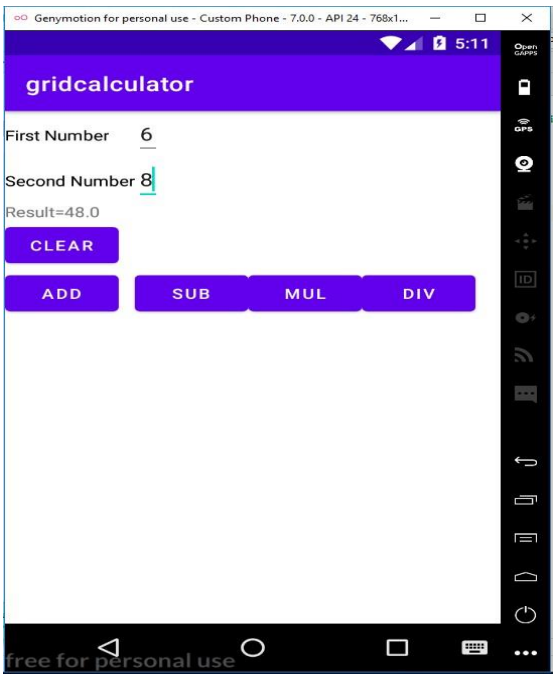
Program compiled successfully and output verified.

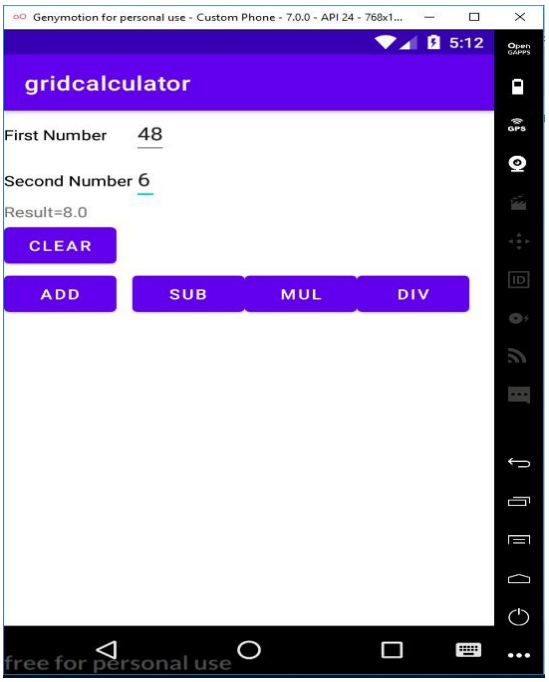
Output






Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
5:10
gridcalculator
First Number 30
Second Number 10
Result=20.0
CLEAR
ADD
SUB
MUL
DIV
free for personal use


Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
5:11
gridcalculator
First Number 6
Second Number 8
Result=48.0
CLEAR
ADD
SUB
MUL
DIV
free for personal use


Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
5:12
gridcalculator
First Number 48
Second Number 6
Result=8.0
CLEAR
ADD
SUB
MUL
DIV
free for personal use

Program No:7 **Date: 09.11.23**

Aim:

Create a Facebook page using RelativeLayout, set properties using .xml file.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
 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"
 tools:context=".MainActivity">
 <RelativeLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/relativeLayout">
 <ImageView
    android:layout_width="match_parent"
    android:layout_height="200dp"
    android:id="@+id/img1"
    android:src="@drawable/pic2"
    android:scaleType="centerCrop"/>
 <ImageView
    android:layout_width="70dp"
    android:layout_height="150dp"
    android:id="@+id/profilePic"
    android:src="@drawable/profpic"
    android:layout_alignBottom="@+id/linearLayout"/>
 <LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/img1"
    android:orientation="horizontal"
```

```
    android:layout_toRightOf="@id/profilePic"
    android:weightSum="100"
    android:id="@+id/linearLayout">
<Button
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:text="Timeline"
    android:textSize="7dp"
    android:layout_weight="10"/>
<Button
    android:layout_width="60dp"
    android:layout_height="40dp"
    android:textSize="7dp"
    android:text="About"
    android:layout_weight="10"/>
<Button
    android:layout_width="60dp"
    android:layout_height="40dp"
    android:textSize="7dp"
    android:text="Friends"
    android:layout_weight="10"/>
<Button
    android:layout_width="60dp"
    android:layout_height="40dp"
    android:textSize="7dp"
    android:text="photos"
    android:layout_weight="10"/>
</LinearLayout>
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textStyle="bold"
    android:text="Arya"
```

```
    android:ems="20"
    android:textColor="@color/white"
    android:layout_alignBottom="@+id/img1"
    android:layout_alignParentEnd="true"/>
</RelativeLayout>
<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:paddingBottom="15dp"
    android:layout_below="@+id/relativeLayout"
    android:paddingLeft="15dp"
    android:paddingRight="15dp"
    android:paddingTop="15dp">
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:id="@id/linearLayout">
<ImageView
    android:layout_width="25dp"
    android:layout_height="25dp"
    android:src="@drawable/profpic"/>
<EditText
    android:layout_width="match_parent"
    android:layout_height="40dp"
    android:id="@+id/etPost"
    android:textSize="15dp"
    android:layout_marginLeft="10dp"
    android:hint="What's on your mind"/>
</LinearLayout>
 <Button
     android:layout_width="70dp"
     android:layout_height="40dp"
```

