

Practical No 1

Aim:

Write an Android application with an Image View and Button. Onclick of the button the visibility of the image should toggle.

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"
    android:onClick="onToggle"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/img1"
        android:layout_width="320dp"
        android:layout_height="294dp"
        android:layout_marginTop="80dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.494"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/flower2" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="140dp"
        android:onClick="onToggle"
        android:text="Toggle"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/img1"
        app:layout_constraintVertical_bias="0.0" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java:

```
package com.example.imageapp;

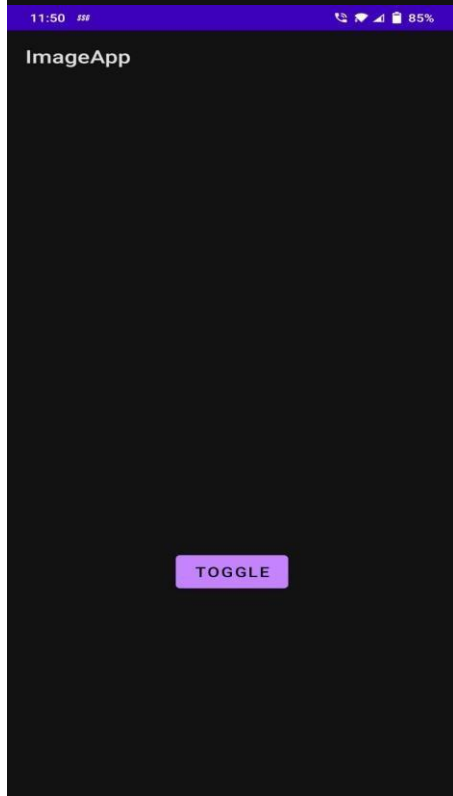
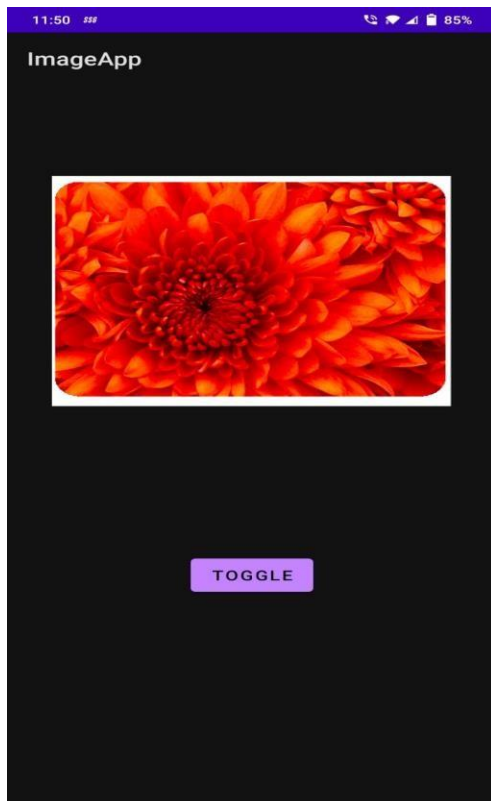
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {
    ImageView imgv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        imgv=findViewById(R.id.img1);
    }

    public void onToggle(View view) {
        if(imgv.getVisibility()==View.VISIBLE)
        {
            imgv.setVisibility(View.INVISIBLE);
        }
        else
        {
            imgv.setVisibility(View.VISIBLE);
        }
    }
}
```

Output:



Practical No 2

Aim:

Write an Android application to accept two numbers from users and perform an arithmetic operation (Addition, Subtraction, Multiplication and Division) as per user's choice using radio button. The result should be displayed in toast.

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">
```

```
<EditText
    android:id="@+id/fno"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter the first number"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/sno"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.626" />
```

```
<EditText
    android:id="@+id/sno"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="76dp"
    android:ems="10"
    android:hint="Enter the second number"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/radioGroup"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent" />
```

```
<RadioGroup
    android:id="@+id/radioGroup"
    android:layout_width="220dp"
    android:layout_height="282dp"
    android:layout_marginBottom="196dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent">
```

```
<RadioButton
    android:id="@+id/radioButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onAdd"
    android:text="Add" />
```

```
<RadioButton
    android:id="@+id/radioButton2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:onClick="onSub"
    android:text="Subtract" />
```

```

        <RadioButton
            android:id="@+id/radioButton3"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:onClick="onMul"
            android:text="Multiply" />

        <RadioButton
            android:id="@+id/radioButton4"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:onClick="onDiv"
            android:text="Divide" />
    </RadioGroup>
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java:

```

package com.example.practical2;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.fno);
        e2=findViewById(R.id.sno);
    }

    public void onAdd(View view) {
        int num1=Integer.parseInt(e1.getText().toString());
        int num2=Integer.parseInt(e2.getText().toString());
        int res= num1 + num2;
        Toast.makeText(this,"Result: " + res, Toast.LENGTH_LONG).show();
    }

    public void onSub(View view) {
        int num1=Integer.parseInt(e1.getText().toString());
        int num2=Integer.parseInt(e2.getText().toString());
        int res= num1 - num2;
        Toast.makeText(this,"Result: " + res, Toast.LENGTH_LONG).show();
    }

    public void onMul(View view) {
        int num1=Integer.parseInt(e1.getText().toString());
        int num2=Integer.parseInt(e2.getText().toString());
    }
}

```

```

        int res= num1 * num2;
        Toast.makeText(this,"Result: " + res, Toast.LENGTH_LONG).show();
    }

    public void onDiv(View view) {
        int num1=Integer.parseInt(e1.getText().toString());
        int num2=Integer.parseInt(e2.getText().toString());
        int res= num1 / num2;
        Toast.makeText(this,"Result: " + res, Toast.LENGTH_LONG).show();
    }
}

```

Output:

11:51 55%

Practical2

21

45

☒ Add
☐ Subtract
☐ Multiply
☐ Divide

Result: 66

11:51 55%

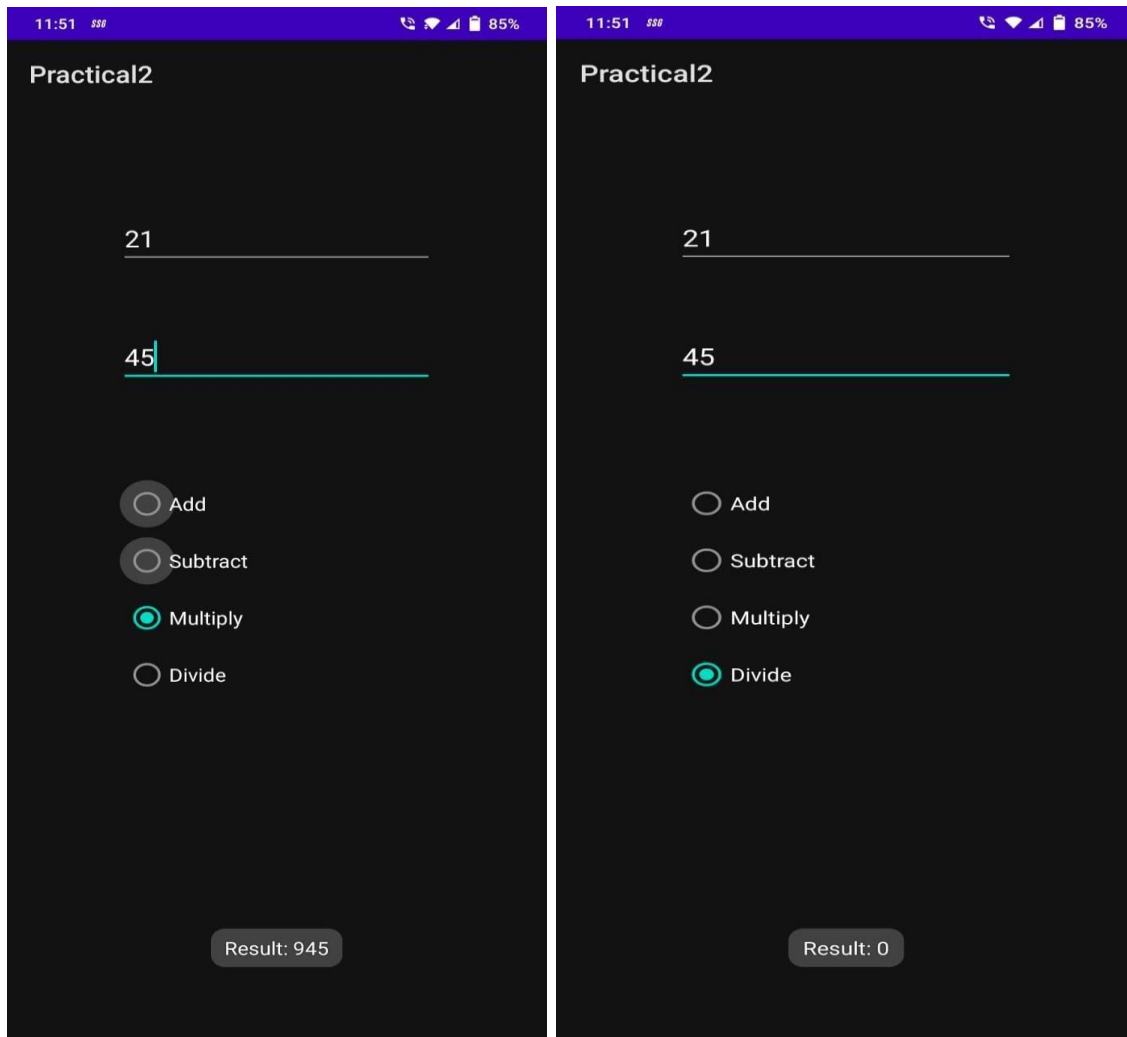
Practical2

21

45

☐ Add
☒ Subtract
☐ Multiply
☐ Divide

Result: -24



Practical No 3

Aim:

Write an Android application with two activities namely MainActivity and SecondActivity. The username and password from MainActivity to be passed to SecondActivity and its validated and appropriate message is displayed.

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">

    <EditText
        android:id="@+id/uname"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="101dp"
        android:layout_marginLeft="101dp"
        android:layout_marginTop="124dp"
        android:layout_marginEnd="101dp"
        android:layout_marginRight="101dp"
        android:layout_marginBottom="54dp"
        android:ems="10"
        android:hint="Enter Username"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toTopOf="@+id/pass"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/pass"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="101dp"
        android:layout_marginLeft="101dp"
        android:layout_marginEnd="101dp"
        android:layout_marginRight="101dp"
        android:layout_marginBottom="117dp"
        android:ems="10"
        android:hint="Enter Password"
        android:inputType="textPassword"
        app:layout_constraintBottom_toTopOf="@+id/button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="298dp"
        android:onClick="onLogin"
```

```

        android:text="Login"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

activity_second.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=".SecondActivity">

    <TextView
        android:id="@+id/t1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="178dp"
        android:layout_marginLeft="178dp"
        android:layout_marginTop="323dp"
        android:layout_marginEnd="175dp"
        android:layout_marginRight="175dp"
        android:layout_marginBottom="389dp"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.538"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="1.0" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java:

```

package com.example.loginapp;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {

```

```

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1 = findViewById(R.id.uname);
        e2 = findViewById(R.id.pass);
    }

    public void onLogin(View view) {
        String user = e1.getText().toString();
        String pwd = e2.getText().toString();

        Intent intent = new Intent(this, SecondActivity.class);
        intent.putExtra("username", user);
        intent.putExtra("password", pwd);
        startActivity(intent);
    }
}

```

SecondActivity.java:

```

package com.example.loginapp;

import androidx.appcompat.app.AppCompatActivity;

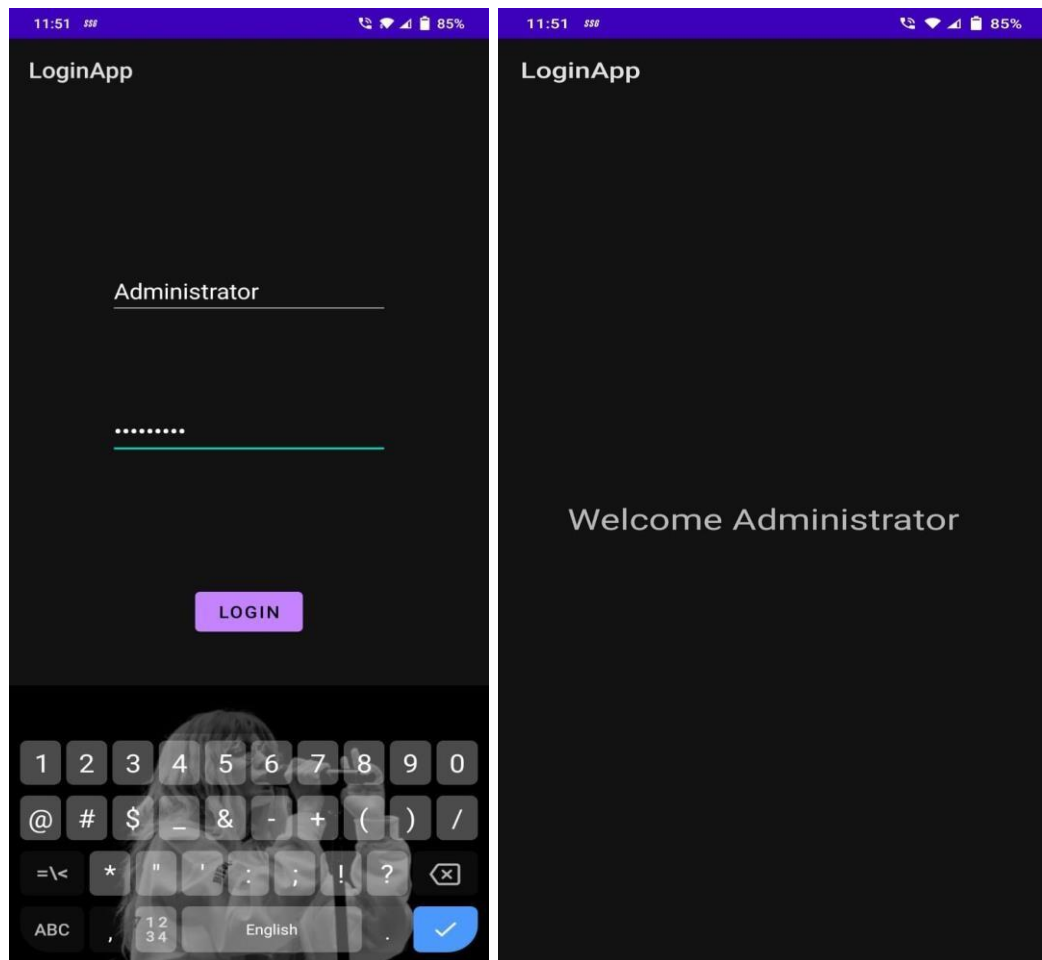
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {
    TextView tv;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        tv = findViewById(R.id.t1);
        Intent rintent = getIntent();
        String user = rintent.getStringExtra("username");
        String pwd = rintent.getStringExtra("password");
        if(user.equals("Administrator") && pwd.equals("admin@123"))
        {
            tv.setText("Welcome " + user);
        }
        else
        {
            tv.setText("Invalid User!");
        }
    }
}

```

Output:



Practical No 4

Aim:

Write an Android program to demonstrate Activity life cycle.

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.activitycycle;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
{
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Toast.makeText(this, "Activity is created",
        Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onStart()
    {
        super.onStart();
        Toast.makeText(this, "Activity is started",
        Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onResume()
    {
        super.onResume();
        Toast.makeText(this, "Activity is resumed",

```

```
Toast.LENGTH_SHORT).show();
    }

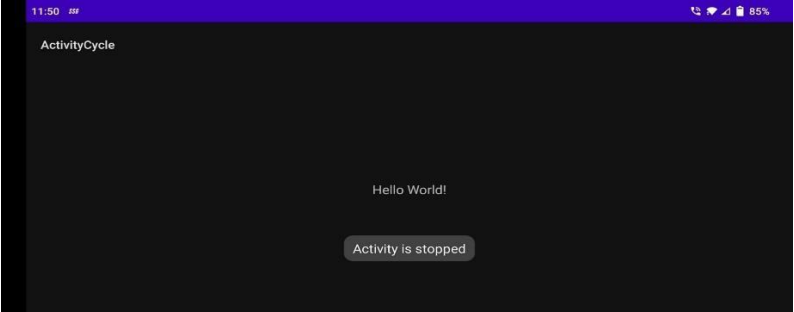
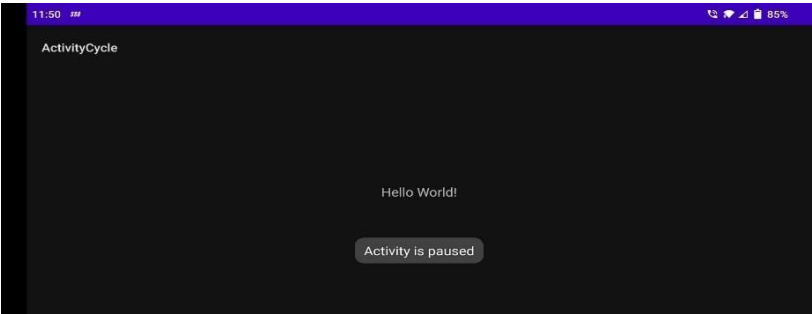
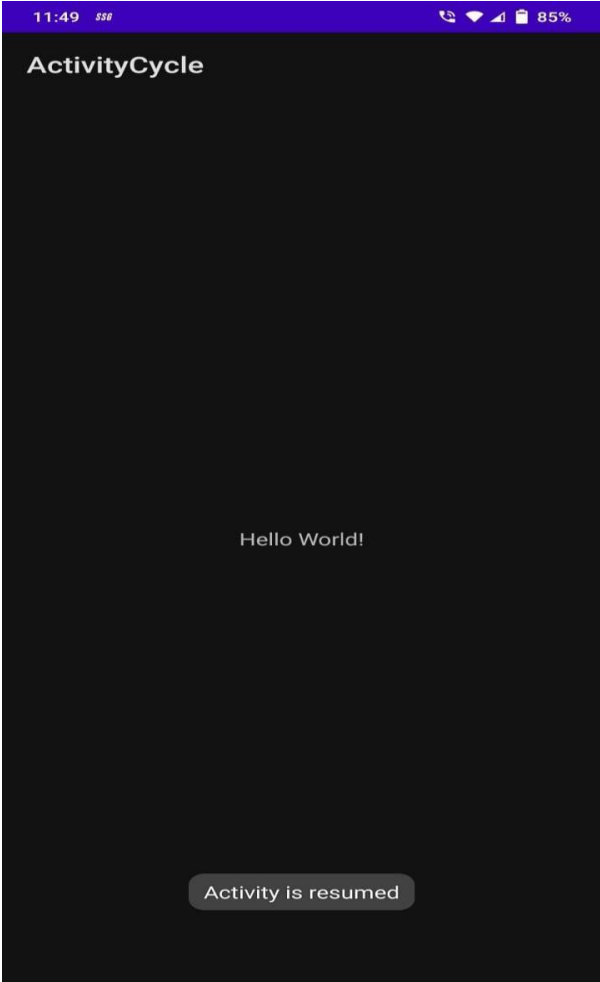
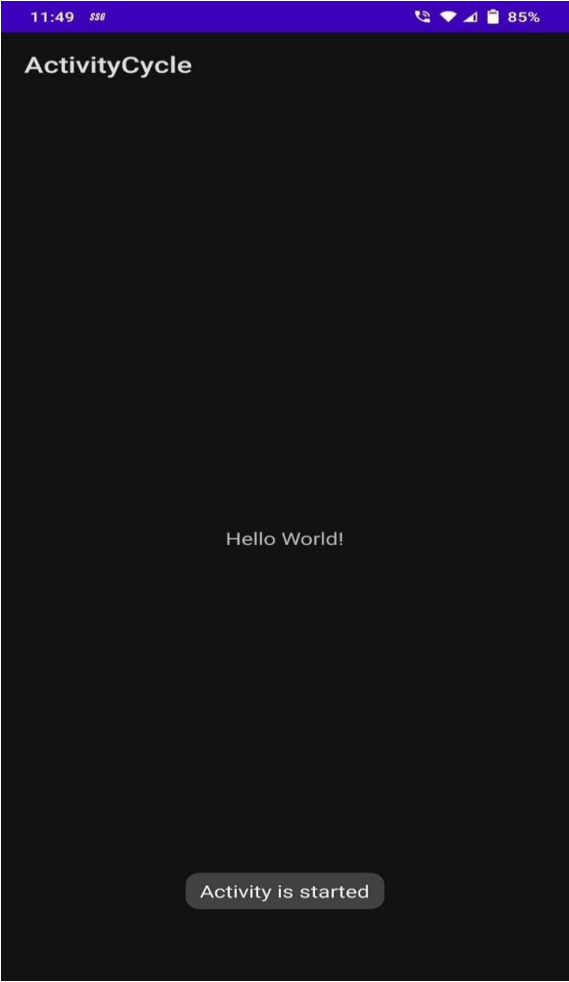
    @Override
    protected void onRestart()
    {
        super.onRestart();
        Toast.makeText(this, "Activity is restarted",
Toast.LENGTH_SHORT).show();
    }

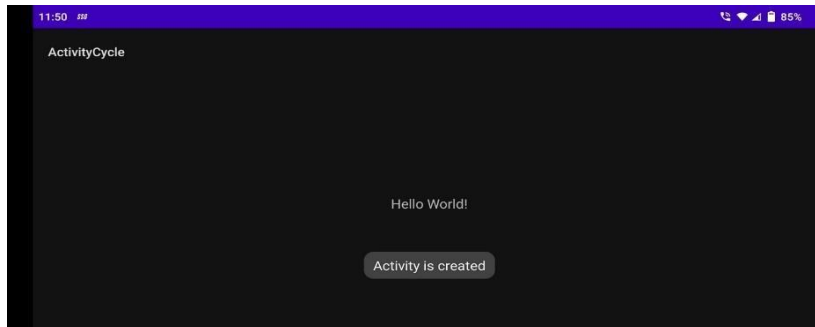
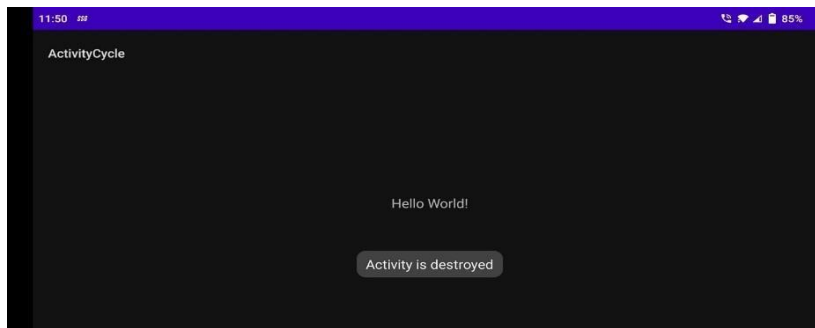
    @Override
    protected void onPause()
    {
        super.onPause();
        Toast.makeText(this, "Activity is paused",
Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onStop()
    {
        super.onStop();
        Toast.makeText(this, "Activity is stopped",
Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onDestroy()
    {
        super.onDestroy();
        Toast.makeText(this, "Activity is destroyed",
Toast.LENGTH_SHORT).show();
    }
}
```

Output:





Practical No 5

Aim:

Write an Android application with two activities namely MainActivity and SecondActivity. Pass two numbers from MainActivity and in the SecondActivity, find sum of the two numbers and pass it back to MainActivity.

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">
```

```
<EditText
    android:id="@+id/e1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginLeft="100dp"
    android:layout_marginTop="107dp"
    android:layout_marginEnd="101dp"
    android:layout_marginRight="101dp"
    android:ems="10"
    android:hint="Enter First Number"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/e2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginLeft="100dp"
    android:layout_marginTop="37dp"
    android:layout_marginEnd="101dp"
    android:layout_marginRight="101dp"
    android:ems="10"
    android:hint="Enter Second Number"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/e1" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="158dp"
    android:layout_marginLeft="158dp"
    android:layout_marginTop="163dp"
    android:layout_marginEnd="159dp"
    android:layout_marginRight="159dp"
    android:layout_marginBottom="286dp"
    android:onClick="onAdd"
    android:text="Add"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/e2" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

activity_second.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=".SecondActivity">

</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java:

```
package com.example.practical5;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
{
    EditText ed1,ed2;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ed1 = findViewById(R.id.e1);
        ed2 = findViewById(R.id.e2);
    }

    public void onAdd(View view)
    {
        int num1 = Integer.parseInt(ed1.getText().toString());
        int num2 = Integer.parseInt(ed2.getText().toString());
        Intent intent = new Intent(this,SecondActivity.class);
        intent.putExtra("Num1",num1);
        intent.putExtra("Num2",num2);
        startActivityForResult(intent,11);
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode,
    @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(requestCode==11)
```

```

        {
            if (resultCode == RESULT_OK)
            {
                int res = data.getIntExtra("Result", 0);
                Toast.makeText(this, "Result: "+res,
                    Toast.LENGTH_LONG).show();
            }
        }
    }
}

```

SecondActivity.java:

```

package com.example.practical5;

import androidx.appcompat.app.AppCompatActivity;

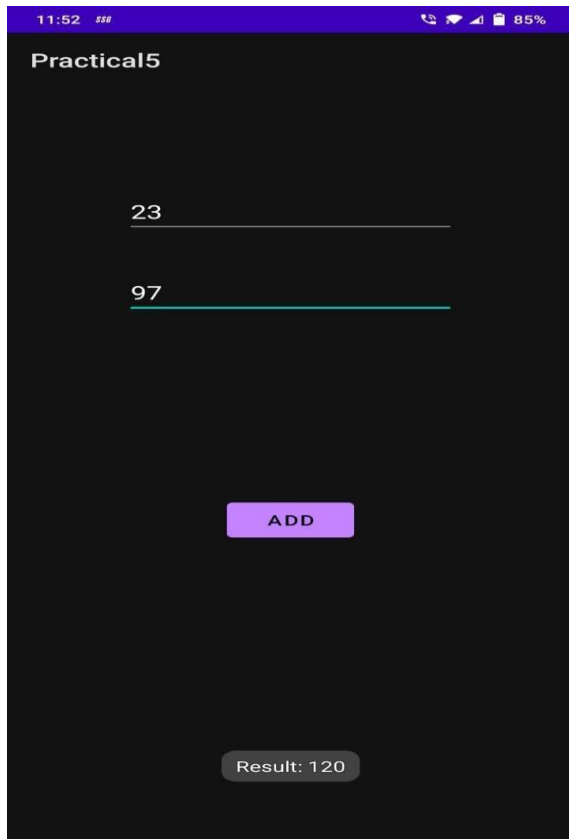
import android.content.Intent;
import android.os.Bundle;

public class SecondActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        Intent in1 = getIntent();
        int num1 = in1.getIntExtra("Num1", 0);
        int num2 = in1.getIntExtra("Num2", 0);
        int res = num1 + num2;
        Intent in2 = new Intent();
        in2.putExtra("Result", res);
        setResult(RESULT_OK, in2);
        finish();
    }
}

```

Output:



Practical No 6

Aim:

Write an android application to demonstrate the use of Options Menu, Floating Context Menu and Contextual Action Bar Menu.

Program Code:

MainActivity.java:

```
package com.example.menuappl;
```

```

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.ActionMode;
import android.view.ContextMenu;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
{
    TextView t1,t2;
    ActionMode mactionmode;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.text1);
        t2=findViewById(R.id.actiontext);
        registerForContextMenu(t1); //meant for floating context menu
        t2.setOnLongClickListener(new View.OnLongClickListener()
        {
            @Override
            public boolean onLongClick(View v)
            {
                if (mactionmode!=null) return false;

mactionmode=MainActivity.this.startActionMode(actionModeCallback);
                return true;
            }
        });
    }
    public ActionMode.Callback actionModeCallback=new ActionMode.Callback()
    {
        @Override
        public boolean onCreateActionMode(ActionMode mode, Menu menu)
        {
            getMenuInflater().inflate(R.menu.menu3,menu);
            return true;
        }

        @Override
        public boolean onPrepareActionMode(ActionMode mode, Menu menu)
        {
            return false;
        }

        @Override
        public boolean onActionItemClicked(ActionMode mode, MenuItem item)
        {
            switch (item.getItemId())
            {

```

```

        case R.id.item7:
            Toast.makeText(MainActivity.this, "Edit CAB Selected",
Toast.LENGTH_SHORT).show();
            mode.finish();
            return true;
        case R.id.item8:
            Toast.makeText(MainActivity.this, "Share CAB Selected",
Toast.LENGTH_SHORT).show();
            mode.finish();
            return true;
        default: return false;
    }
}

@Override
public void onDestroyActionMode(ActionMode mode)
{
    mactionmode=null;
}
};

@Override
public boolean onCreateOptionsMenu(Menu menu)
{
    super.onCreateOptionsMenu(menu);
    getMenuInflater().inflate(R.menu.menu1,menu);
    return(true);
}

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item)
{
    switch(item.getItemId())
    {
        case R.id.item1:
            Toast.makeText(this, "Search Option Menu Selected",
Toast.LENGTH_SHORT).show();
            return true;
        case R.id.item2:
            Toast.makeText(this, "Cart Option Menu Selected",
Toast.LENGTH_SHORT).show();
            return true;
        case R.id.item3:
            Toast.makeText(this, "Settings Option Menu Selected",
Toast.LENGTH_SHORT).show();
            return true;
        default: return super.onOptionsItemSelected(item);
    }
}

@Override
public void onCreateContextMenu(ContextMenu menu, View v,
ContextMenu.ContextMenuInfo menuInfo)
{
    super.onCreateContextMenu(menu, v, menuInfo);
    getMenuInflater().inflate(R.menu.menu2,menu);
}

```

```

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item)
{
    switch(item.getItemId())
    {
        case R.id.item4:
            Toast.makeText(this, "Edit Context Menu Selected",
Toast.LENGTH_SHORT).show();
            return true;
        case R.id.item5:
            Toast.makeText(this, "Share Context Menu Selected",
Toast.LENGTH_SHORT).show();
            return true;
        case R.id.item6:
            Toast.makeText(this, "Delete Context Menu Selected",
Toast.LENGTH_SHORT).show();
            return true;
        default: return super.onOptionsItemSelected(item);
    }
}
}

```

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:id="@+id/text1"
        android:layout_width="210dp"
        android:layout_height="119dp"
        android:layout_marginStart="138dp"
        android:layout_marginLeft="138dp"
        android:layout_marginTop="152dp"
        android:layout_marginEnd="139dp"
        android:layout_marginRight="139dp"
        android:text="Press for Floating Context Menu"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/actiontext"
        android:layout_width="210dp"
        android:layout_height="98dp"
        android:layout_marginStart="135dp"
        android:layout_marginLeft="135dp"
        android:layout_marginTop="120dp"

```

```

        android:layout_marginEnd="136dp"
        android:layout_marginRight="136dp"
        android:layout_marginBottom="289dp"
        android:text="Press for Action Context Menu"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/text1" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Menu1.xml:

```

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

    <item
        android:id="@+id/item1"
        android:enabled="true"
        android:icon="@drawable/ic_action_search"
        android:title="search"
        android:visible="true"
        app:showAsAction="always" />

    <item
        android:id="@+id/item2"
        android:enabled="true"
        android:icon="@drawable/ic_action_cart"
        android:title="cart"
        android:visible="true"
        app:showAsAction="always" />

    <item
        android:id="@+id/item3"
        android:enabled="true"
        android:title="Settings"
        android:visible="true"
        app:showAsAction="never" />

</menu>

```

Menu2.xml:

```

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

    <item
        android:id="@+id/item4"
        android:enabled="true"
        android:title="Edit"
        android:visible="true" />

    <item
        android:id="@+id/item5"
        android:enabled="true"

```



```
        android:title="Share"
        android:visible="true" />
    <item
        android:id="@+id/item6"
        android:enabled="true"
        android:title="Delete"
        android:visible="true" />
</menu>
```

Menu3.xml:

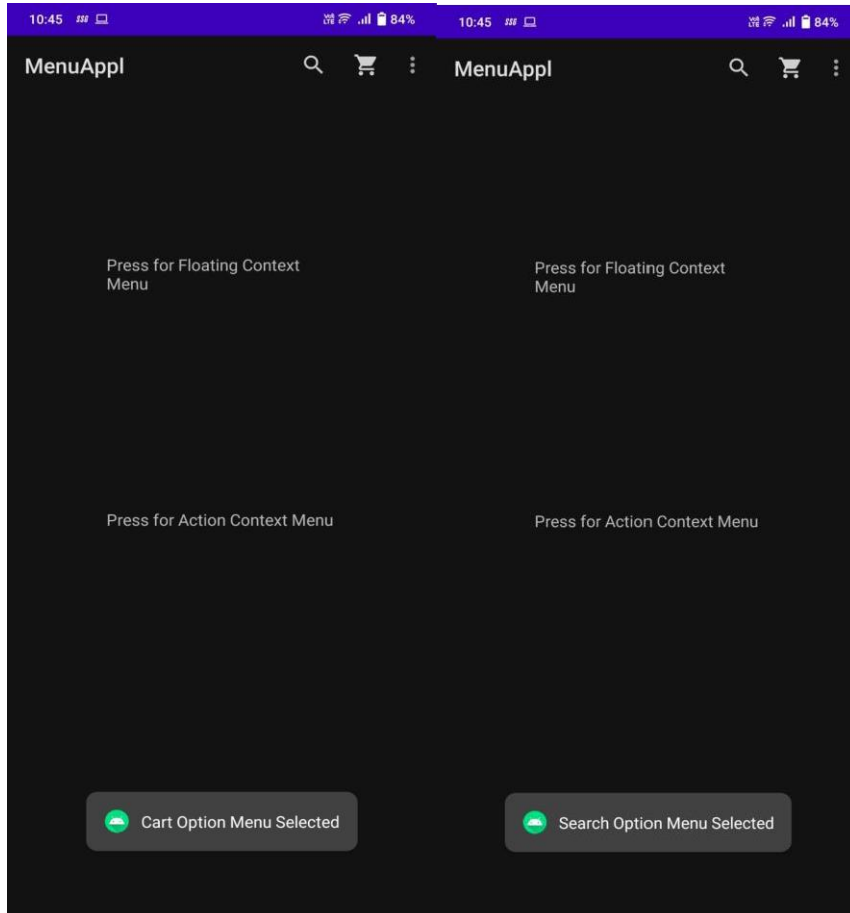
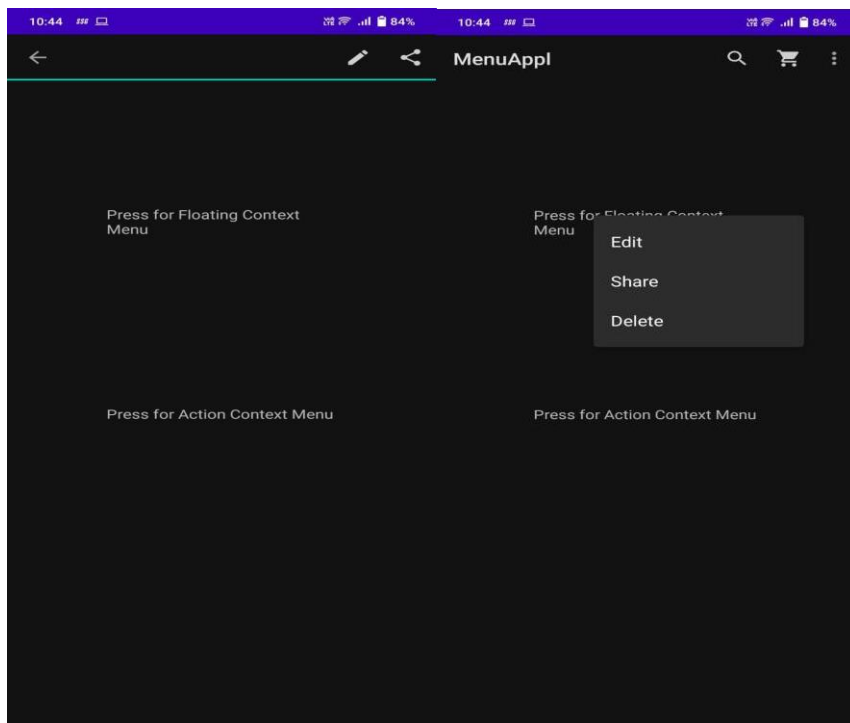
```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:android="http://schemas.android.com/apk/res/android">

    <item
        android:id="@+id/item7"
        android:enabled="true"
        android:icon="@drawable/ic_action_edit"
        android:title="Edit"
        android:visible="true" />

    <item
        android:id="@+id/item8"
        android:enabled="true"
        android:icon="@drawable/ic_action_share"
        android:title="Share"
        android:visible="true" />

</menu>
```

Output:



Practical No 7

Aim:

Write an android application to implement implicit intent to show a web url, dialer and capture image with device camera.

Program Code:

MainActivity.java:

```
package com.example.prac7;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.graphics.Bitmap;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity
{
    ImageView imageView;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        imageView = findViewById(R.id.img);
    }

    public void showWeb(View view)
    {
        Intent intent = new Intent(Intent.ACTION_VIEW,
Uri.parse("http://google.com"));
        startActivity(intent);
    }

    public void showDial(View view)
    {
        Intent intent = new Intent(Intent.ACTION_DIAL,
Uri.parse("tel:9004417275"));
    }
}
```

```

        startActivity(intent);
    }

    public void showCam(View view)
    {
        Intent intent = new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
        startActivityForResult(intent,11);
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode,
    @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        Bitmap bmp = (Bitmap)data.getExtras().get("data");
        imageView.setImageBitmap(bmp);
    }
}

```

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">

    <Button
        android:id="@+id/button"
        android:layout_width="126dp"
        android:layout_height="67dp"
        android:layout_marginStart="142dp"
        android:layout_marginLeft="142dp"
        android:layout_marginTop="91dp"
        android:layout_marginEnd="143dp"
        android:layout_marginRight="143dp"
        android:onClick="showWeb"
        android:text=" Show Web"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button2"
        android:layout_width="130dp"
        android:layout_height="71dp"
        android:layout_marginStart="145dp"
        android:layout_marginLeft="145dp"
        android:layout_marginTop="57dp"
        android:layout_marginEnd="143dp"
        android:layout_marginRight="143dp"
        android:onClick="showDial"
        android:text="Show Dialer"

```

```

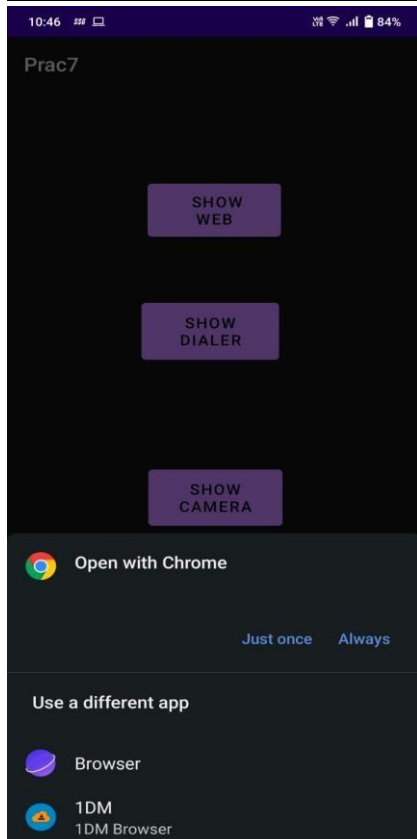
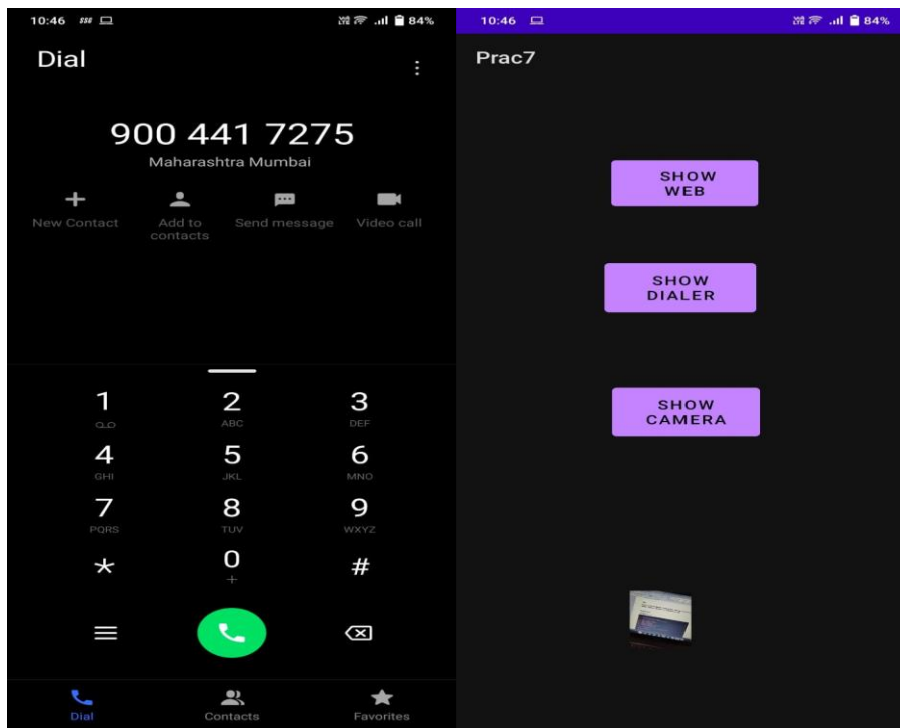
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.714"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/button" />

<Button
    android:id="@+id/button3"
    android:layout_width="127dp"
    android:layout_height="70dp"
    android:layout_marginStart="148dp"
    android:layout_marginLeft="148dp"
    android:layout_marginTop="57dp"
    android:layout_marginEnd="149dp"
    android:layout_marginRight="149dp"
    android:layout_marginBottom="97dp"
    android:onClick="showCam"
    android:text="Show Camera"
    app:layout_constraintBottom_toTopOf="@+id/img"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.461"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button2" />

<ImageView
    android:id="@+id/img"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="149dp"
    android:layout_marginLeft="149dp"
    android:layout_marginTop="61dp"
    android:layout_marginEnd="134dp"
    android:layout_marginRight="134dp"
    android:layout_marginBottom="77dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button3"
    app:layout_constraintVertical_bias="0.418"
    tools:srcCompat="@tools:sample/avatars" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Output:



Practical No 8

Aim:

Write an android application to create a Biodata form to demonstrate the use of Autocomplete text view, Spinner, Date Picker and Alert Dialog

Program Code:

MainActivity.java:

```
package com.example.biodataactivity;

import androidx.annotation.RequiresApi;
import androidx.appcompat.app.AppCompatActivity;

import android.app.AlertDialog;
import android.app.DatePickerDialog;
import android.content.DialogInterface;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener
{
    EditText Name,Phone,DOB;
    AutoCompleteTextView cntry;
    Spinner sp;
    String msg="";
    String phntype="";
    //public static final String[] countries= new String[]
{"India","Indonesia","United States of America","Italy","Germany"};
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```

        Name = findViewById(R.id.nameid);
        Phone = findViewById(R.id.phnid);
        DOB = findViewById(R.id.dobid);
        cntry = findViewById(R.id.cntyid);

        ArrayAdapter<CharSequence> ad1 =
ArrayAdapter.createFromResource(this,R.array.Countries,
R.layout.support_simple_spinner_dropdown_item);
        cntry.setAdapter(ad1);
        sp = findViewById(R.id.phntype);
        if(sp!=null)
        {
            sp.setOnItemClickListener(this);
        }
        ArrayAdapter<CharSequence> ad2 =
ArrayAdapter.createFromResource(this,R.array.phonetype,
android.R.layout.simple_spinner_item);

ad2.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        sp.setAdapter(ad2);
    }

    @RequiresApi(api= Build.VERSION_CODES.N)
    public void showPicker(View view)
    {
        DatePickerDialog dp = new DatePickerDialog(this,0);
        dp.setOnDateSetListener(new DatePickerDialog.OnDateSetListener()
        {
            @Override
            public void onDateSet(DatePicker view, int year, int month, int
dayOfMonth)
            {
                int m = month+1;
                DOB.setText(dayOfMonth+"/"+m+"/"+year);
            }
        });
        dp.show();
    }

    public void showAlert(View view)
    {
        msg="You have entered the following information\n";
        msg+="Name: "+Name.getText().toString();
        msg+="\n Date of Birth: "+DOB.getText().toString();
        msg+="\n PhoneNo: "+Phone.getText().toString();
        msg+="\n PhoneType: "+phntype;
        msg+="\n Country: "+cntry.getText().toString();
        msg+="\n Please Confirm..";
        AlertDialog.Builder alertbuilder=new AlertDialog.Builder(this)
            .setTitle("Confirmation Message")
            .setMessage(msg)
            .setPositiveButton("Yes", new
DialogInterface.OnClickListener()
            {
                @Override
                public void onClick(DialogInterface dialog, int which)
                {

```



```

        Toast.makeText(MainActivity.this, "User Data
Confirmed", Toast.LENGTH_LONG).show();
    }
    })
    .setNegativeButton("No", new
DialogInterface.OnClickListener()
    {
        @Override
        public void onClick(DialogInterface dialog, int
which)
        {
            Toast.makeText(MainActivity.this, "User Data
Cancelled", Toast.LENGTH_LONG).show();
        }
    });
    AlertDialog ad = alertbuilder.create();
    ad.show();
}

@Override
public void onItemClick(AdapterView<?> parent, View view, int
position, long id)
{
    phntype=parent.getItemAtPosition(position).toString();
}

@Override
public void onNothingSelected(AdapterView<?> parent)
{
}
}

```

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:id="@+id/textView"
        android:layout_width="103dp"
        android:layout_height="44dp"
        android:layout_marginStart="154dp"
        android:layout_marginLeft="154dp"
        android:layout_marginTop="46dp"
        android:layout_marginEnd="154dp"
        android:layout_marginRight="154dp"
        android:text="@string/title"
        app:layout_constraintEnd_toEndOf="parent"

```

```
app:layout_constraintStart_toStartOf="parent"  
app:layout_constraintTop_toTopOf="parent" />
```

<EditText

```
    android:id="@+id/nameid"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginStart="100dp"  
    android:layout_marginLeft="100dp"  
    android:layout_marginTop="55dp"  
    android:layout_marginEnd="101dp"  
    android:layout_marginRight="101dp"  
    android:ems="10"  
    android:hint="@string/nameprompt"  
    android:inputType="textPersonName"  
    android:textColorHint="#EC1414"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/textView" />
```

<EditText

```
    android:id="@+id/dobid"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginStart="101dp"  
    android:layout_marginLeft="101dp"  
    android:layout_marginTop="47dp"  
    android:layout_marginEnd="100dp"  
    android:layout_marginRight="100dp"  
    android:ems="10"  
    android:hint="@string/dobprompt"  
    android:inputType="textPersonName"  
    android:onClick="showPicker"  
    android:textColorHint="#CA1414"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/nameid" />
```

<EditText

```
    android:id="@+id/phnid"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginStart="16dp"  
    android:layout_marginLeft="16dp"  
    android:layout_marginTop="61dp"  
    android:layout_marginEnd="14dp"  
    android:layout_marginRight="14dp"  
    android:ems="10"  
    android:hint="@string/phnprompt"  
    android:inputType="phone"  
    android:textColorHint="#C31A1A"  
    app:layout_constraintEnd_toStartOf="@+id/phntype"  
    app:layout_constraintStart_toStartOf="parent"  
    app:layout_constraintTop_toBottomOf="@+id/dobid" />
```

<Spinner

```
    android:id="@+id/phntype"
```

```

        android:layout_width="156dp"
        android:layout_height="37dp"
        android:layout_marginStart="14dp"
        android:layout_marginLeft="14dp"
        android:layout_marginTop="64dp"
        android:layout_marginEnd="16dp"
        android:layout_marginRight="16dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/phnid"
        app:layout_constraintTop_toBottomOf="@+id/dobid" />

<AutoCompleteTextView
    android:id="@+id/cntyid"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="101dp"
    android:layout_marginLeft="101dp"
    android:layout_marginTop="48dp"
    android:layout_marginEnd="116dp"
    android:layout_marginRight="116dp"
    android:hint="@string/cntprompt"
    android:textColorHint="#D31414"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/phnid" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="156dp"
    android:layout_marginLeft="156dp"
    android:layout_marginTop="60dp"
    android:layout_marginEnd="165dp"
    android:layout_marginRight="165dp"
    android:layout_marginBottom="142dp"
    android:onClick="showAlert"
    android:text="@string/btntxt"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/cntyid" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Strings.xml:

```

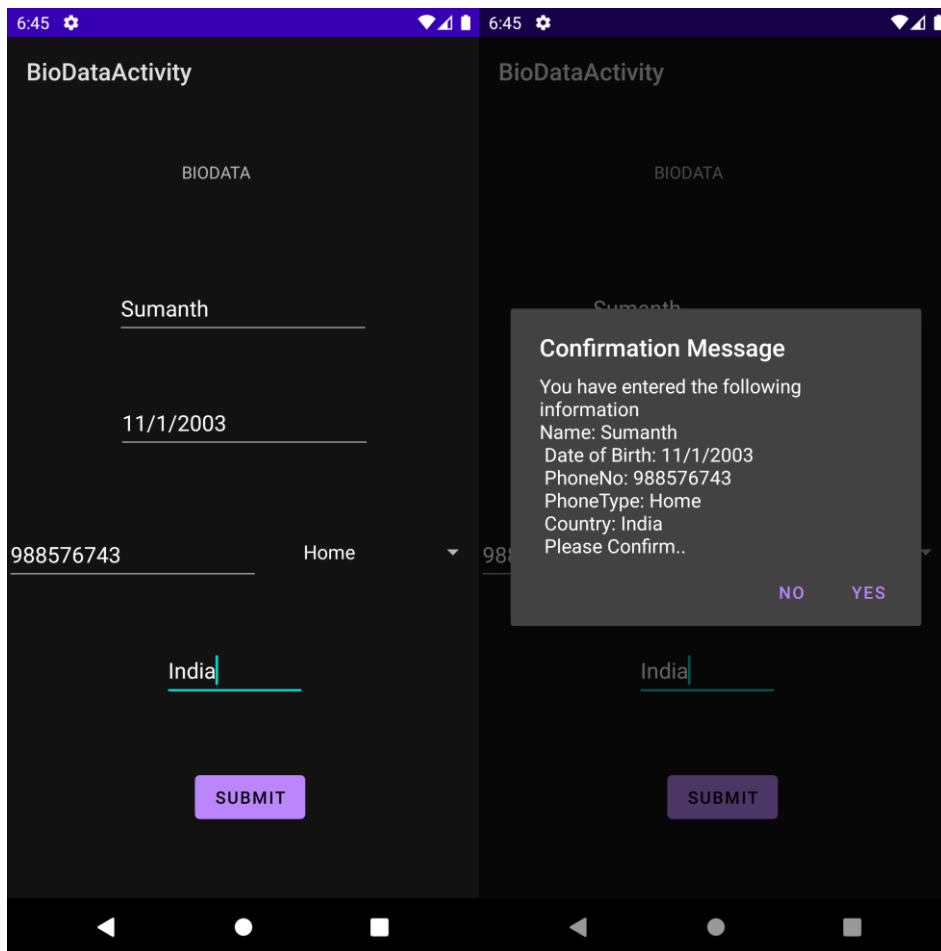
<resources>
    <string name="app_name">BioDataActivity</string>
    <string name="title">BIODATA</string>
    <string name="nameprompt">Enter Name</string>
    <string name="dobprompt">Enter DOB</string>
    <string name="phnprompt">Enter Phone No</string>
    <string name="cntprompt">Enter Country</string>
    <string name="btntxt">Submit</string>

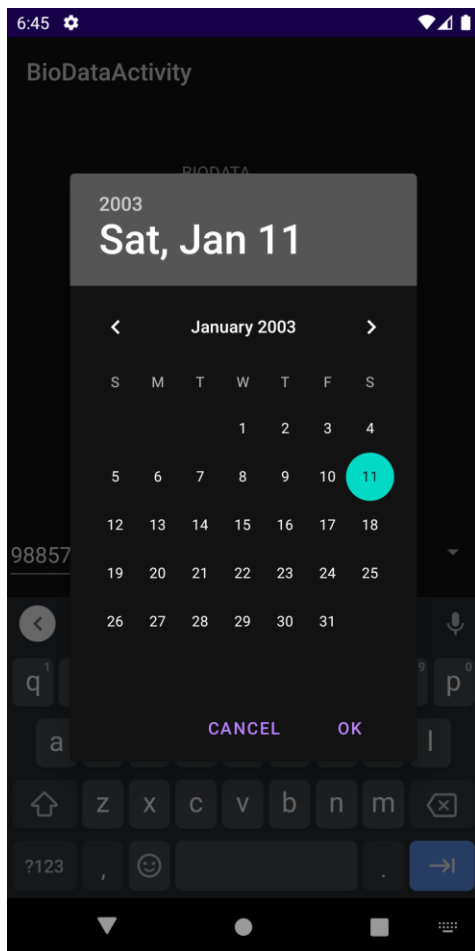
```

```
<string-array name="phonetype">
    <item>Home</item>
    <item>Office</item>
    <item>Mobile</item>
</string-array>

<string-array name="Countries">
    <item>India</item>
    <item>Indonesia</item>
    <item>Germany</item>
    <item>United States</item>
    <item>England</item>
    <item>Singapore</item>
</string-array>
</resources>
```

Output:





Practical No 9

Aim:

Write an android application to demonstrate use of AsyncTask for background activities.

Program Code:

MainActivity.java:

```
package com.example.asynctaskdemo1;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;

import com.example.asynctaskdemo1.MyAsyncTaskClass;

public class MainActivity extends AppCompatActivity {
    MyAsyncTaskClass as1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void showProg(View view) {
        as1=new MyAsyncTaskClass(this);
        as1.execute();
    }
}
```

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"
    android:background="#0C0C0C"
    tools:context=".MainActivity">
```

```

<Button
    android:id="@+id/button"
    android:layout_width="164dp"
    android:layout_height="66dp"
    android:onClick="showProg"
    android:text="@string/btntext"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.483" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MyAsyncTaskClass.java:

```

package com.example.asynctaskdemo1;

import android.app.ProgressDialog;
import android.content.Context;
import android.content.DialogInterface;
import android.os.AsyncTask;
import android.util.Log;
import android.widget.Toast;

public class MyAsyncTaskClass extends AsyncTask<Void,Integer,String> {
    Context cnxt;
    ProgressDialog pd;
    public MyAsyncTaskClass(Context ctx)
    {
        cnxt=ctx;
    }

    @Override
    protected void onPreExecute() {
        pd=new ProgressDialog(cnxt);
        pd.setTitle("Downloading...");
        pd.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
        pd.setMessage("Please Wait...");
        pd.setMax(10);
        pd.setButton(ProgressDialog.BUTTON_NEGATIVE, "Cancel", new
DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which)
            {
                dialog.cancel();
            }
        });
        pd.show();
    }

    @Override
    protected String doInBackground(Void... voids){
        try{
            for (int i = 0; i<= 10; i++) {

```



```

        Thread.sleep(700);
        Log.i("Thread","Execute"+ i);
        publishProgress(i);
    }
    return "Successful";
}
catch(Exception e){
    Log.i("Exception",e.getMessage());
    return "Failure";
}
}

@Override
protected void onProgressUpdate(Integer... values) {
    int myvalue=values[0];
    pd.setProgress(myvalue);
}

@Override
protected void onPostExecute(String s) {
    Toast.makeText(cnxt,s, Toast.LENGTH_LONG).show();
    pd.dismiss();
}
}

```

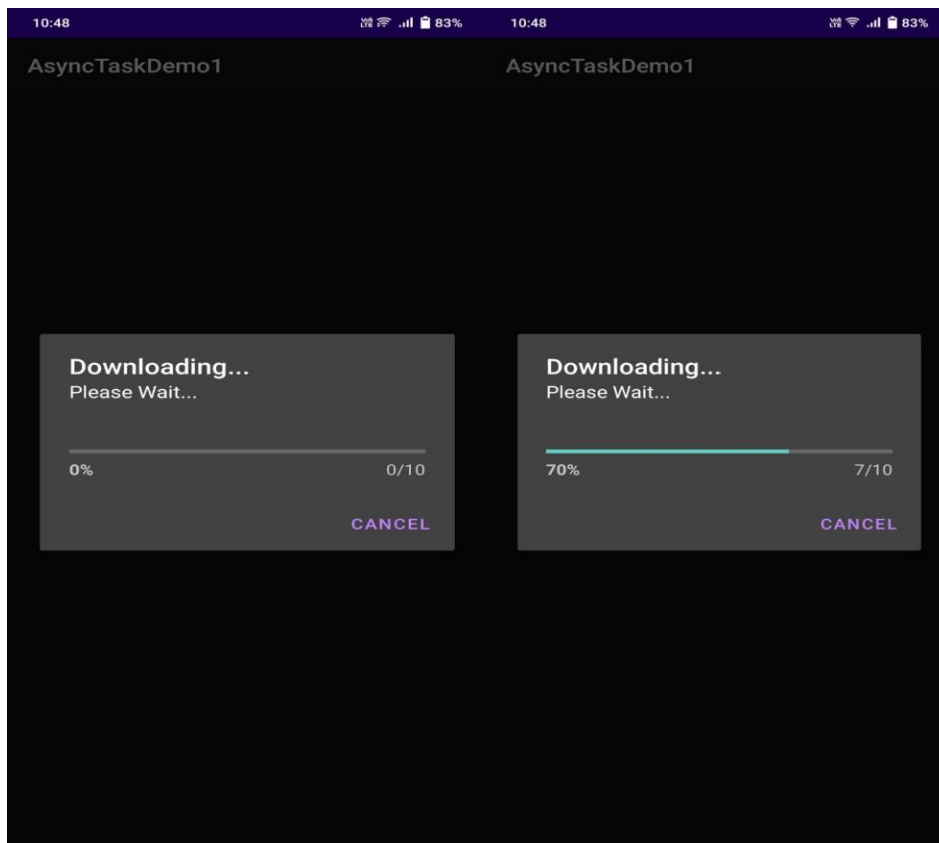
Strings.xml:

```

<resources>
    <string name="app_name">AsyncTaskDemo1</string>
    <string name="btntext">Show Progress</string>
</resources>

```

Output:



Practical No 10

Aim:

Write an android application to demonstrate broadcast and broadcast receiver.

Program Code:

MainActivity.java:

```
package com.example.practicalno10;
```

```

import androidx.appcompat.app.AppCompatActivity;
import androidx.localbroadcastmanager.content.LocalBroadcastManager;

import android.content.Intent;
import android.content.IntentFilter;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends AppCompatActivity
{
    private MyReceiver mReceiver = new MyReceiver();
    private static final String ACTION_CUSTOM_BROADCAST =
"ACTON_CUSTOM_BROADCAST";

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        IntentFilter filter = new IntentFilter();
        filter.addAction(Intent.ACTION_POWER_CONNECTED);
        filter.addAction(Intent.ACTION_BATTERY_LOW);
        filter.addAction(Intent.ACTION_POWER_DISCONNECTED);
        this.registerReceiver(mReceiver, filter);

        LocalBroadcastManager.getInstance(this).registerReceiver(mReceiver, new
        IntentFilter(ACTION_CUSTOM_BROADCAST));
    }

    public void sendcustomBroadcast(View view)
    {
        Intent customintent = new Intent(ACTION_CUSTOM_BROADCAST);
        LocalBroadcastManager.getInstance(this).sendBroadcast(customintent);
    }

    @Override
    protected void onDestroy()
    {
        this.unregisterReceiver(mReceiver);

        LocalBroadcastManager.getInstance(this).unregisterReceiver(mReceiver);
        super.onDestroy();
    }
}

```

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">

```

```

<Button
    android:id="@+id/button"
    android:layout_width="207dp"
    android:layout_height="61dp"
    android:layout_marginStart="102dp"
    android:layout_marginLeft="102dp"
    android:layout_marginTop="241dp"
    android:layout_marginEnd="102dp"
    android:layout_marginRight="102dp"
    android:layout_marginBottom="429dp"
    android:onClick="sendcustomBroadcast"
    android:text="@string/btn_text"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MyReceiver.java:

```

package com.example.practicalno10;

import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.widget.Toast;

public class MyReceiver extends BroadcastReceiver {
    private static final String ACTION_CUSTOM_BROADCAST =
"ACTION_CUSTOM_BROADCAST";

    @Override
    public void onReceive(Context context, Intent intent) {
        String intentAction = intent.getAction();
        if(intentAction!=null){
            String msg = "Unknown Intent";
            switch (intentAction)
            {
                case Intent.ACTION_BATTERY_LOW:
                    msg = "Battery low!!";
                    break;
                case Intent.ACTION_POWER_CONNECTED:
                    msg = "Power Connected!";
                    break;
                case Intent.ACTION_POWER_DISCONNECTED:
                    msg = "Power Disconnected!";
                    break;
                case ACTION_CUSTOM_BROADCAST:
                    msg = "Custom Broadcast Received";
                    break;
            }
            Toast.makeText(context,msg,Toast.LENGTH_LONG).show();
        }
    }
}

```

```
}  
}
```

activity_my_receiver.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=".MyReceiver">  
  
</androidx.constraintlayout.widget.ConstraintLayout>
```

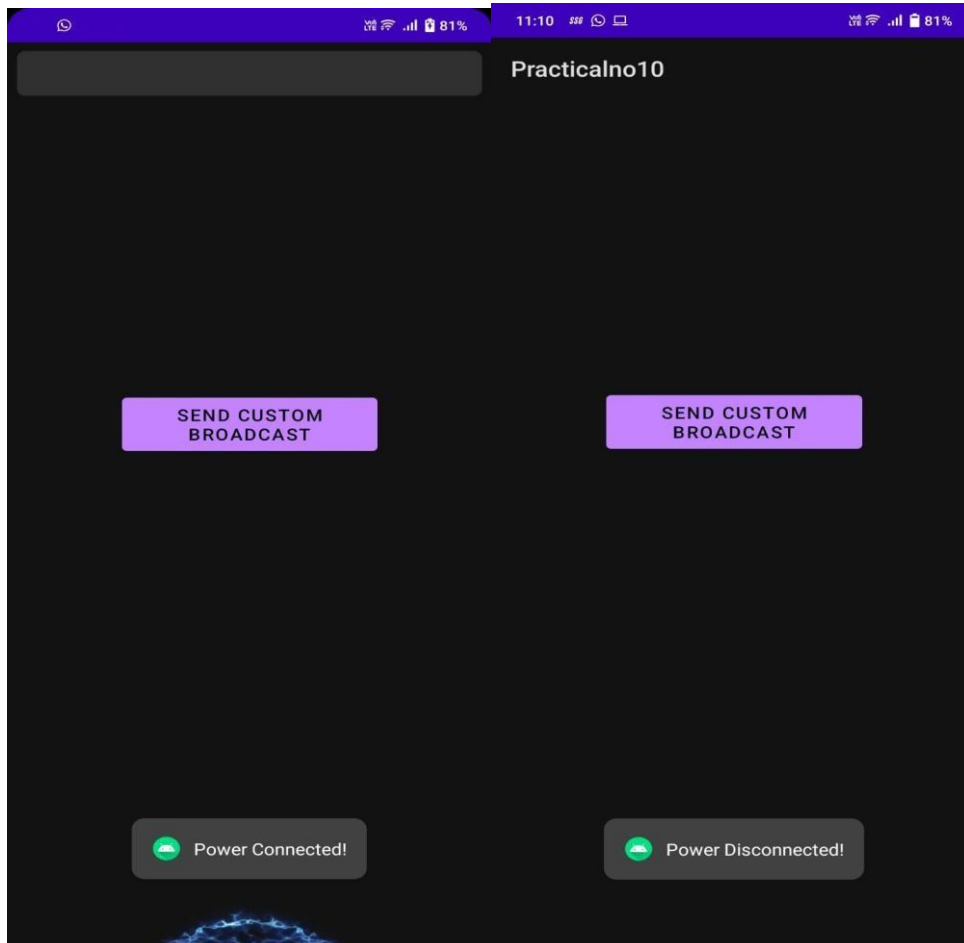
AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
    package="com.example.practicalno10">  
  
    <application  
        android:allowBackup="true"  
        android:icon="@mipmap/ic_launcher"  
        android:label="@string/app_name"  
        android:roundIcon="@mipmap/ic_launcher_round"  
        android:supportRtl="true"  
        android:theme="@style/Theme.Practicalno10">  
        <receiver  
            android:name=".MyReceiver"  
            android:enabled="true"  
            android:exported="true">  
  
        </receiver>  
  
        <activity android:name=".MainActivity"  
            android:exported="true">  
            <intent-filter>  
                <action android:name="android.intent.action.MAIN" />  
  
                <category android:name="android.intent.category.LAUNCHER" />  
            </intent-filter>  
        </activity>  
    </application>  
  
</manifest>
```

Strings.xml:

```
<resources>
  <string name="app_name">Practicalno10</string>
  <string name="btn_text">Send Custom Broadcast</string>
</resources>
```

Output:



Practical No 11

Aim:

Write an android application to demonstrate notification from an app.

Program Code:

MainActivity.java:

```
package com.example.notificationapp;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.NotificationCompat;

import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Intent;
import android.media.RingtoneManager;
import android.os.Build;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends AppCompatActivity
{
    NotificationManager nmgr;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        nmgr = (NotificationManager) getSystemService(NOTIFICATION_SERVICE);
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O)
        {
            NotificationChannel nchannel = new
NotificationChannel("Notification1", "My
Notification", NotificationManager.IMPORTANCE_DEFAULT);
            nchannel.enableVibration(true);
            nchannel.enableLights(true);
            nchannel.setDescription("Notification from MyActivity");
            nmgr.createNotificationChannel(nchannel);
        }
    }

    private NotificationCompat.Builder getNotifyBuilder()
    {
        Intent intent = new Intent(this, Notified.class);
        PendingIntent pintent =
PendingIntent.getActivity(this, 1, intent, PendingIntent.FLAG_UPDATE_CURRENT);
        NotificationCompat.Builder nBuilder = new
NotificationCompat.Builder(this, "Notification1")
            .setContentTitle("You have been notified")
            .setContentText("This is your notification")
    }
}
```

```

        .setSmallIcon(R.drawable.ic_stat_name)
        .setContentIntent(pintent)

.setSound(RingtoneManager.getDefaultUri(RingtoneManager.TYPE_NOTIFICATION))
        .setAutoCancel(true);
    return nBuilder;

}

public void onNotify(View view)
{
    NotificationCompat.Builder mybuilder=getNotifyBuilder();
    nmgr.notify(1,mybuilder.build());
}
}

```

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">

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="158dp"
        android:layout_marginLeft="158dp"
        android:layout_marginTop="341dp"
        android:layout_marginEnd="159dp"
        android:layout_marginRight="159dp"
        android:layout_marginBottom="342dp"
        android:onClick="onNotify"
        android:text="@string/btntxt"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Notified.java:

```

package com.example.notificationapp;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

```



```
import android.widget.TextView;

public class Notified extends AppCompatActivity
{
    TextView tv1;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_notified);
        tv1 = findViewById(R.id.textview);
    }
}
```

activity_notified.xml:

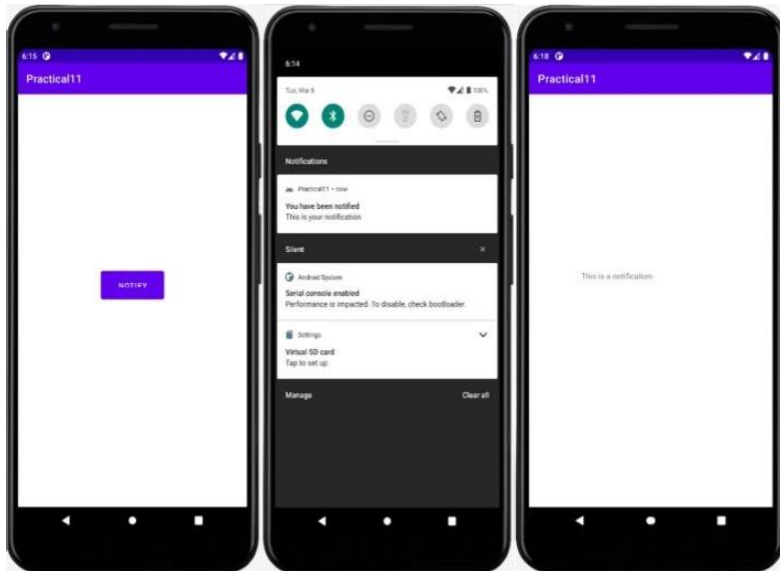
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".Notified">

    <TextView
        android:id="@+id/textview"
        android:layout_width="225dp"
        android:layout_height="47dp"
        android:layout_marginStart="176dp"
        android:layout_marginLeft="176dp"
        android:layout_marginTop="356dp"
        android:layout_marginEnd="235dp"
        android:layout_marginRight="235dp"
        android:layout_marginBottom="356dp"
        android:text="@string/txtdata"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.368"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Strings.xml:

```
<resources>
    <string name="app_name">NotificationApp</string>
    <string name="btntxt">Notify</string>
    <string name="txtdata">This is a notification</string>
</resources>
```

Output:



Practical No 12

Aim:

Write an android application to demonstrate the use of SQLite databases.

Program Code:

MainActivity.java:

```
package com.example.sqliteappln;

import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
```

```

import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity
{
    EditText t1;
    MySQLiteHelper mysql;
    SQLiteDatabase db;

    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.e1);
        mysql=new MySQLiteHelper(this);
    }

    public void onSave(View view)
    {
        db=mysql.getWritableDatabase();
        String name=t1.getText().toString();
        String q1="INSERT INTO USERS (NAME) VALUES ('"+name+"')";
        db.execSQL(q1);
        Toast.makeText(this, "Record Inserted", Toast.LENGTH_LONG).show();
    }

    public void onView(View view)
    {
        db=mysql.getReadableDatabase();
        String q2="SELECT * FROM USERS";
        Cursor cursor=db.rawQuery(q2,null);
        while(cursor.moveToNext())
        {
            String n=cursor.getString(1);
            Toast.makeText(this,n, Toast.LENGTH_LONG).show();
        }
    }
}

```

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">

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

```

```

        android:layout_marginStart="148dp"
        android:layout_marginLeft="148dp"
        android:layout_marginTop="45dp"
        android:layout_marginEnd="148dp"
        android:layout_marginRight="148dp"
        android:layout_marginBottom="342dp"
        android:onClick="onView"
        android:text="View data"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button" />

<EditText
    android:id="@+id/e1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginLeft="100dp"
    android:layout_marginTop="107dp"
    android:layout_marginEnd="101dp"
    android:layout_marginRight="101dp"
    android:ems="10"
    android:hint="Enter name to be saved"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="158dp"
    android:layout_marginLeft="158dp"
    android:layout_marginTop="96dp"
    android:layout_marginEnd="159dp"
    android:layout_marginRight="159dp"
    android:onClick="onSave"
    android:text="Save Data"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/e1" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MySqliteHelper.java:

```

package com.example.sqliteappln;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.os.Bundle;

```

```

public class MySqliteHelper extends SQLiteOpenHelper
{
    private static final int DATABASE_VERSION = 1;
    private static final String DATABASE_NAME = "Records";

    public MySqliteHelper(Context context)
    {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db)
    {
        String query1 = "CREATE TABLE USERS(ID INTEGER PRIMARY KEY
AUTOINCREMENT,NAME TEXT)";
        db.execSQL(query1);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion)
    {
        String query2="DROP TABLE IF EXISTS USERS";
        db.execSQL(query2);
        onCreate(db);
    }
}

```

Output:

