

S.I.E.S College of Arts, Science and Commerce
Sion(W), Mumbai - 400 022.

CERTIFICATE

This is to certify that Mr. Naidu DeviPraveen Kumar Vengakeshu Roll No. **SCS2324038** Has successfully completed the necessary course of experiments in the subject of **Android Developer Fundamentals** during the academic year **2023 - 2024** complying with the requirements of **University of Mumbai**, for the course of **S.Y.BSc. Computer Science [Semester-4]**

Prof. In-Charge
Prof. Maya Nair

Examination Date:
Examiner's Signature & Date:

Head of the Department
Prof. Manoj Singh

College Seal
And
Date

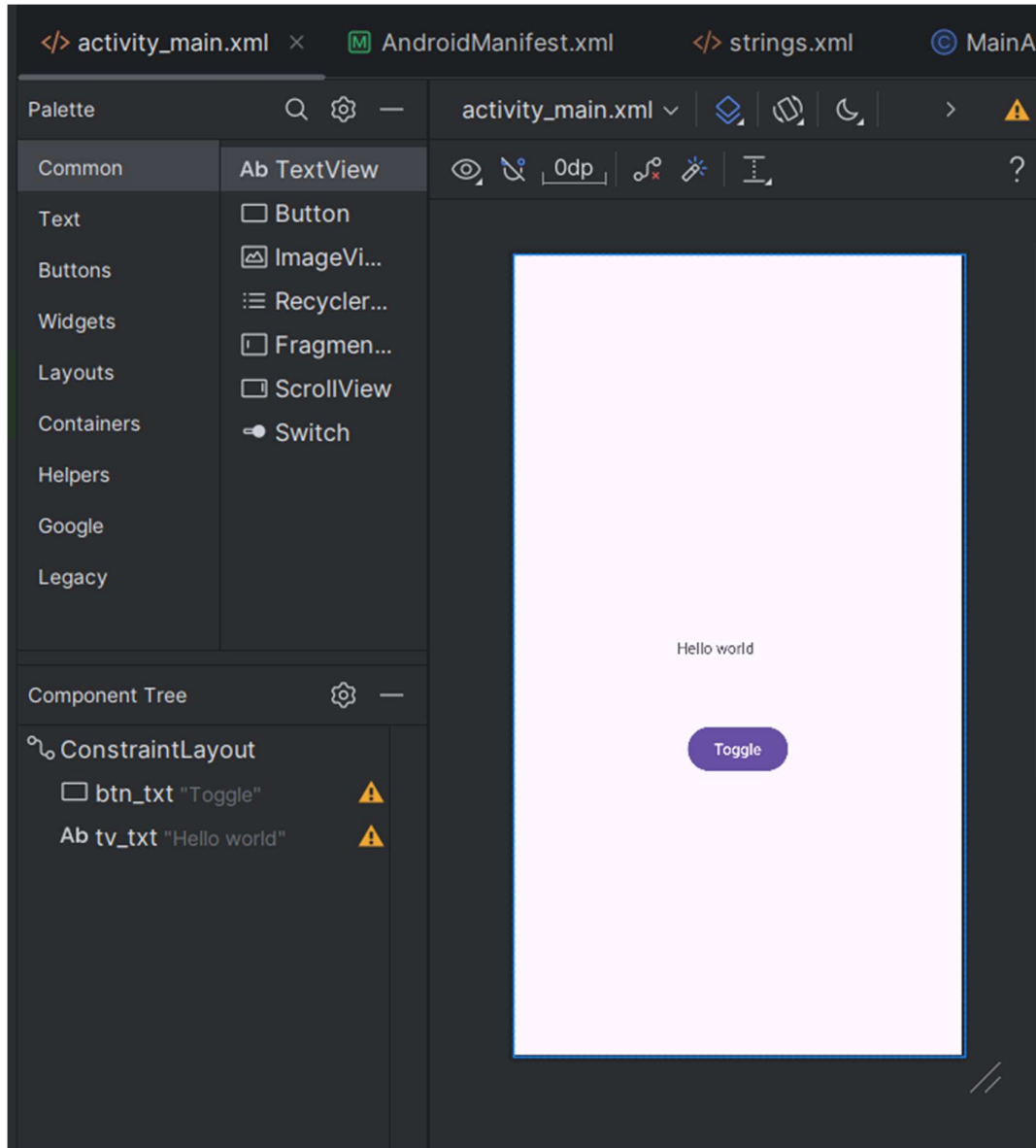
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Practical-1

Aim: Write an android application to toggle the content of the textview on click of a button.

UI:



Code:

Strings.xml file

```
<resources>
    <string name="app_name">Practical1</string>
    <string name="btn_txt">Toggle</string>
    <string name="tv_txt">Hello World</string>
</resources>
```

```
</resources>
```