```
        android:text="Post"
        android:textSize="10dp"
        android:layout_alignParentRight="true"
        android:id="@id/linearLayout"/>
    </RelativeLayout>
</RelativeLayout>
```

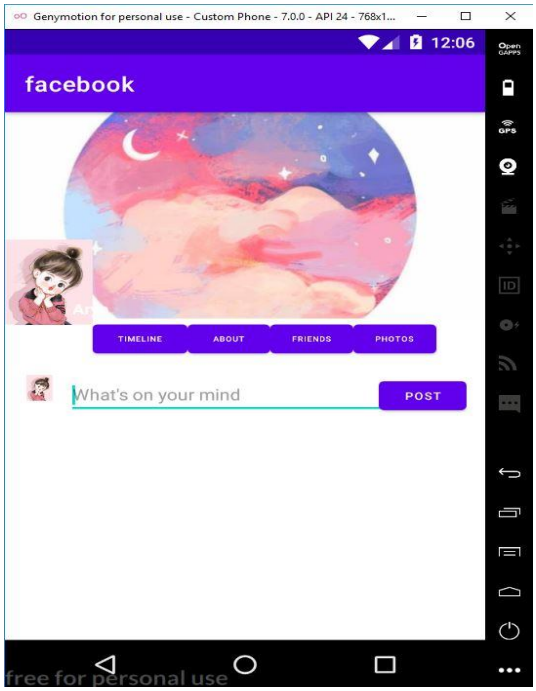
MainActivity.java

```
package com.example.facebook;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

Result

Program compiled successfully and output verified.

Output



Program No:8 **Date: 16.11.23**

Aim:

Develop an application that toggles image using FrameLayout.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  tools:context=".MainActivity">
  <ImageView
     android:id="@+id/image1"
     android:layout_width="410dp"
     android:layout_height="200dp"
     android:scaleType="centerCrop"
     android:src="@drawable/image1"/>
  <ImageView
     android:id="@+id/image2"
     android:layout_width="410dp"
     android:layout_height="200dp"
     android:scaleType="centerCrop"
     android:src="@drawable/image2"/>
</FrameLayout>
```

MainActivity.java

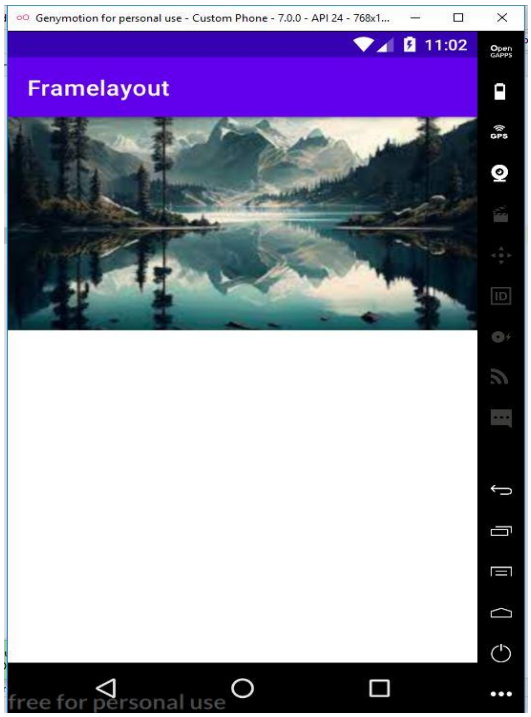
```
package com.example.framelayout;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
public class MainActivity extends AppCompatActivity {
```

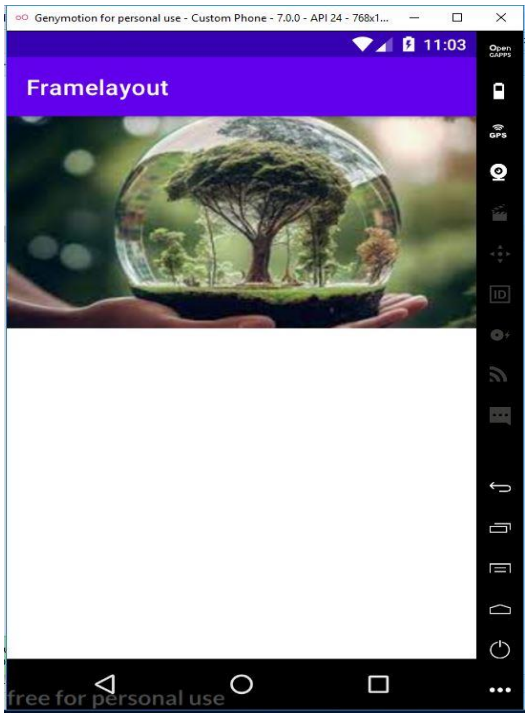
```
    ImageView i1,i2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        i1 = findViewById(R.id.image1);
        i2=findViewById(R.id.image2);
        i2.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view){
                i2.setVisibility(View.GONE);
                i1.setVisibility(View.VISIBLE);
            }
        });
        i1.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view){
                i1.setVisibility(View.GONE);
                i2.setVisibility(View.VISIBLE);
            }
        });
    }
}
```

Result

Program compiled successfully and output verified.

Output


Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
11:02
Framelayout
free for personal use


Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
11:03
Framelayout
free for personal use

Program No:9 **Date: 16.11.23**

Aim:

Web application to implement implicit intent.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  tools:context=".MainActivity">
  <EditText
     android:id="@+id/t1"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="http://www.google.co.in"
     android:textColor="@color/design_default_color_on_secondary"/>
  <Button
     android:id="@+id/btn1"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="click"
     android:textColor="@color/design_default_color_error"/>
</LinearLayout>
```

MainActivity.java

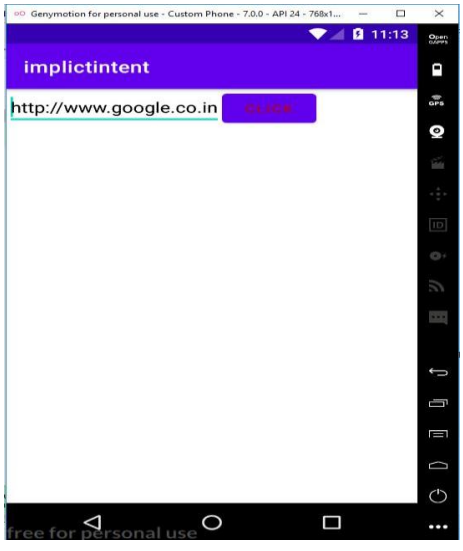
```
package com.example.implictintent;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
```

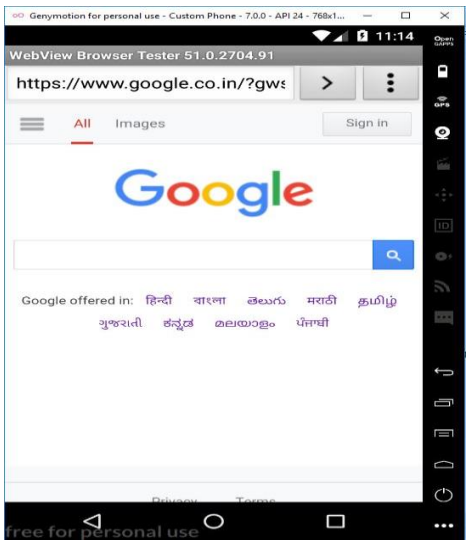
```
 import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
   EditText t1;
   Button b1;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      t1=findViewById(R.id.t1);
      b1=findViewById(R.id.btn1);
      b1.setOnClickListener(new View.OnClickListener(){
         @Override
         public void onClick(View view){
            String url=t1.getText().toString();
            Intent i=new Intent(Intent.ACTION_VIEW,Uri.parse(url));
            startActivity(i);
         }
      });
   }
}
```

Result

Program compiled successfully and output verified.

Output





Program No:10 **Date: 16.11.23**

Aim:

Implement option menu to navigate two activities

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  tools:context=".MainActivity">
  <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Menu Option"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintLeft_toLeftOf="parent"
      app:layout_constraintRight_toRightOf="parent"
      app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu
  xmlns:android="http://schemas.android.com/apk/res/android">
  <item android:id="@+id/item1"
      android:title="File"/>
  <item android:id="@+id/item2"
      android:title="Edit">
  <menu>
        <item android:id="@+id/sub1"
                android:title="Cut"/>
```

```
  <item android:id="@+id/sub2"
            android:title="Copy"/>
        <item android:id="@+id/sub3"
            android:title="Paste"/>
      </menu>
    </item>
    <item android:id="@+id/item3"
      android:title="View"/>
</menu>
```

MainActivity.java

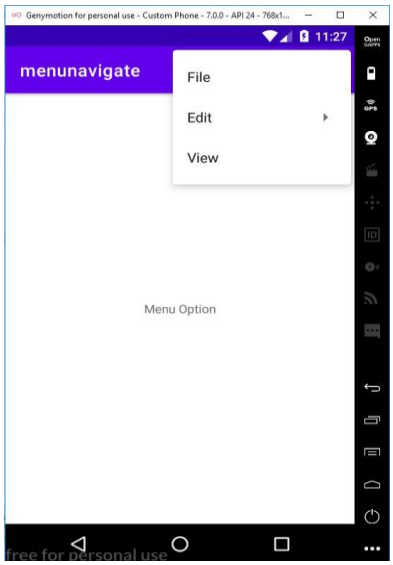
```
package com.example.menunavigate;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
  }
  @Override
  public boolean onCreateOptionsMenu(Menu menu){
    getMenuInflater().inflate(R.menu.menu,menu);
    return true;
  }
  @Override
  public boolean onOptionsItemSelected(@NonNull MenuItem item){
    switch(item.getItemId()){
   case R.id.item1:
        Toast.makeText(this, "File Selected", Toast.LENGTH_SHORT).show();
```

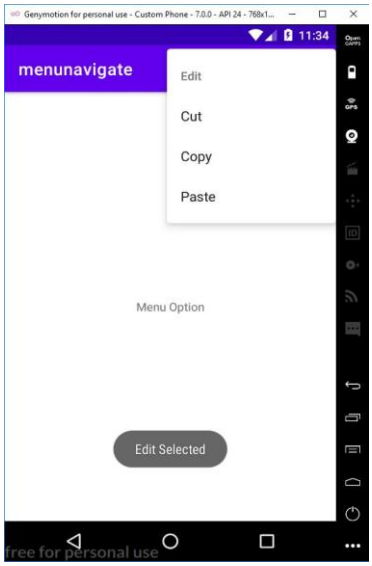
```
            break;
        case R.id.item2:
            Toast.makeText(this, "Edit Selected", Toast.LENGTH_SHORT).show();
            break;
        case R.id.sub1:
            Toast.makeText(this, "Cut Selected", Toast.LENGTH_SHORT).show();
            break;
         case R.id.sub2:
            Toast.makeText(this, "Copy Selected", Toast.LENGTH_SHORT).show();
            break;
         case R.id.sub3:
            Toast.makeText(this, "Paste Selected", Toast.LENGTH_SHORT).show();
            break;
          case R.id.item3:
            Toast.makeText(this, "View Selected", Toast.LENGTH_SHORT).show();
            break;
        }
          return super.onOptionsItemSelected(item);
    }
}
```

Result

Program compiled successfully and output verified.

Output





Program No:11 **Date: 17.11.23**

Aim:

Develop an application that uses ArrayAdapter with ListView.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   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"
   tools:context=".MainActivity">
   <ListView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/l"/>
 </LinearLayout>
```

MainActivity.java

```
package com.example.arrayadapter;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
public class MainActivity extends AppCompatActivity {
   ListView l;
   String[] p={"APJ Abdul Kalam","Mahatma Gandhi","Jawaharlal nehru"};
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
```

```
        l=findViewById(R.id.l);
        ArrayAdapter <String>adapter=new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,p);
        l.setAdapter(adapter);
        l.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
                if(i==0)
                {
                    Intent s=new Intent(MainActivity.this,MainActivity2.class);
                    startActivity(s);
                }
                else if (i==1)
                {
                    Intent s=new Intent(MainActivity.this,MainActivity3.class);
                    startActivity(s);
                }
                else if (i==2)
                {
                    Intent s=new Intent(MainActivity.this,MainActivity4.class);
                    startActivity(s);
                }
            }
        });
    }
}
```

activity_main2.xml

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

```
    tools:context=".MainActivity2">
     <TextView
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="A.P.J ABDUL KALAM"
         android:textSize="20dp"
         android:id="@+id/txt1"
         android:textAlignment="center"/>
    <ImageView
        android:id="@+id/imag1"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:scaleType="centerCrop"
        android:src="@drawable/imag1"
        android:layout_gravity="center_vertical"/>
 </LinearLayout>
```

MainActivity2.java

```
package com.example.arrayadapter;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ImageView;
import android.widget.TextView;
public class MainActivity2 extends AppCompatActivity {
    ImageView i1;
    TextView txt1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        i1=findViewById(R.id.imag1);
        txt1=findViewById(R.id.txt1);
    }
}
```

activity_main3.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    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"
    tools:context=".MainActivity3">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="MAHATMA GANDHI"
        android:textSize="20dp"
        android:textAlignment="center"
        android:id="@+id/txt2"/>
    <ImageView
        android:id="@+id/imag2"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:layout_gravity="center_vertical"
        android:scaleType="centerCrop"
        android:src="@drawable/imag2" />
</LinearLayout>
```

MainActivity3.java

```
package com.example.arrayadapter;
import androidx.appcompat.app.AppCompatActivity;
import android.widget.ImageView;
import android.widget.TextView;
import android.os.Bundle;
public class MainActivity3 extends AppCompatActivity {
    ImageView i2;
    TextView txt2;
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);
        i2=findViewById(R.id.imag2);
        txt2=findViewById(R.id.txt2);
    }
}
```

activity_main4.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    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"
    tools:context=".MainActivity4">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="JAWAHARLAL NEHRU"
        android:textSize="20dp"
        android:textAlignment="center"
        android:id="@+id/txt3"/>
    <ImageView
        android:id="@+id/imag3"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:scaleType="centerCrop"
        android:src="@drawable/imag3"
        android:layout_gravity="center_vertical"/>
</LinearLayout>
```

MainActivity4.java

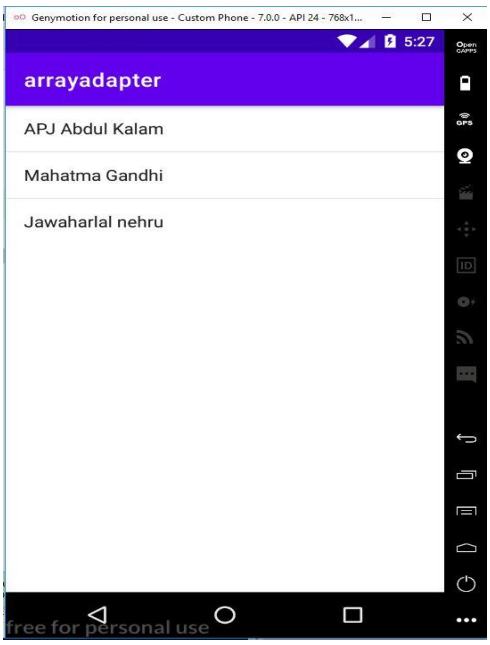
```
package com.example.arrayadapter;
import androidx.appcompat.app.AppCompatActivity;
```

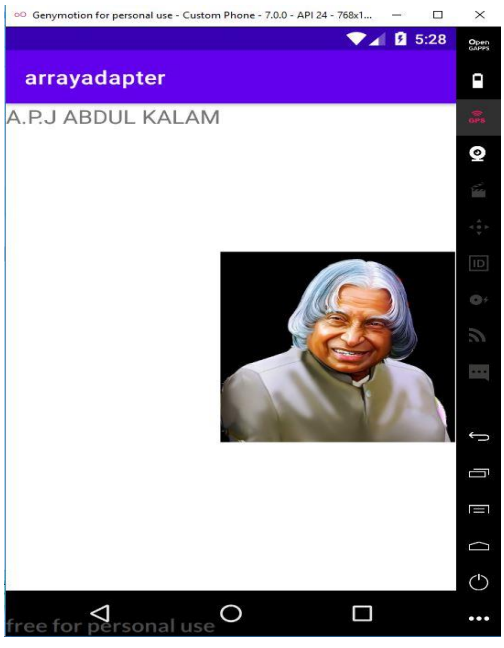
```
import android.widget.ImageView;
import android.widget.TextView;
import android.os.Bundle;
public class MainActivity4 extends AppCompatActivity {
    ImageView i3;
    TextView txt3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main4);
        i3=findViewById(R.id.imag3);
        txt3=findViewById(R.id.txt3);
    }
}
```

Result

Program compiled successfully and output verified.

Output






Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
5:28
arrayadapter
MAHATMA GANDHI
free for personal use


Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
5:29
arrayadapter
JAWAHARLAL NEHRU
free for personal use

Program No:12 **Date: 22.11.23**

Aim:

Implement and perform exception handling.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  android:orientation="vertical"
  tools:context=".MainActivity">
  <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="Enter first number" />
  <EditText
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/et1" />
  <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="Enter the second number" />
  <EditText
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/et2" />
  <Button
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/b1"
```

```
        android:text="SUBMIT"/>
</LinearLayout>
```

MainActivity.java

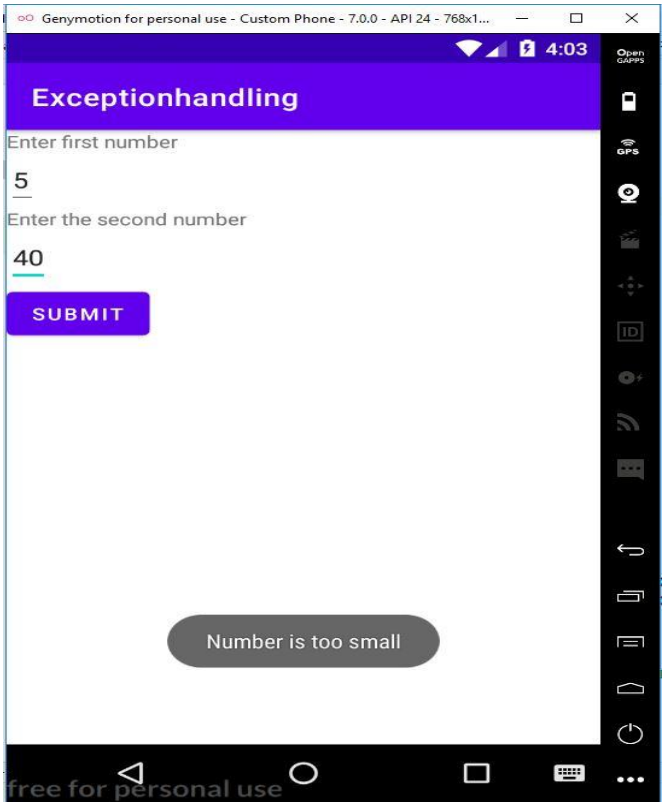
```
package com.example.exceptionhandling;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
class MyException extends Exception
{
   MyException(String m)
   {
      super(m);
   }
}
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      EditText et1=findViewById(R.id.et1);
      EditText et2=findViewById(R.id.et2);
      Button b1=findViewById(R.id.b1);
      b1.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View view) {
            try {
               int a=Integer.parseInt(et1.getText().toString());
               int b=Integer.parseInt(et2.getText().toString());
               float c=(float)a/(float)b;
               if(c<1)
```

```
            {
                throw new MyException("Number is too small");
            }
        }
        catch(MyException e)
        {
            Toast.makeText(getApplicationContext(),e.getMessage(),Toast.LENGTH_LONG).show();
        }
      }
    });
  }
}
```

Result

Program compiled successfully and output verified.

Output



Program No:13 **Date: 22.11.23**

Aim:

Develop an application that implements Spinner component and perform event handling.

Program Code:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  tools:context=".MainActivity">
  <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="Select your nation"
     android:id="@+id/t1"
     android:textSize="20dp"/>
  <Spinner
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
     android:layout_below="@+id/t1"
     android:id="@+id/spinner"/>
</RelativeLayout>
```

MainActivity.java

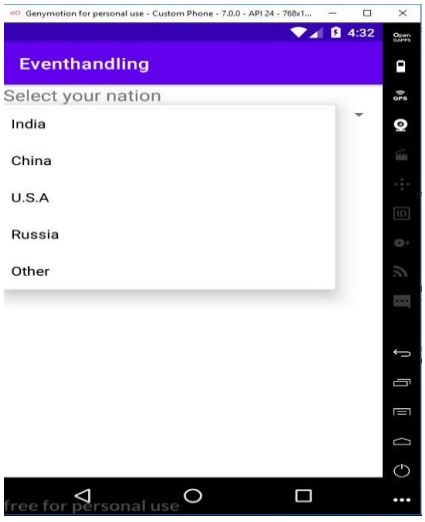
```
package com.example.eventhandling;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
```

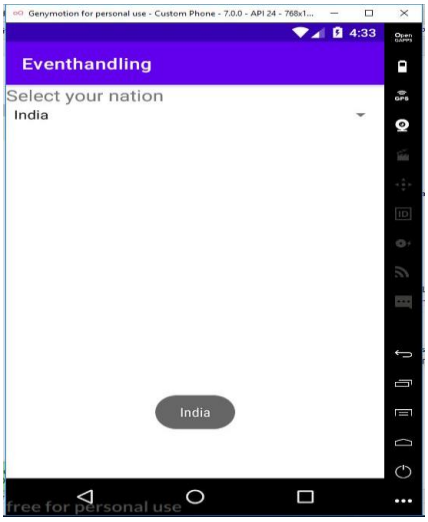
```
import android.widget.Toast;
public class MainActivity extends AppCompatActivity implements AdapterView.OnItemSelectedListener
{
    String [] country={"India","China","U.S.A","Russia","Other"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin=(Spinner)findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);
        ArrayAdapter ar=new ArrayAdapter(this, android.R.layout.simple_spinner_item,country);
        ar.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spin.setAdapter(ar);
    }
    @Override
    public void onItemSelected(AdapterView arg0, View arg1,int position,long id){
        Toast.makeText(getApplicationContext(),country[position],Toast.LENGTH_LONG).show();
    }
    @Override
    public void onNothingSelected(AdapterView<?>adapterView){
 }
}
```

Result

Program compiled successfully and output verified.

Output





Program No:14 **Date: 24.11.23**

Aim:

Develop an application to draw graphic primitives.

Program Code:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    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"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

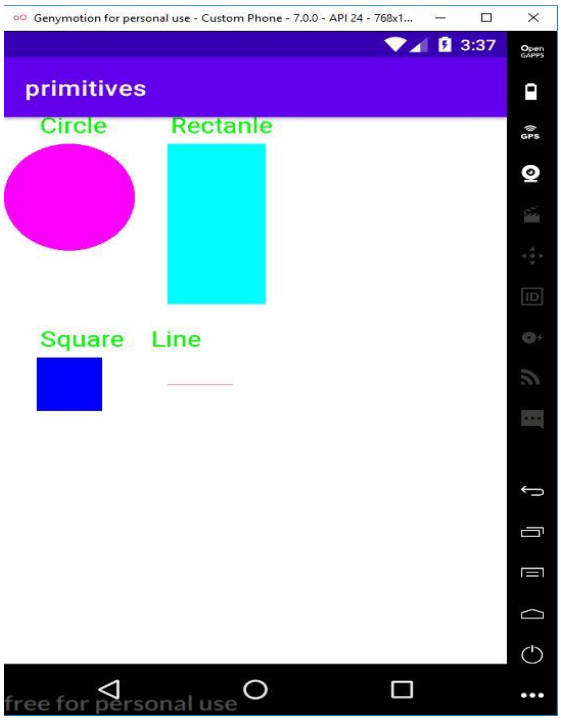
```
package com.example.primitives;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.os.Bundle;
import android.view.View;
public class MainActivity extends AppCompatActivity {
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(new myview(this));
    }
     private class myview extends View
     {
        public myview(Context context){
            super(context);
        }
        @Override
        protected void onDraw(Canvas canvas){
            super.onDraw(canvas);
            Paint paint=new Paint();
            paint.setTextSize(40);
            paint.setColor(Color.GREEN);
            canvas.drawText("Circle",55,30,paint);
            paint.setColor(Color.MAGENTA);
            canvas.drawCircle(100,150,100,paint);
            paint.setColor(Color.GREEN);
            canvas.drawText("Rectanle",255,30,paint);
            paint.setColor(Color.CYAN);
            canvas.drawRect(250,50,400,350,paint);
            paint.setColor(Color.GREEN);
            canvas.drawText("Square",55,430,paint);
            paint.setColor(Color.BLUE);
            canvas.drawRect(50,450,150,550,paint);
            paint.setColor(Color.GREEN);
            canvas.drawText("Line",225,430,paint);
            paint.setColor(Color.RED);
            canvas.drawLine(250,500,350,500,paint);
        }
    }
}
```

Result

Program compiled successfully and output verified.

Output



Program No:15 **Date: 24.11.23**

Aim:

Implement Navigation drawer.

Program Code:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
  xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  android:id="@+id/drawerid"
  tools:context=".MainActivity">
  <LinearLayout
     android:layout_width="match_parent"
     android:layout_height="match_parent">
     <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="128dp"
        android:gravity="center"
        android:text="Welcome to Android"
        android:textSize="18sp" />
  </LinearLayout>
  <com.google.android.material.navigation.NavigationView
     android:layout_width="wrap_content"
     android:layout_height="match_parent"
     android:layout_gravity="start"
     app:menu="@menu/menu" />
</androidx.drawerlayout.widget.DrawerLayout>
```

menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/account"
        android:title="My Account"/>
    <item
        android:id="@+id/settings"
        android:title="settings"/>
    <item
        android:id="@+id/logout"
        android:title="Logout"/>
</menu>
```

strings.xml

```
<resources>
    <string name="app_name">navigationdrawer</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

MainActivity.java

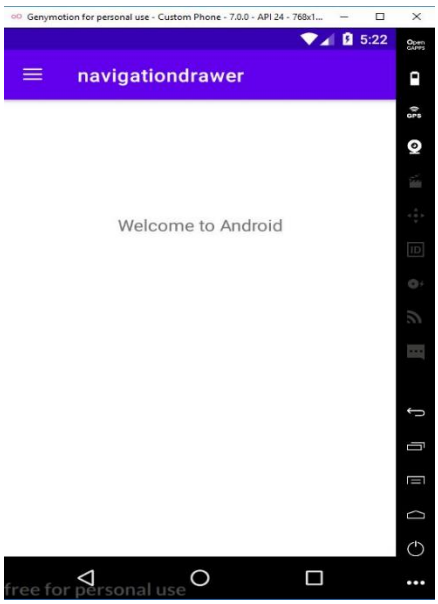
```
package com.example.navigationdrawer;
import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;
import android.os.Bundle;
import android.view.MenuItem;
public class MainActivity extends AppCompatActivity {
    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

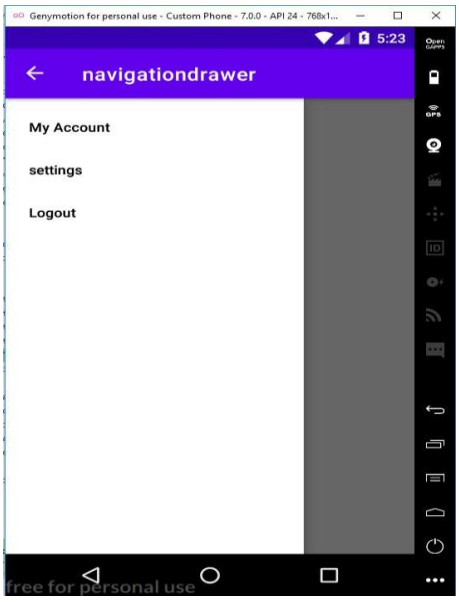
```
        setContentView(R.layout.activity_main);
        drawerLayout = findViewById(R.id.drawerid);
        actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout, R.string.nav_open,
R.string.nav_close);
        drawerLayout.addDrawerListener(actionBarDrawerToggle);
        actionBarDrawerToggle.syncState();
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
    }
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        if (actionBarDrawerToggle.onOptionsItemSelected(item)) {
            return true;
        }
        return super.onOptionsItemSelected(item);
    }
}
```

Result

Program compiled successfully and output verified.

Output





Program No:16 **Date: 05.12.23**

Aim:

Create database using SQLite and perform INSERT,SELSCT,UPDATE and DELETE on SQLite database.

Program Code:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  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"
  tools:context=".MainActivity"
  android:orientation="vertical">
  <TextView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="Registration"
     android:textColor="@color/black"
     android:textSize="25dp"
     app:layout_constraintBottom_toBottomOf="parent"
     app:layout_constraintLeft_toLeftOf="parent"
     app:layout_constraintRight_toRightOf="parent"
     app:layout_constraintTop_toTopOf="parent"
     android:layout_gravity="center" />
  <EditText
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:hint="Enter your Name"
     android:id="@+id/name" />
  <EditText
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
```

```
        android:hint="Enter your Age"
        android:id="@+id/age"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter your Course Name"
        android:id="@+id/cn"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Insert"
        android:id="@+id/b1"/>
    <Button
        android:id="@+id/b2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Update" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Delete"
        android:id="@+id/b3"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="View"
        android:id="@+id/b4"/>
</LinearLayout>
```

MainActivity.java

```
package com.example.db;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor;
```

```
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    Dbhelper db;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText Name=findViewById(R.id.name);
        EditText Age=findViewById(R.id.age);
        EditText Course=findViewById(R.id.cn);
        Button insert=findViewById(R.id.b1);
        Button update=findViewById(R.id.b2);
        Button delete=findViewById(R.id.b3);
        Button view=findViewById(R.id.b4);
        db=new Dbhelper(this);
        insert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String name=Name.getText().toString();
                String age=Age.getText().toString();
                String course=Course.getText().toString();
                boolean checkInsertData=db.insertData(name,age,course);
                if (checkInsertData==true)
                    Toast.makeText(MainActivity.this,"New Entry Inserted",Toast.LENGTH_LONG).show();
                else
                    Toast.makeText(MainActivity.this,"No entry inserted",Toast.LENGTH_LONG).show();
            }
        });
        update.setOnClickListener(new View.OnClickListener() {
```

```
    public void onClick(android.view.View view) {
        String name= Name.getText().toString();
        String age=Age.getText().toString();
        String course= Course.getText().toString();
        boolean checkUpdateData= db.updateData(name,age,course);
        if(checkUpdateData==true)
            Toast.makeText(MainActivity.this,"Entry updated",Toast.LENGTH_LONG).show();
        else
            Toast.makeText(MainActivity.this,"Entry Not Updated",Toast.LENGTH_LONG).show();
    }
});
delete.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String name= Name.getText().toString();
        boolean checkUpdateData= db.deleteData(name);
        if(checkUpdateData==true)
            Toast.makeText(MainActivity.this,"Entry Deleted",Toast.LENGTH_LONG).show();
        else
            Toast.makeText(MainActivity.this,"No entry to delete",Toast.LENGTH_LONG).show();
    }
});
view.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Cursor res=db.getData();
        if(res.getCount()==0){
            Toast.makeText(MainActivity.this,"No entry exist",Toast.LENGTH_LONG).show();
            return;
        }
        StringBuffer buffer=new StringBuffer();
        while(res.moveToNext()){
            buffer.append("Name:"+res.getString(0)+"\n");
```

```
            buffer.append("Age:"+res.getString(1)+"\n");
            buffer.append("Course:"+res.getString(2)+"\n\n\n\n\n");
        }
        AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
        builder.setCancelable(true);
        builder.setTitle("User Entries");
        builder.setMessage(buffer.toString());
        builder.show();
      }
    });
  }
```

Dbhelper.java

```
package com.example.db;
    import android.content.ContentValues;
    import android.content.Context;
    import android.database.Cursor;
    import android.database.sqlite.SQLiteDatabase;
    import android.database.sqlite.SQLiteOpenHelper;
    import androidx.annotation.Nullable;
public class Dbhelper extends SQLiteOpenHelper {
  public Dbhelper(@Nullable Context context){
    super(context,"userdata.db",null,1);
  }
  public void onCreate(SQLiteDatabase DB){
    DB.execSQL("create Table userdetails(name TEXT primary key,age text,course TEXT)");
  }
  public void onUpgrade(SQLiteDatabase DB,int i,int i1){
    DB.execSQL("drop table if exists userdetails");
  }
  public Boolean insertData(String name,String age,String course){
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("name",name);
```

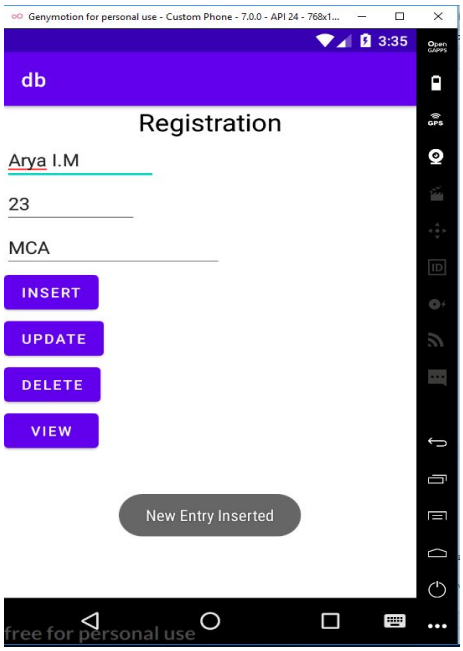
```
    contentValues.put("age",age);
    contentValues.put("course",course);
    long result=DB.insert("Userdetails",null,contentValues);
    if(result==-1)
        return false;
    else
        return true;
}
public Boolean updateData(String name,String age,String course)
{
    SQLiteDatabase DB=this.getWritableDatabase();
    ContentValues contentValues=new ContentValues();
    contentValues.put("name",name);
    contentValues.put("age",age);
    contentValues.put("course",course);
    Cursor cursor=DB.rawQuery("select * from userdetails where name=?",new
            String[]{name});
    if (cursor.getCount()>0) {
        long result = DB.update("userdetails", contentValues, "name=?", new String[]{name});
        if (result == -1)
            return false;
        else
            return true;
    }
    else
    {
        return false;
    }
}
public Boolean deleteData(String name){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("select * from userdetails where name=?",new String[]{name});
    if (cursor.getCount()>0) {
```

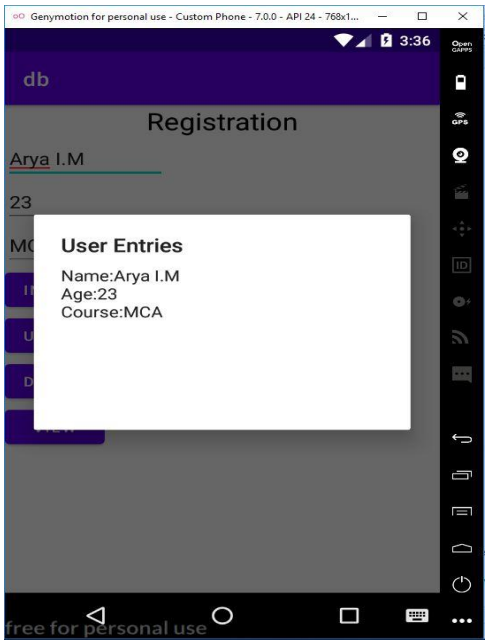
```
        long result = DB.delete("userdetails", "name=?", new String[]{name});
        if (result == -1)
            return false;
        else
            return true;
    }
    else
        return false;
  }
  public Cursor getData(){
    SQLiteDatabase DB=this.getWritableDatabase();
    Cursor cursor=DB.rawQuery("select * from userdetails",null);
    return cursor;
  }
}
```

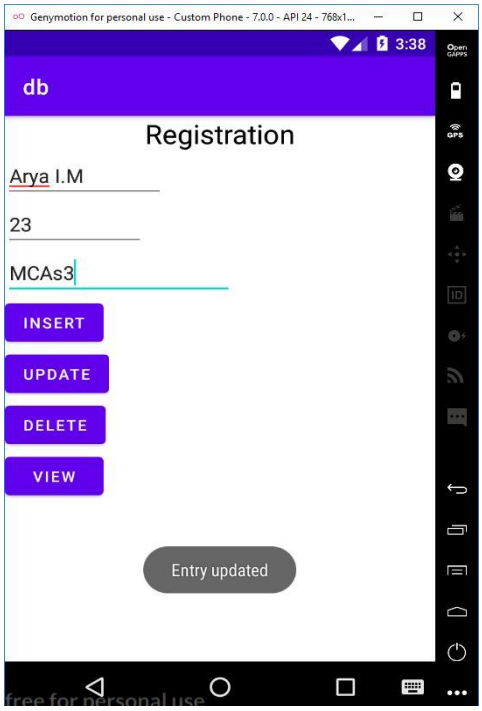
Result

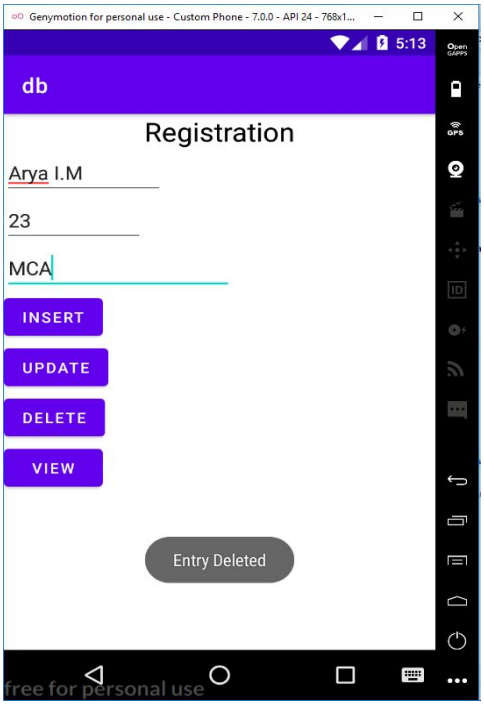
Program compiled successfully and output verified.

Output






Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
3:38
db
Registration
Arya I.M
23
MCAs3
INSERT
UPDATE
DELETE
VIEW
Entry updated
free for personal use


Genymotion for personal use - Custom Phone - 7.0.0 - API 24 - 768x1...
5:13
db
Registration
Arya I.M
23
MCA
INSERT
UPDATE
DELETE
VIEW
Entry Deleted
free for personal use