MainActivity.java

```
package com.example.practical1;

import androidx.appcompat.app.AppCompatActivity;

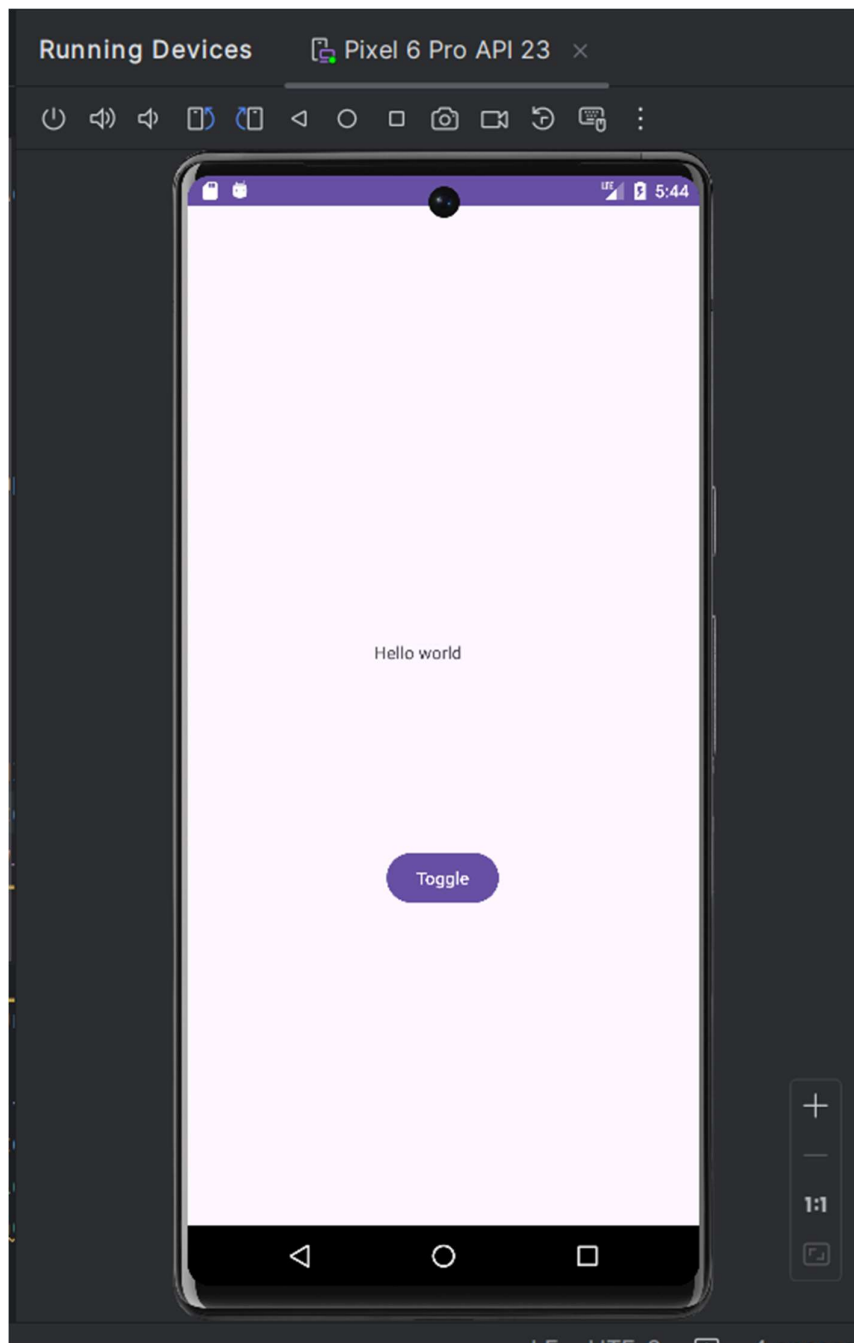
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

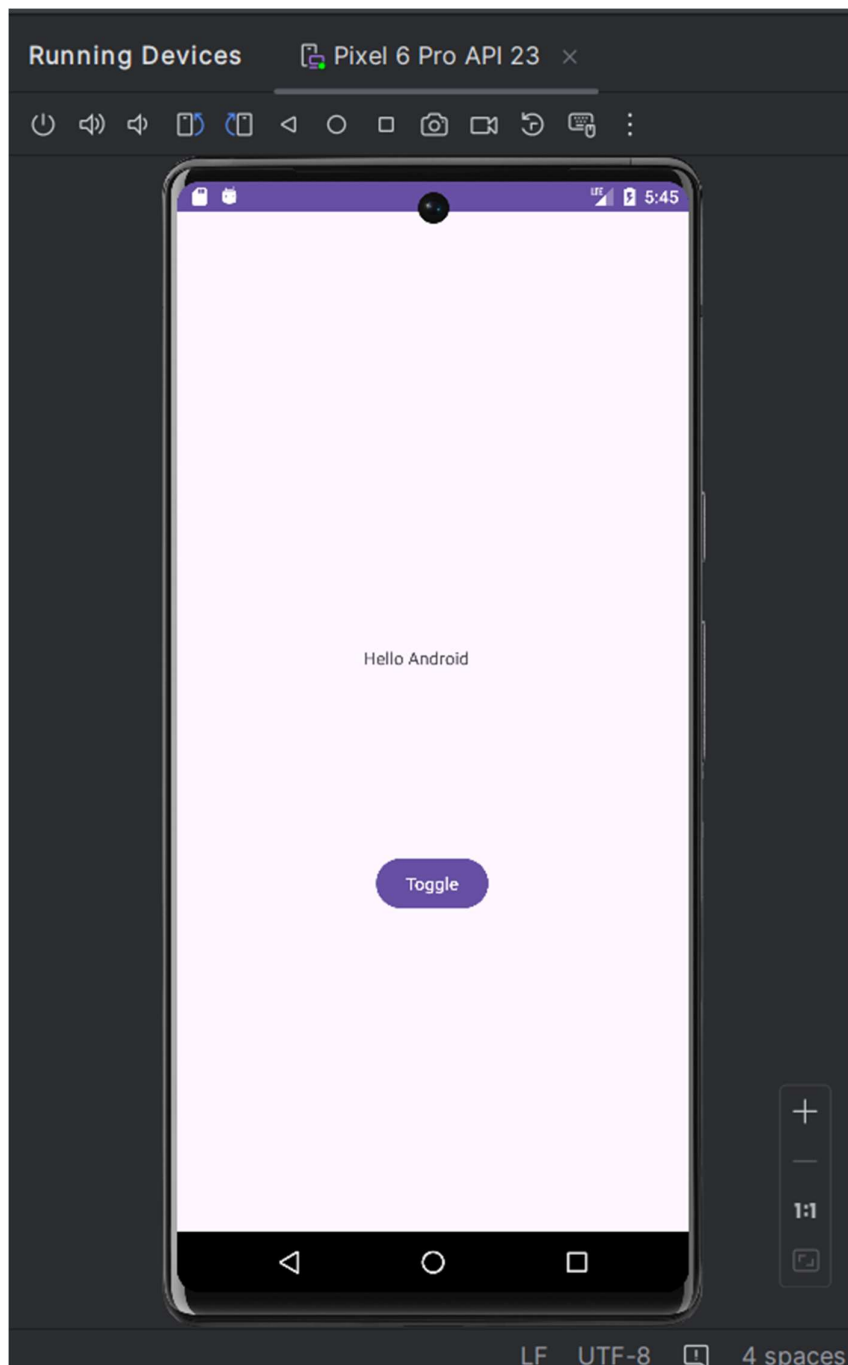
public class MainActivity extends AppCompatActivity {
    Button b1;
    TextView t1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.btn_txt);
        t1=findViewById(R.id.tv_txt);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String s1=t1.getText().toString();
                if(s1.equals("Hello World")){
                    t1.setText("Hello Android");
                }
                else
                {
                    t1.setText("Hello World");
                }
            }
        });
    }
}
```

Output:





Practical-2

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

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">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="77dp"
        android:layout_marginTop="117dp"
        android:layout_marginEnd="78dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/hi" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="163dp"
        android:layout_marginEnd="158dp"
        android:layout_marginBottom="121dp"
        android:text="Toggle"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

ActivityMain.java

```
package com.example.prac2imagetoggle;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Button btn;
    ImageView iv;

    @Override
```

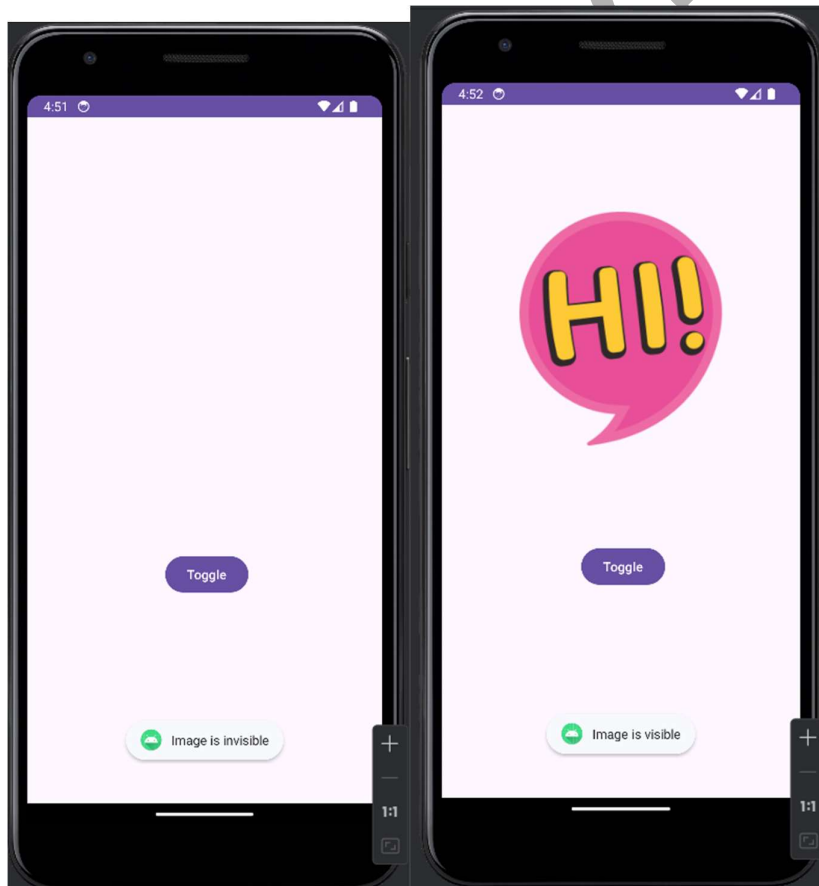
```

protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    btn=findViewById(R.id.button);
    iv=findViewById(R.id.imageView);

    btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if(iv.getVisibility()==View.VISIBLE)
            {
                iv.setVisibility(View.INVISIBLE);
                Toast.makeText(MainActivity.this, "Image is invisible",
Toast.LENGTH_SHORT).show();
            }
            else
            {
                iv.setVisibility(View.VISIBLE);
                Toast.makeText(MainActivity.this, "Image is visible",
Toast.LENGTH_SHORT).show();
            }
        }
    });
}

```

Output:



Practical-3

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.

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/t1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="101dp"
        android:layout_marginTop="56dp"
        android:layout_marginEnd="101dp"
        android:ems="10"
        android:hint="Enter First Number"
        android:inputType="text"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/t2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="102dp"
        android:layout_marginTop="24dp"
        android:layout_marginEnd="100dp"
        android:ems="10"
        android:hint="Enter Second Number"
        android:inputType="text"
        app:layout_constraintBottom_toTopOf="@+id/radiogrp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/t1"
        app:layout_constraintVertical_bias="0.148" />

    <RadioGroup
        android:id="@+id/radiogrp"
        android:layout_width="221dp"
        android:layout_height="201dp"
        android:layout_marginStart="102dp"
        android:layout_marginTop="86dp"
        android:layout_marginEnd="88dp"
        android:layout_marginBottom="274dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
```

```

app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/t2">

<RadioButton
    android:id="@+id/add"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Addition" />

<RadioButton
    android:id="@+id/sub"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Subtraction" />

<RadioButton
    android:id="@+id/mul"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Multiplication" />

<RadioButton
    android:id="@+id/div"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Division" />
</RadioGroup>

</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.prac3calc;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText t1,t2;
    RadioGroup rg;
    RadioButton add,sub,mul,div;
    Button btn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1=findViewById(R.id.t1);
        t2=findViewById(R.id.t2);
        rg=findViewById(R.id.radiogrp);
        add=findViewById(R.id.add);
        sub=findViewById(R.id.sub);
        mul=findViewById(R.id.mul);
    }
}

```

```

        div=findViewById(R.id.div);

        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int num1=Integer.parseInt(t1.getText().toString());
                int num2=Integer.parseInt(t2.getText().toString());
                int res=(num1+num2);
                Toast.makeText(MainActivity.this, "Result:"+res,
Toast.LENGTH_SHORT).show();
            }
        });

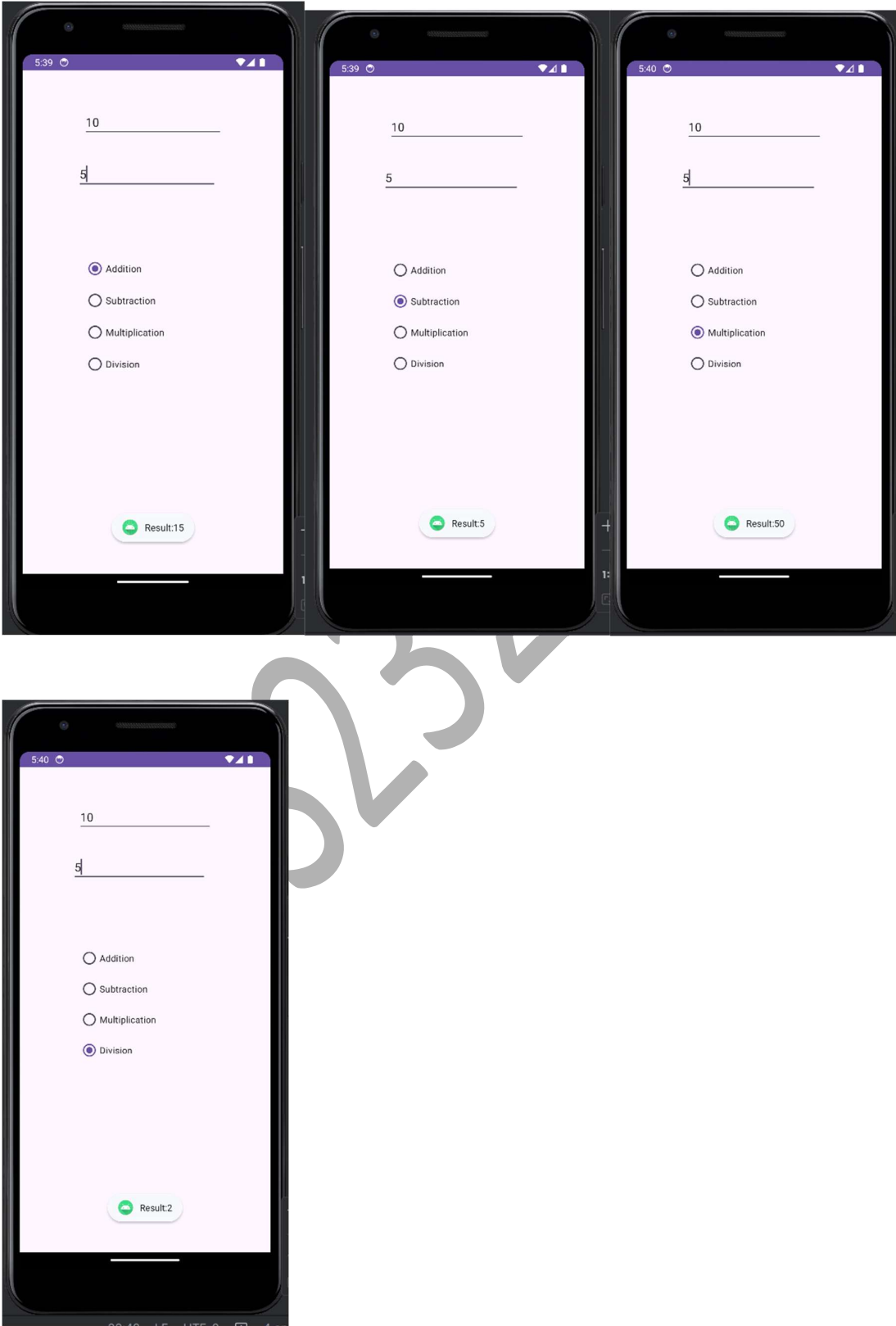
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int num1=Integer.parseInt(t1.getText().toString());
                int num2=Integer.parseInt(t2.getText().toString());
                int res=num1-num2;
                Toast.makeText(MainActivity.this, "Result:"+res,
Toast.LENGTH_SHORT).show();
            }
        });

        mul.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int num1=Integer.parseInt(t1.getText().toString());
                int num2=Integer.parseInt(t2.getText().toString());
                int res=num1*num2;
                Toast.makeText(MainActivity.this, "Result:"+res,
Toast.LENGTH_SHORT).show();
            }
        });

        div.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                int num1=Integer.parseInt(t1.getText().toString());
                int num2=Integer.parseInt(t2.getText().toString());
                int res=num1/num2;
                Toast.makeText(MainActivity.this, "Result:"+res,
Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```

output:



Practical-4

Aim: write an android app with two activities namely,main activity and second activity , the username and password from the main activity is passed to the second activity and it is validated.

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/user"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="96dp"
        android:layout_marginTop="86dp"
        android:layout_marginEnd="106dp"
        android:ems="10"
        android:hint="Enter Username"
        android:inputType="text"
        app:layout_constraintBottom_toTopOf="@+id/pass"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.306" />

    <EditText
        android:id="@+id/pass"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="95dp"
        android:layout_marginEnd="107dp"
        android:layout_marginBottom="216dp"
        android:ems="10"
        android:hint="Enter Password"
        android:inputType="text"
        app:layout_constraintBottom_toTopOf="@+id/btn"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="143dp"
        android:layout_marginEnd="176dp"
        android:layout_marginBottom="223dp"
        android:text="LOG IN"
        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">

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

MainActivity.java

```
package com.example.prac4login;

import androidx.activity.result.contract.ActivityResultContracts;
import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText user ,pass;
    Button btn;
    String u,p;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn=findViewById(R.id.btn);
        user=findViewById(R.id.user);
        pass=findViewById(R.id.pass);

        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                u=user.getText().toString();
                p=pass.getText().toString();
                Intent intent1=new
Intent(MainActivity.this,SecondActivity.class);
                intent1.putExtra("username",u);
                intent1.putExtra("password",p);
                startActivity(intent1);
            }
        });
    }
}
```

SecondActivity.java

```
package com.example.prac4login;

import androidx.appcompat.app.AppCompatActivity;

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

```

import android.widget.Toast;

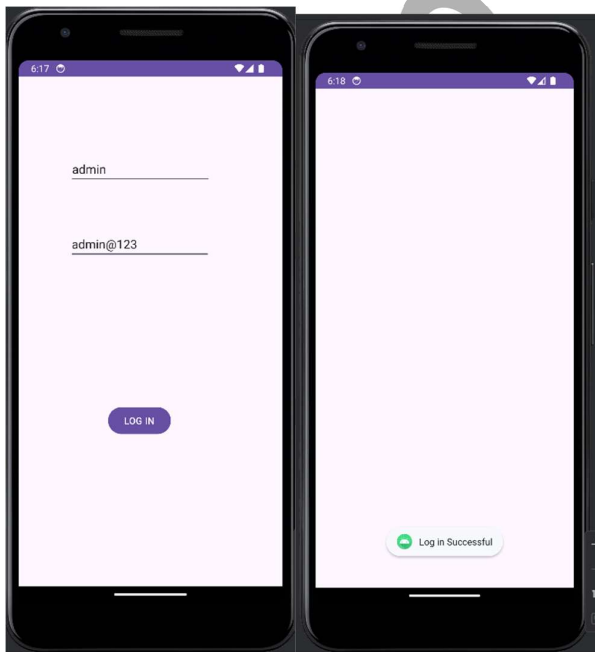
public class SecondActivity extends AppCompatActivity {
    String us,ps;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        Intent intent2=getIntent();
        us=intent2.getStringExtra("username");
        ps=intent2.getStringExtra("password");

        if (us.equals("admin")&& ps.equals("admin@123"))
        {
            Toast.makeText(this, "Log in Successful",
Toast.LENGTH_SHORT).show();
        }
        else {
            Toast.makeText(this, "Incorrect Credentials",
Toast.LENGTH_SHORT).show();
        }
    }
}

```

Output:



Practical-5

Aim: Write an Android program to demonstrate Activity life cycle.

MainActivity.java

```
package com.example.prac5activitylifecycle;

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 Started",
Toast.LENGTH_SHORT).show();
    }

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

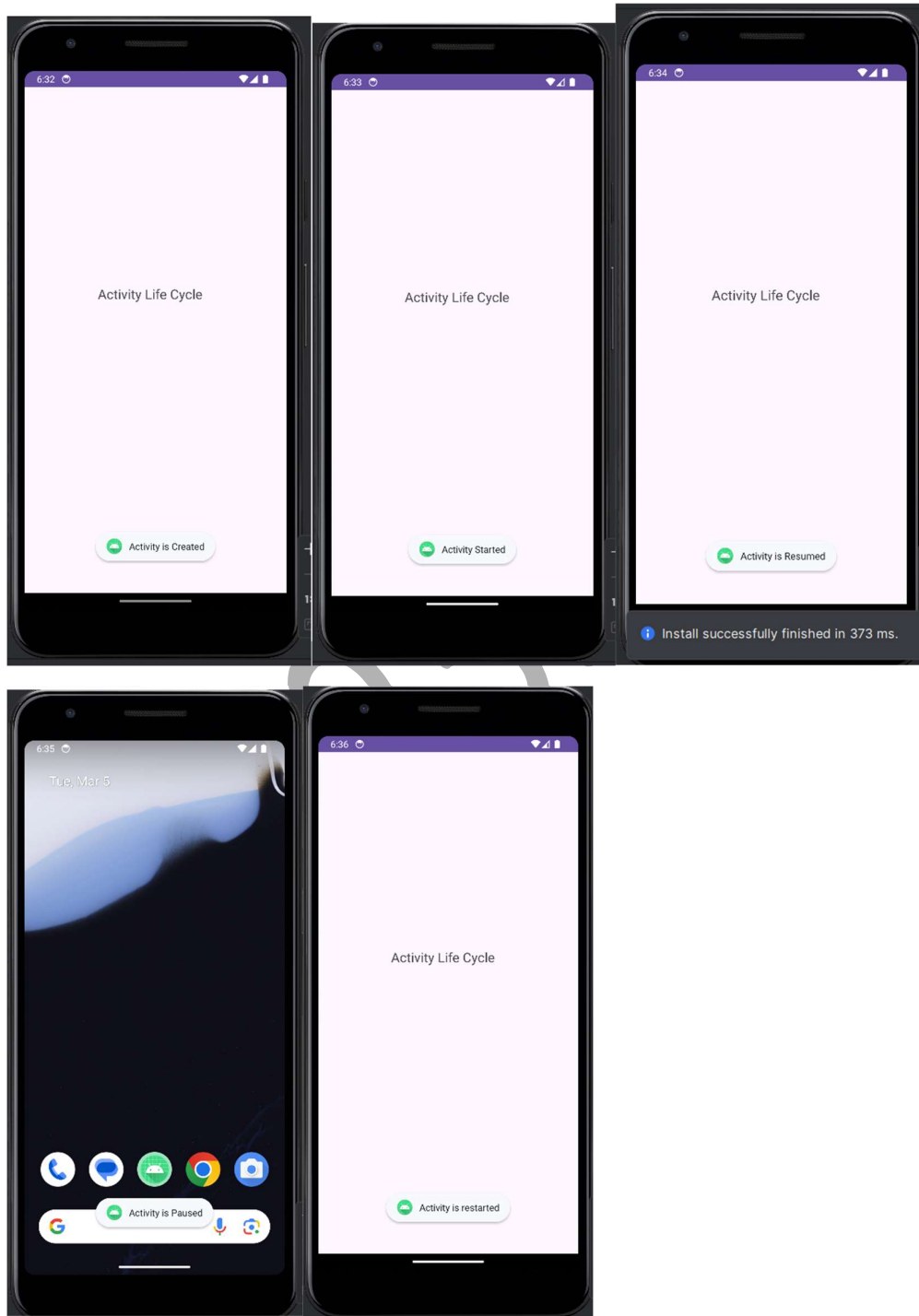
    @Override
    protected void onRestart() {
        super.onRestart();
        Toast.makeText(this, "Activity is restarted",
Toast.LENGTH_SHORT).show();
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
    }
}
```



```
Toast.makeText(this, "Activity is Destroyed",  
Toast.LENGTH_SHORT).show();  
}  
}
```

Output:



Practical-6

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

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/url"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="153dp"
        android:layout_marginTop="116dp"
        android:layout_marginEnd="166dp"
        android:text="Show URL"
        app:layout_constraintBottom_toTopOf="@+id/dial"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />

    <Button
        android:id="@+id/dial"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="132dp"
        android:layout_marginEnd="170dp"
        android:layout_marginBottom="68dp"
        android:text="Show Dialer"
        app:layout_constraintBottom_toTopOf="@+id/cap"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.642"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/cap"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="149dp"
        android:layout_marginEnd="120dp"
        android:layout_marginBottom="100dp"
        android:text="Capture Image"
        app:layout_constraintBottom_toTopOf="@+id/img"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent" />

    <ImageView
        android:id="@+id/img"
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:layout_marginStart="133dp"
        android:layout_marginEnd="150dp"
        android:layout_marginBottom="91dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        tools:srcCompat="@tools:sample/avatars" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.prac6implicitintent;

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.Button;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {
    Button url,dial,cap;
    ImageView img;

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

        url=findViewById(R.id.url);
        dial=findViewById(R.id.dial);
        cap=findViewById(R.id.cap);
        img=findViewById(R.id.img);

        url.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent1=new Intent(Intent.ACTION_VIEW,
Uri.parse("https://siesascs.edu.in/"));
                startActivity(intent1);
            }
        });

        dial.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent2=new
Intent(Intent.ACTION_DIAL,Uri.parse("tel:+911234567899"));
                startActivity(intent2);
            }
        });
        cap.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

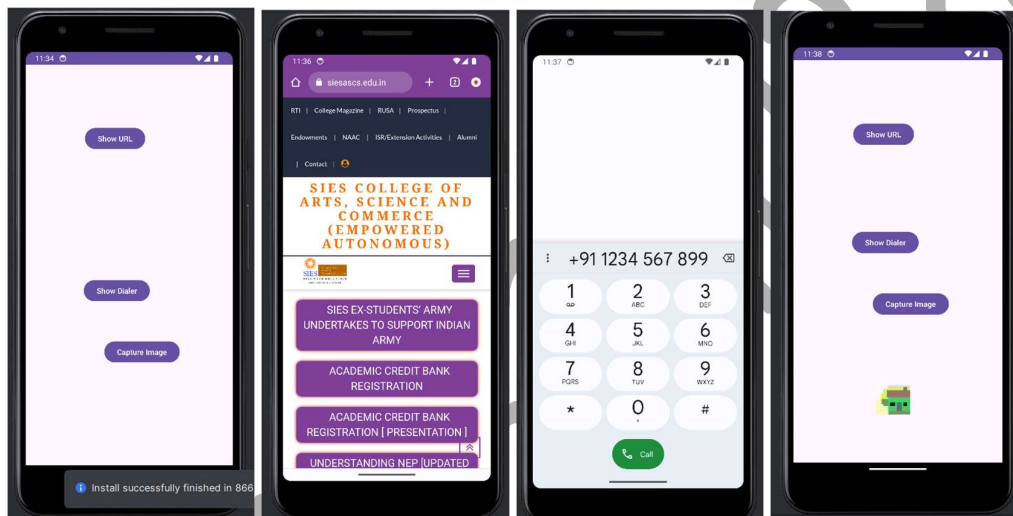
        Intent intent3=new Intent(MediaStore.ACTION_IMAGE_CAPTURE);
        startActivityForResult(intent3,11);
    }

}

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

```

Output:



Practical-7

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

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/textid"
        android:layout_width="78dp"
        android:layout_height="55dp"
        android:layout_marginStart="156dp"
        android:layout_marginTop="270dp"
        android:layout_marginEnd="177dp"
        android:layout_marginBottom="358dp"
        android:text="TextView"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="137dp"
        android:layout_height="78dp"
        android:layout_marginStart="137dp"
        android:layout_marginEnd="137dp"
        android:layout_marginBottom="170dp"
        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/textid"
        app:layout_constraintVertical_bias="0.544"
        tools:srcCompat="@tools:sample/backgrounds/scenic" />

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

Menu1.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/action_options"
        android:title="Options">
        <menu>
            <item
```

```

        android:id="@+id/action_option1"

        android:title="Option 1"
    />
    <item
        android:id="@+id/action_option2"
        android:title="Option 2" />
    <item
        android:id="@+id/action_option3"
        android:title="Option 3" />
    </menu>
</item>
<item
    android:id="@+id/action_help"
    android:title="Help">
    <menu>
        <item
            android:id="@+id/action_about"
            android:title="About" />
        <item
            android:id="@+id/action_contact"
            android:title="Contact Us" />
        </menu>
    </item>
<item
    android:id="@+id/action_favorite"
    android:title="Favorite"
    android:icon="@drawable/bookmark"
    app:showAsAction="always" />
<item
    android:id="@+id/action_add"
    android:title="Add"
    android:icon="@drawable/add"
    app:showAsAction="always" />
</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/editid"
        android:title="edit" />
    <item
        android:id="@+id/shareid"
        android:title="share" />
    <item
        android:id="@+id/delid"
        android:title="delete" />
</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/editid"
            android:icon="@drawable/edit"
            android:title="edit"
            app:showAsAction="always" />
        <item
            android:id="@+id/deleteid"
            android:icon="@drawable/delete"
            android:title="delete"
            app:showAsAction="always" />
    </menu>

```

Themes.xml (both light and night)

```

<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Base.Theme.PRAC7MENU" parent="Theme.Material3.DayNight">
        <!-- Customize your light theme here. -->
        <!-- <item name="colorPrimary">@color/my_light_primary</item> -->
    </style>

    <style name="Theme.PRAC7MENU" parent="Base.Theme.PRAC7MENU" />
</resources>

```

MainActivity.java

```

package com.example.prac7menu;

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.ImageView;
import android.widget.TextView;
import android.widget.Toast;

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

public class MainActivity extends AppCompatActivity {
    ImageView img;
    TextView t1;
    private ActionMode actionmode;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        t1=findViewById(R.id.textid);
        registerContextMenu(t1);

        img=findViewById(R.id.imageView);
        img.setOnLongClickListener(new View.OnLongClickListener() {
            @Override

```

```

        public boolean onLongClick(View view) {
            if (actionmode!=null)
                return false;
            else{
actionmode=MainActivity.this.startActionMode(actionModeCallback);
                return true;
            }
        }
    });
}

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

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item) {
    // Handling item selection
    if (item.getItemId() == R.id.action_options) {
        showToast("Options selected");
        return true;
    } else if (item.getItemId() == R.id.action_option1) {
        showToast("Option 1 selected");
        return true;
    } else if (item.getItemId() == R.id.action_option2) {
        showToast("Option 2 selected");
        return true;
    } else if (item.getItemId() == R.id.action_option3) {
        showToast("Option 3 selected");
        return true;
    } else if (item.getItemId() == R.id.action_about) {
        showToast("About selected");
        return true;
    } else if (item.getItemId() == R.id.action_contact) {
        showToast("Contact Us selected");
        return true;
    } else if (item.getItemId() == R.id.action_favorite) {
        showToast("Favorite selected");
        return true;
    } else if (item.getItemId() == R.id.action_add) {
        showToast("Add selected");
        return true;
    } else {
        return super.onOptionsItemSelected(item);
    }
}

//showToast Function
private void showToast(String message) {
    Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
}
//
public ActionMode.Callback actionModeCallback=new ActionMode.Callback()
{
    @Override
    public boolean onCreateActionMode(ActionMode actionMode, Menu menu)

```



```

{
    getMenuInflater().inflate(R.menu.menu3, menu);
    return true;
}

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

@Override
public boolean onActionItemClicked(ActionMode actionMode, MenuItem
menuItem) {
    if (menuItem.getItemId() == R.id.editid) {
        Toast.makeText(MainActivity.this, "edit selected",
Toast.LENGTH_SHORT).show();
        return true;
    }
    else if (menuItem.getItemId() == R.id.deleteid) {
        Toast.makeText(MainActivity.this, "delete selected",
Toast.LENGTH_SHORT).show();
        return true;
    }
    else
        return false;
}

@Override
public void onDestroyActionMode(ActionMode actionMode) {
    actionmode=null;
}

};

@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 onContextItemSelected(@NonNull MenuItem item) {
    if (item.getItemId() == R.id.editid) {
        Toast.makeText(this, "edit is selected",
Toast.LENGTH_LONG).show();
        return true;
    }
    else if (item.getItemId() == R.id.shareid) {
        Toast.makeText(this, "share is selected",
Toast.LENGTH_LONG).show();
        return true;
    }
    else if (item.getItemId() == R.id.delid) {
        Toast.makeText(this, "delete is selected",
Toast.LENGTH_LONG).show();
        return true;
    }
    else {

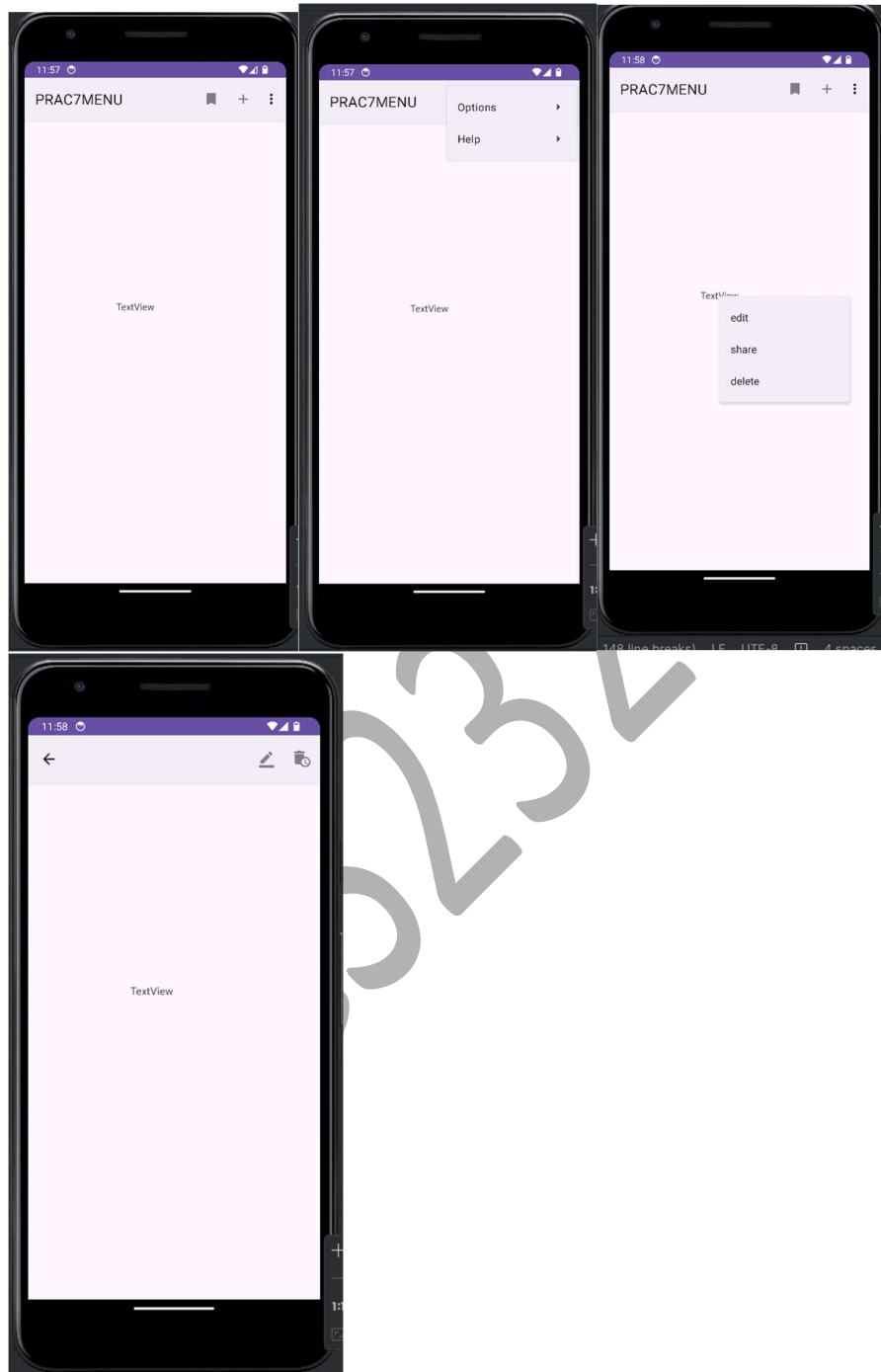
```

```

        return super.onContextItemSelected(item);
    }
}

```

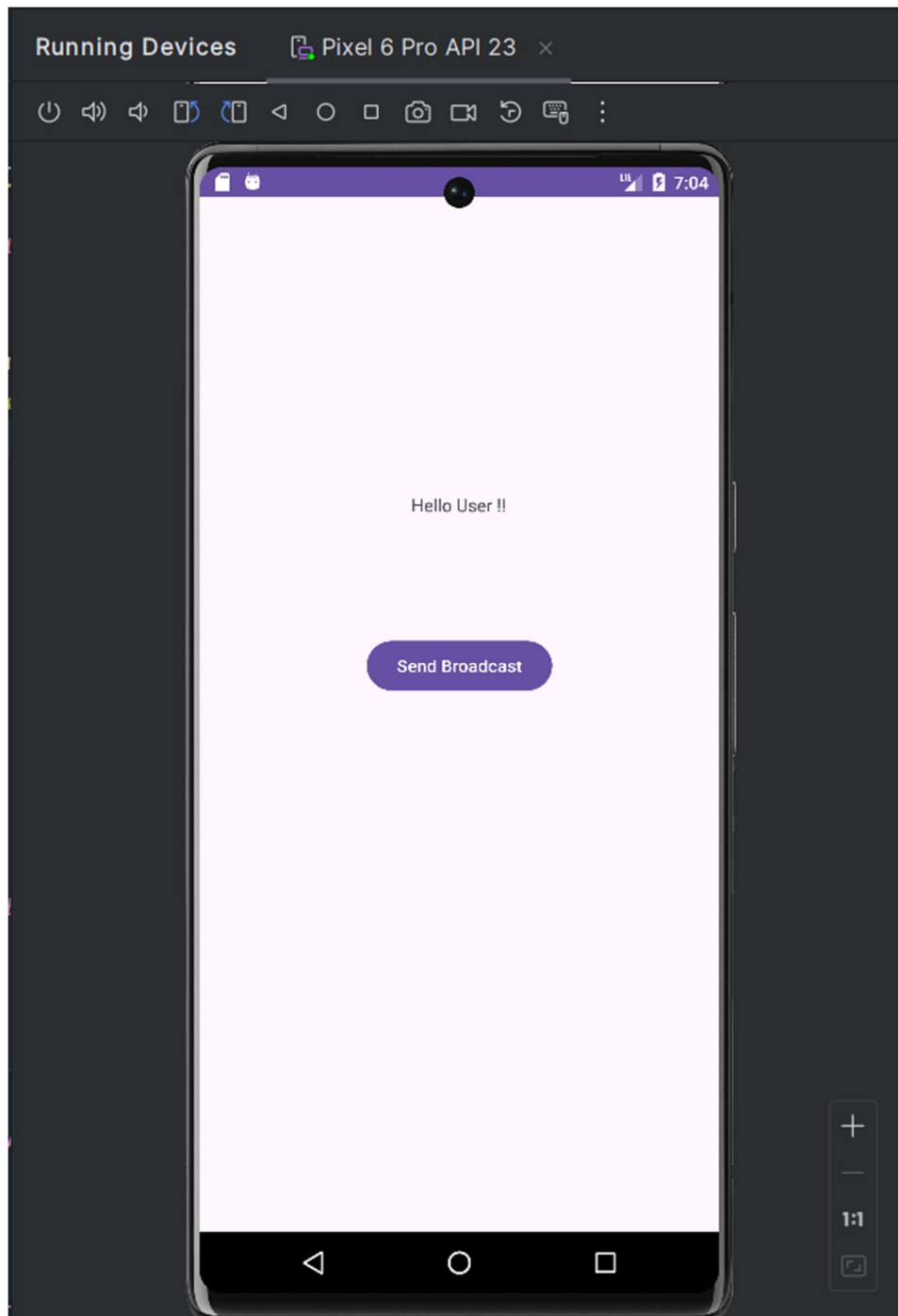
output:



Practical-8

Aim: Write an Android Application to demonstrate Broadcasting in android.

Ui:



Code:

MainActivity.java

```
package com.example.practical8;

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;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    Button btn;

    private MyReceiver2 mReceiver= new MyReceiver2();
    static final String ACTION_CUSTOM_BROADCAST=
        "ACTION_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);
        filter.addAction(Intent.ACTION_AIRPLANE_MODE_CHANGED);
        this.registerReceiver(mReceiver, filter);
        LocalBroadcastManager.getInstance(this).registerReceiver(mReceiver,
            new IntentFilter(ACTION_CUSTOM_BROADCAST));
        btn= findViewById(R.id.btnid);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent customIntent = new Intent(ACTION_CUSTOM_BROADCAST);
                LocalBroadcastManager.getInstance(MainActivity.this).sendBroadcast(customIntent);
            }
        });
    }
}
```

Strings.xml

```
<resources>
    <string name="app_name">Practical8</string>
    <string name="btn">Send Broadcast</string>
</resources>
```

MyReceiver2.java

```
package com.example.practical8;

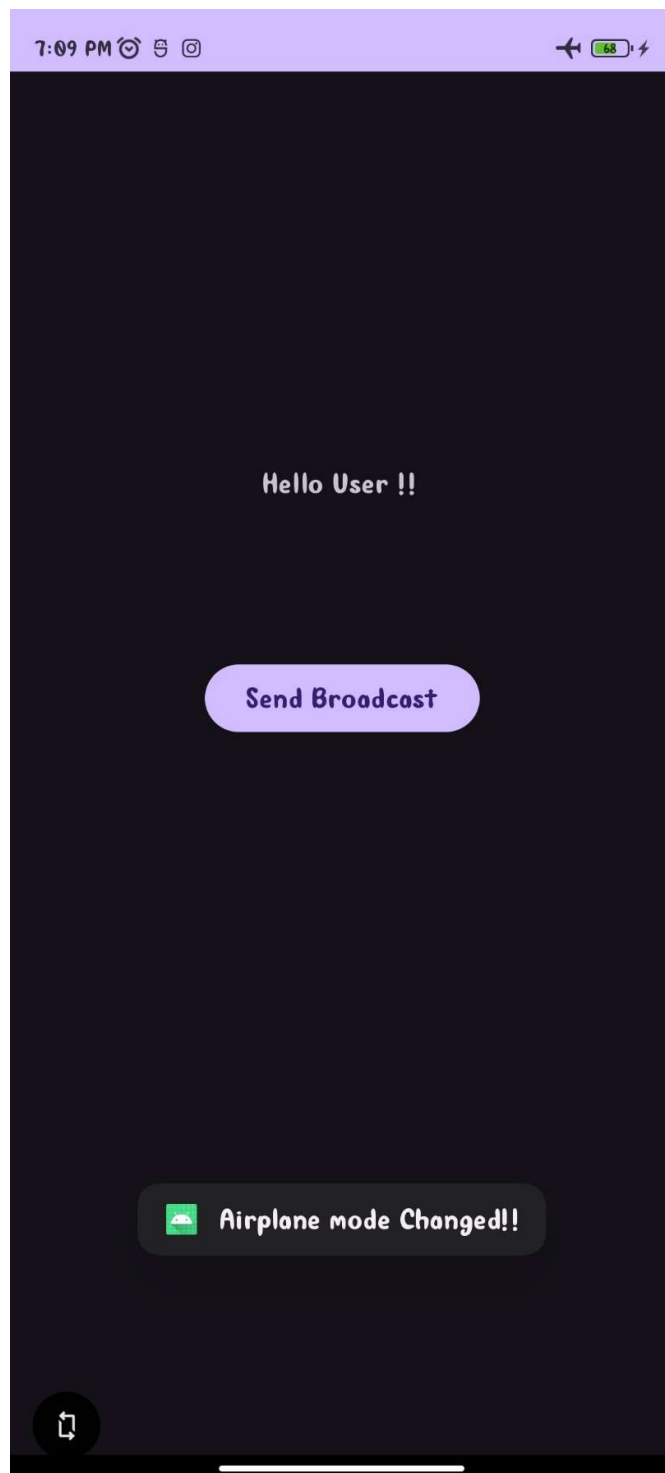
import static com.example.practical8.MainActivity.ACTION_CUSTOM_BROADCAST;

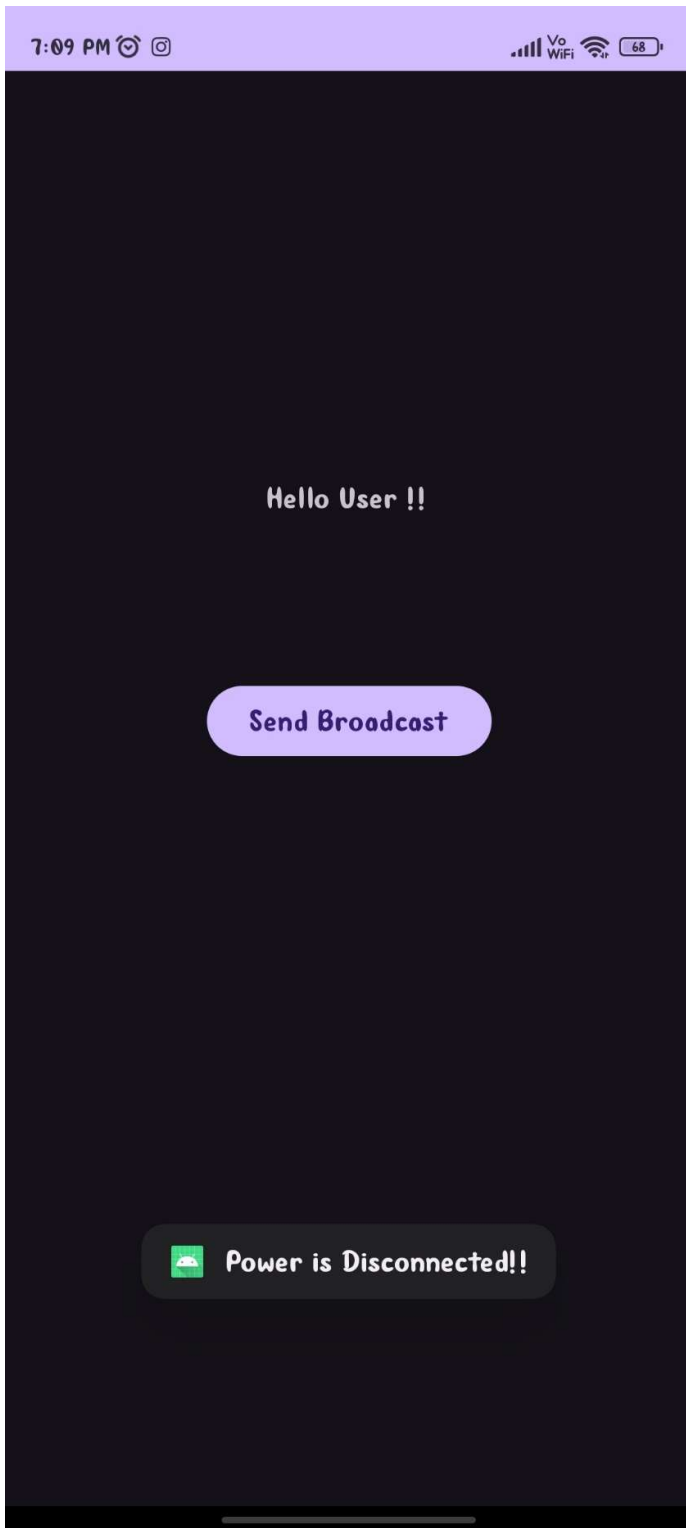
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.widget.Toast;

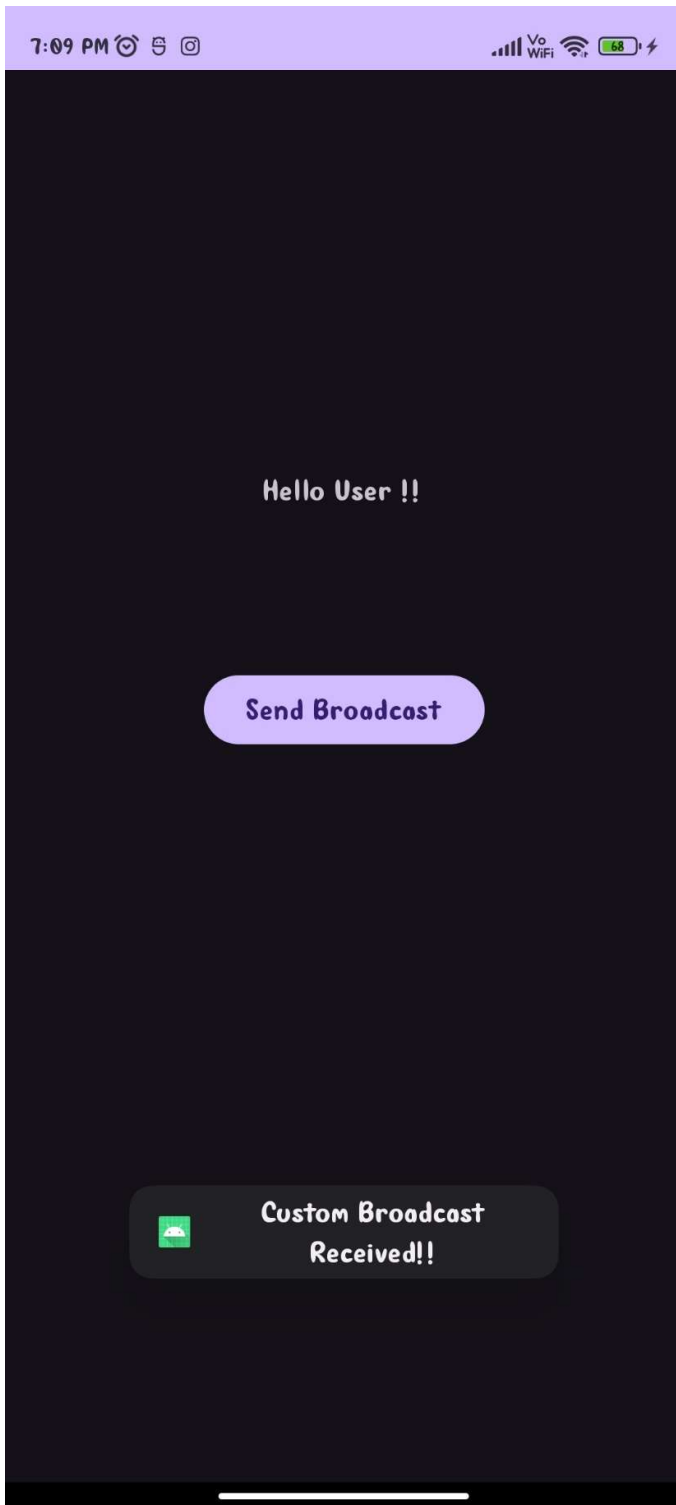
public class MyReceiver2 extends BroadcastReceiver {
    private static final String
ACTION_CUSTOM_BROADCAST="ACTION_CUSTOM_BROADCAST";

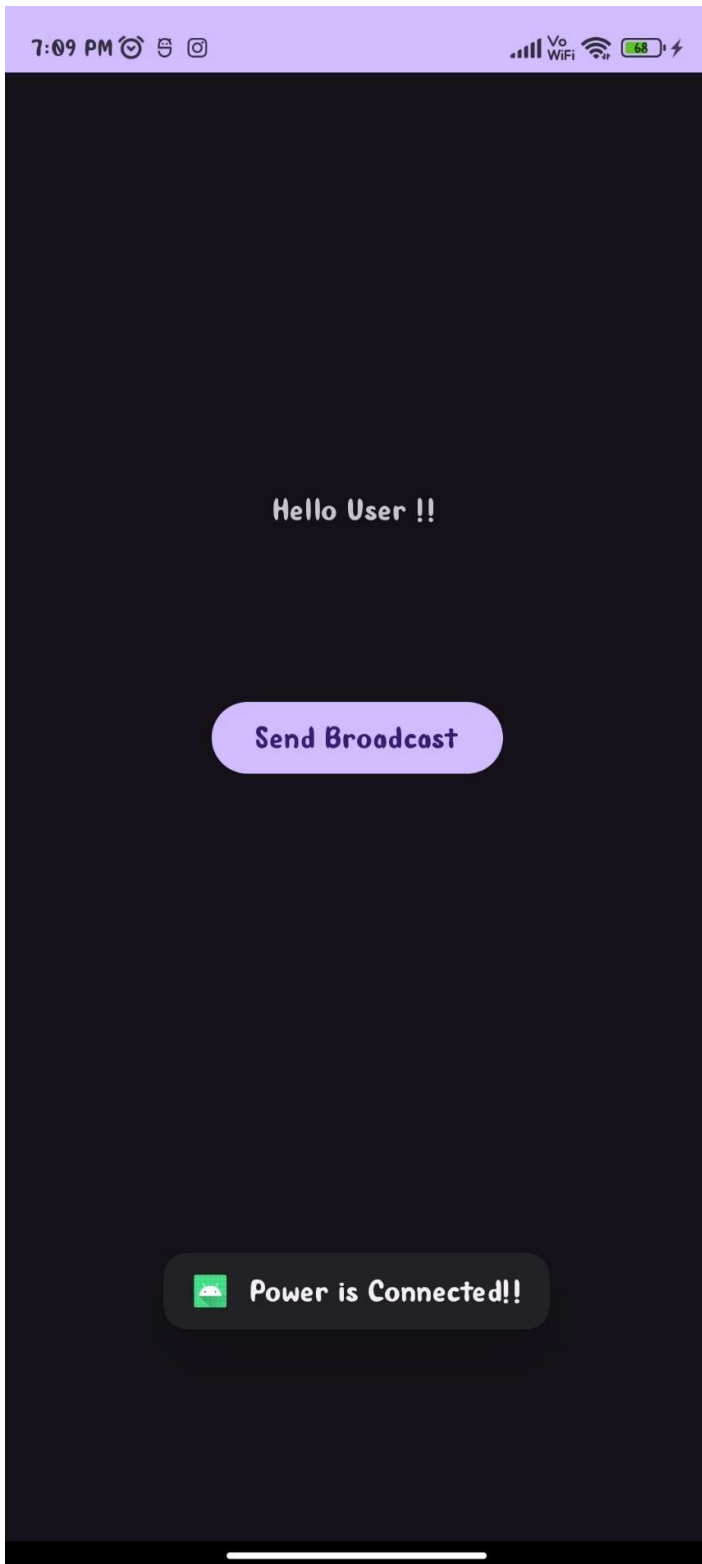
    @Override
    public void onReceive(Context context, Intent intent) {
        // TODO: This method is called when the BroadcastReceiver is
receiving
        // an Intent broadcast;
        String intentAction = intent.getAction();
        if(intentAction != null)
        {
            String msg= "Unknown Intent";
            switch (intentAction){
                case Intent.ACTION_BATTERY_LOW:
                    msg = "Battery is LOW!!";
                    break;
                case Intent.ACTION_POWER_CONNECTED:
                    msg= "Power is Connected!!";
                    break;
                case Intent.ACTION_POWER_DISCONNECTED:
                    msg= "Power is Disconnected!!";
                    break;
                case ACTION_CUSTOM_BROADCAST:
                    msg="Custom Broadcast Received!!";
                    break;
                case Intent.ACTION_AIRPLANE_MODE_CHANGED:
                    msg= "Airplane mode Changed!!";
                    break;
            }
            Toast.makeText(context,msg,Toast.LENGTH_LONG).show();
        }
    }
}
```

Output:





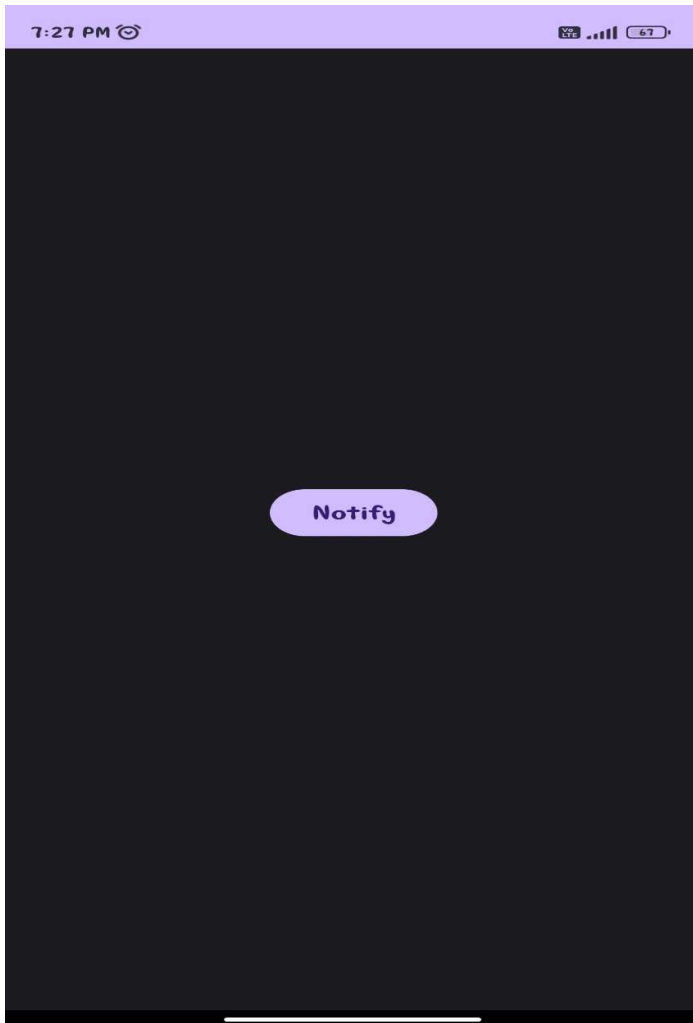




Practical-9

Aim: Write an Android Application to demonstrate Notifications in android.

UI:



Code:

AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <uses-permission android:name="android.permission.POST_NOTIFICATIONS">

    </uses-permission>

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
```

```

        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Practical9"
        tools:targetApi="31">
        <activity
            android:name=".SecondActivity"
            android:exported="false" />
        <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>

```

MainActivity.java

```

package com.example.practical9;

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;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    Button btn;
    NotificationManager nmgr;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        nmgr = (NotificationManager) getSystemService(NOTIFICATION_SERVICE);
        //all the manager objects are created using getSystemService()
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
            NotificationChannel nchannel = new
            NotificationChannel("NOTIFICATION1", "My Channel",
            NotificationManager.IMPORTANCE_DEFAULT); //NotificationChannel() contains 3
            parameters(channelid, name, importance lvl);
            nchannel.enableVibration(true);
            nchannel.enableLights(true);
            nchannel.setDescription("Notification from Notify App");
        }
    }
}

```

```

        nmgr.createNotificationChannel(nchannel);

    }
    btn=findViewById(R.id.btnid);
    btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Intent intent =new
Intent(MainActivity.this,SecondActivity.class);
            PendingIntent pintent
=PendingIntent.getActivity(MainActivity.this,1,intent,PendingIntent.FLAG_IMMUTABLE);
            NotificationCompat.Builder nbuilder= new
NotificationCompat.Builder(MainActivity.this,"NOTIFICATION1")
                .setContentTitle("You have been notified")
                .setContentText("This is your notification from
notify app")
                .setSmallIcon(R.drawable.ic_stat_name)
                .setContentIntent(pintent)

            .setSound(RingtoneManager.getDefaultUri(RingtoneManager.TYPE_NOTIFICATION))
            .setAutoCancel(true);
            nmgr.notify(1,nbuilder.build()); //notify() is the function
from which notification is sent.
        }
    });
}
}

```

SecondActivity.java

```

package com.example.practical9;

import androidx.appcompat.app.AppCompatActivity;

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

public class SecondActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        Toast.makeText(this,"We are in the notified Activity",
Toast.LENGTH_LONG).show();
    }
}

```

Output:

