

# ANDROID PROGRAMMING

## PRACTICAL FILE

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### **Objective of Practical 1:**

Create “Hello World” application that will display “Hello World” in the middle of the screen in the emulator. Also display “Hello World” in the middle of the screen in the android phone.

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:rotationX="7"
        android:text="Hello World!"
        android:textColor="@color/teal_200"
        android:textSize="50sp"
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.484" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

## MainActivity.java

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

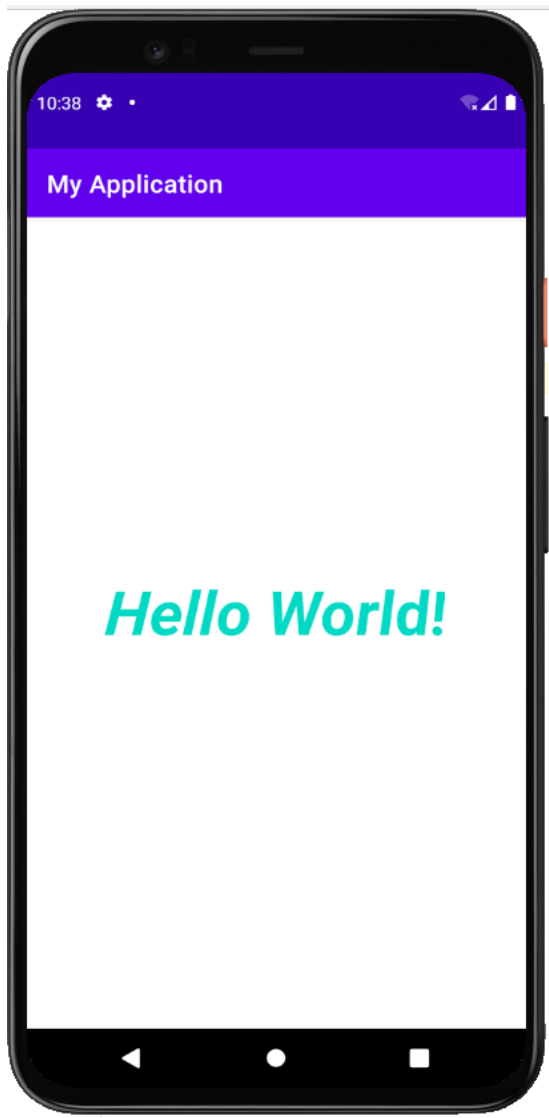
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

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

```

Output:



## Objective of Practical 2:

Create an application to display various android activity lifecycle phases.

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="wrap_content"
android:layout_height="wrap_content"
tools:context=".MainActivity">

<TextView
    android:id="@+id/Display"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100dp"
    android:layout_marginBottom="250dp"
    android:fontFamily="sans-serif-black"
    android:text="@string/activity_life_cycle"
    android:textAppearance="@style/TextAppearance.AppCompat.Large"
    android:textColor="@color/purple_500"
    android:textColorHighlight="@color/black"
    android:textSize="50sp"
    android:textStyle="bold|italic"
    android:typeface="monospace"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="1.0" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

## MainActivity.java

```

package com.example.lifecycle;

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 t = Toast.makeText(getApplicationContext(), "Activity Created",
        Toast.LENGTH_SHORT);
        t.show();
    }
    @Override
    protected void onResume() {
        super.onResume();
        Toast t = Toast.makeText(getApplicationContext(), "Activity Resumed",
        Toast.LENGTH_SHORT);
        t.show();
    }
    @Override

```

```
        protected void onPause() {
            super.onPause();
            Toast t = Toast.makeText(getApplicationContext(), "Activity Paused",
Toast.LENGTH_SHORT);
            t.show();
        }
        @Override
        protected void onStart() {
            super.onStart();
            Toast t = Toast.makeText(getApplicationContext(), "Activity Started",
Toast.LENGTH_SHORT);
            t.show();
        }
        @Override
        protected void onStop() {
            super.onStop();
            Toast t = Toast.makeText(getApplicationContext(), "Activity Stopped",
Toast.LENGTH_SHORT);
            t.show();
        }
        @Override
        protected void onDestroy() {
            super.onDestroy();
            Toast t = Toast.makeText(getApplicationContext(), "Activity Destroyed",
Toast.LENGTH_SHORT);
            t.show();
        }
    }
}
```

Output:









## Objective of Practical 3:

Create an application with first activity with an editText and send button. On click of send button, make use of explicit intent to send text to second activity and display there in text view.

Code:

activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:padding="20sp">

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Type Something"
        android:id="@+id/edittext"
    />

    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:textSize="20sp"
```

```

        android:layout_below="@+id/edittext"
        android:id="@+id/button"/>

</RelativeLayout>

```

## MainActivity.java

```

package com.example.twoactivity;

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 {
    Button btn;
    EditText et;
    String st;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn=findViewById(R.id.button);
        et=findViewById(R.id.edittext);
        btn.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v){
                Intent i=new Intent(MainActivity.this,SecondActivity.class);
                st=et.getText().toString();
                i.putExtra("Value",st);
                startActivity(i);
                finish();
            }
        });
    }
}

```

## activity\_second.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".SecondActivity">

    <TextView

```

```
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center"
    android:text="Value"
    android:textColor="@color/purple_200"
    android:textSize="50sp"
    android:textStyle="bold" />
```

```
</RelativeLayout>
```

## SecondActivity.java

```
package com.example.twoactivity;

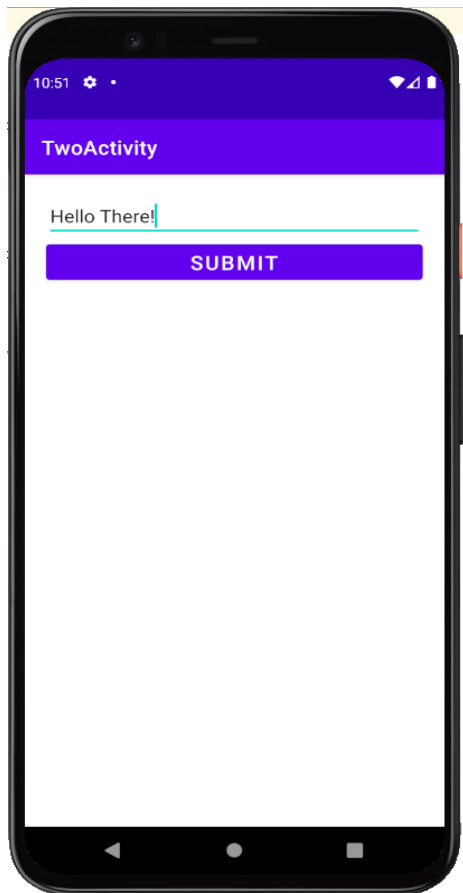
import androidx.appcompat.app.AppCompatActivity;

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

public class SecondActivity extends AppCompatActivity {
    TextView tv;
    String st;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        tv=findViewById(R.id.textView);
        st=getIntent().getExtras().getString("Value");
        tv.setText(st);
    }
}
```

Output:



## Objective of Practical 4:

Create an application with first activity with an editText and send button. On click of send button, make use of implicit intent that uses a SEND ACTION and let user select app from app chooser and navigate to that application.

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">

    <Button
        android:id="@+id/btnShare"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Share Text"
        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.implicitintent;

import androidx.appcompat.app.AppCompatActivity;

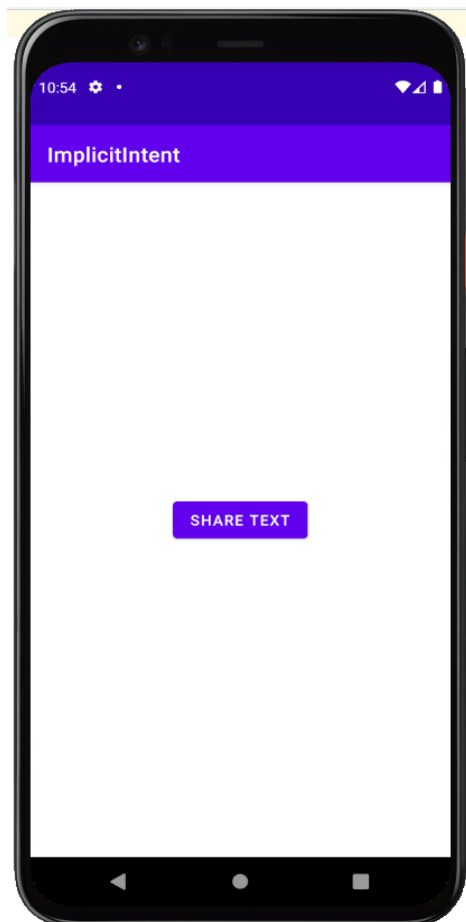
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

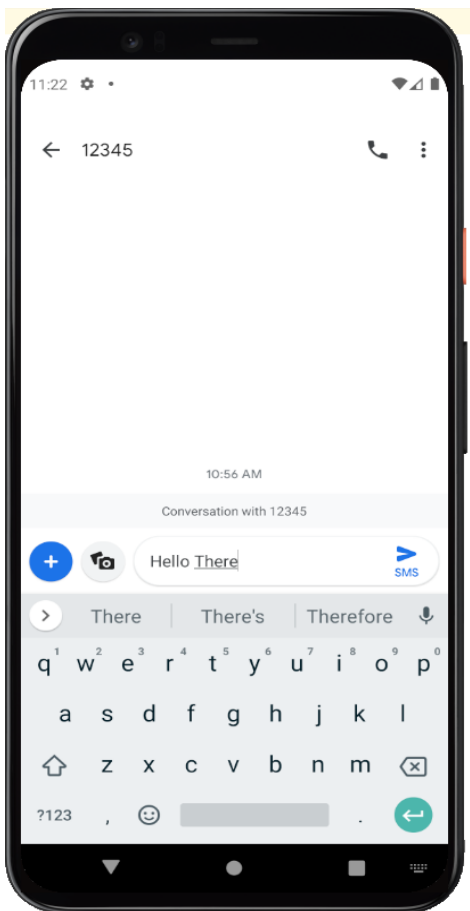
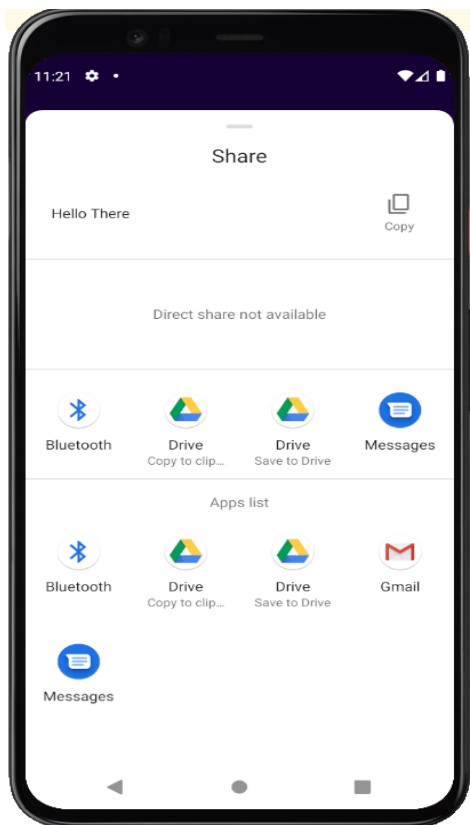
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btnShare=findViewById(R.id.btnShare);
        btnShare.setOnClickListener(new View.OnClickListener() {
            @Override
```

```
        public void onClick(View v) {  
            Intent intent=new Intent(Intent.ACTION_SEND);  
            intent.setType("text/plain");  
            intent.putExtra(Intent.EXTRA_TEXT,"Hello There");  
            startActivity(intent.createChooser(intent,"Share"));  
        }  
    }  
}
```

Output:





## Objective of Practical 5:

Create spinner with strings taken from resource folder (res >> value folder) and on changing the spinner value, Image will change.

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">

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="8dp"
        android:layout_marginRight="8dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
    />

    <ImageView
        android:id="@+id/image"
        android:layout_width="332dp"
        android:layout_height="323dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="@+id/spinner"
        app:layout_constraintVertical_bias="0.479" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.ImageView;
```



```

import android.widget.Spinner;

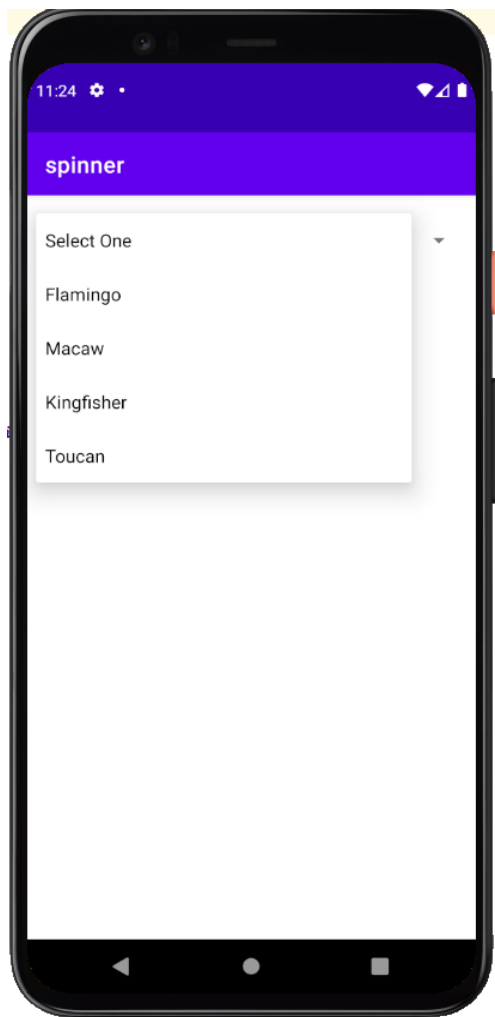
public class MainActivity extends AppCompatActivity {
    private Spinner spinner;
    private ImageView image;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        spinner=findViewById(R.id.spinner);
        image=findViewById(R.id.image);
        String [] birds={"Select One","Flamingo","Macaw","Kingfisher","Toucan"};
        ArrayAdapter<String>adapter=new
ArrayAdapter<String>(this,android.R.layout.simple_spinner_dropdown_item,birds);
        spinner.setAdapter(adapter);
        spinner.setOnItemClickListener(new AdapterView.OnItemClickListener()
        {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int
position, long id) {
                switch (position){
                    case 1:
                        image.setImageResource(R.drawable.flamingo);
                        break;
                    case 2:
                        image.setImageResource(R.drawable.macaw);
                        break;
                    case 3:
                        image.setImageResource(R.drawable.kingfisher);
                        break;
                    case 4:
                        image.setImageResource(R.drawable.toucan);
                        break;
                }
            }

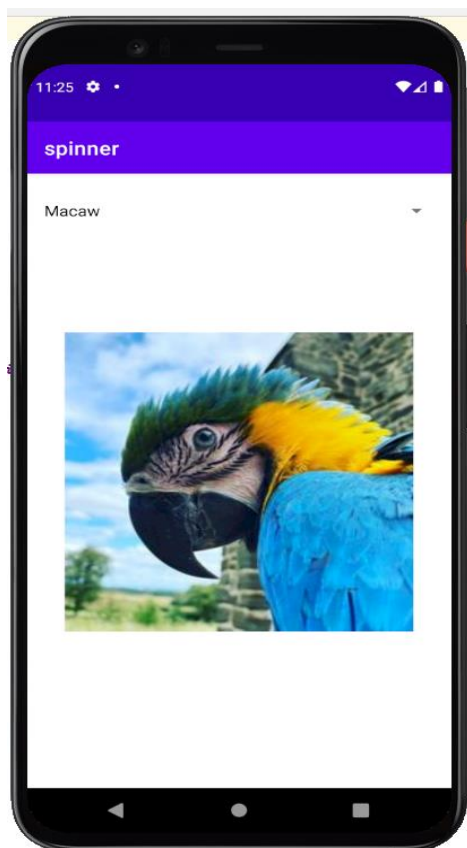
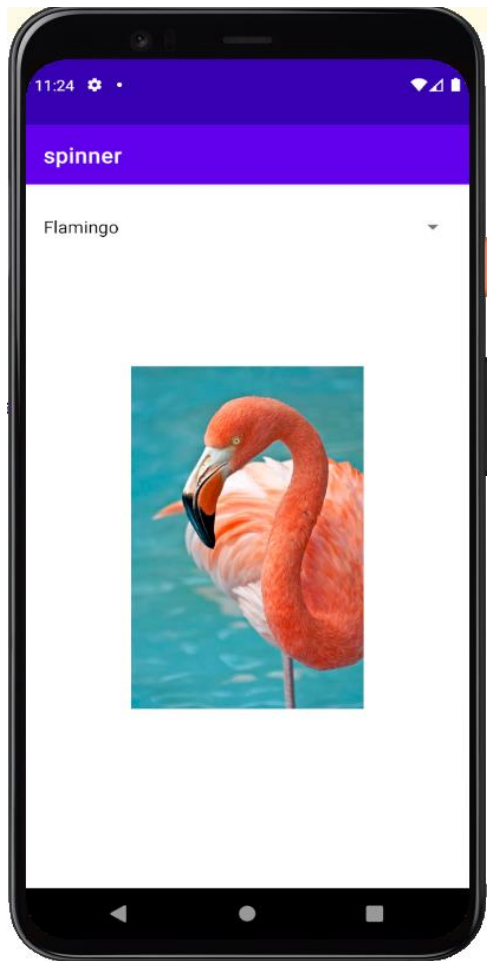
            @Override
            public void onNothingSelected(AdapterView<?> parent) {

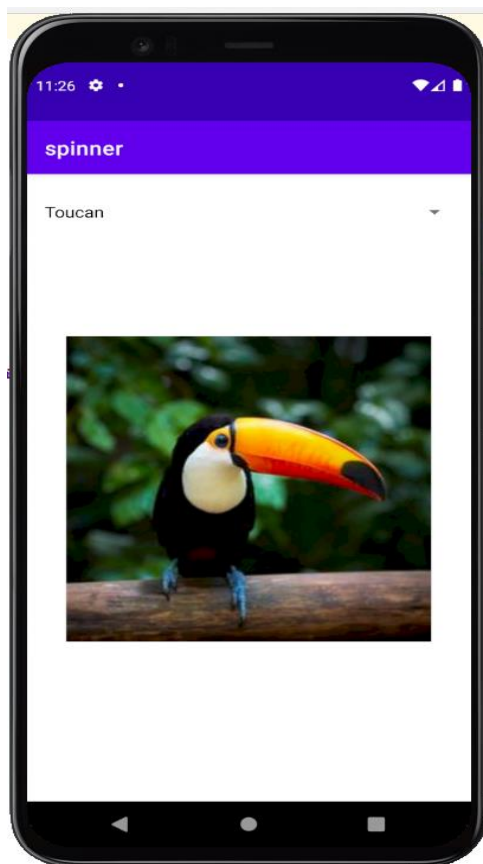
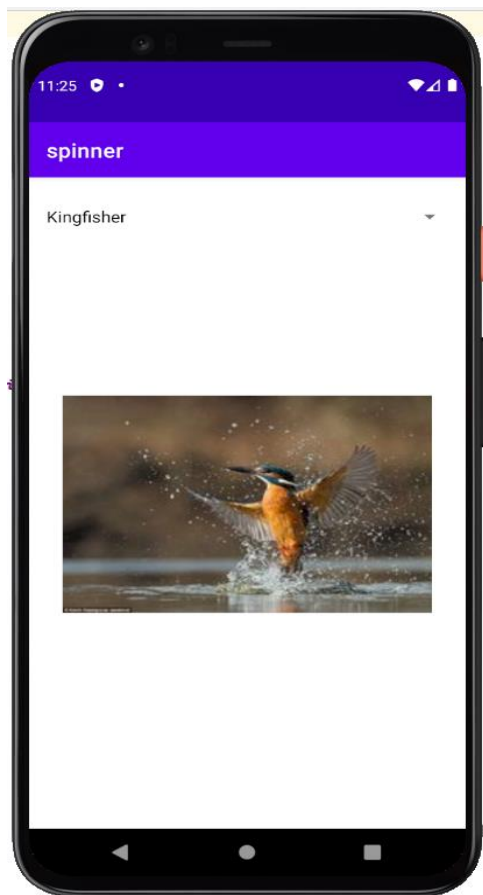
            }
        });
    }
}

```

Output:







## Objective of Practical 6:

Create a menu with 5 options and selected option should appear in text box in upper case.

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">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_margin="80dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <EditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/etMenuItem"
            android:layout_centerInParent="true"
            android:hint="Select an Option from the Menu"
            android:textAlignment="center"
            android:gravity="center_horizontal" />
    </RelativeLayout>

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

MainActivity.java

```
package com.example.menuwithoptions;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    private EditText etMenuItem;
```

```

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    etMenuItem=(EditText) findViewById(R.id.etMenuItem);
}
@Override
public boolean onCreateOptionsMenu(Menu menu){
    MenuInflater inflater=getMenuInflater();
    inflater.inflate(R.menu.main_menu,menu);
    return true;
}
@Override
public boolean onOptionsItemSelected(MenuItem item){
    etMenuItem.setText(item.getTitle().toString().toUpperCase());
    return super.onOptionsItemSelected(item);
}
}

```

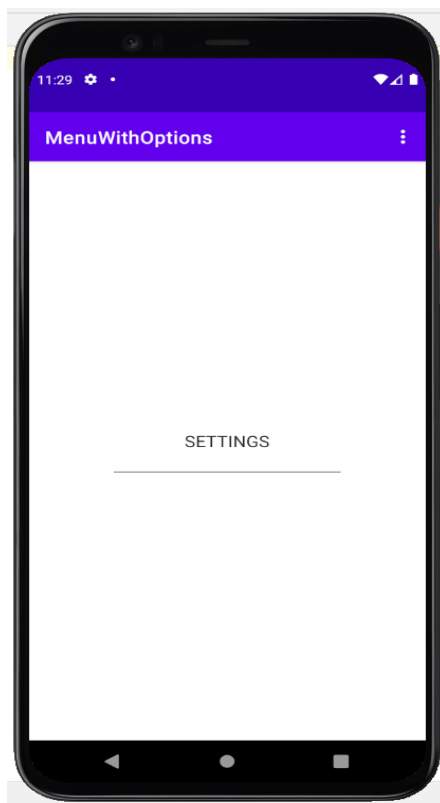
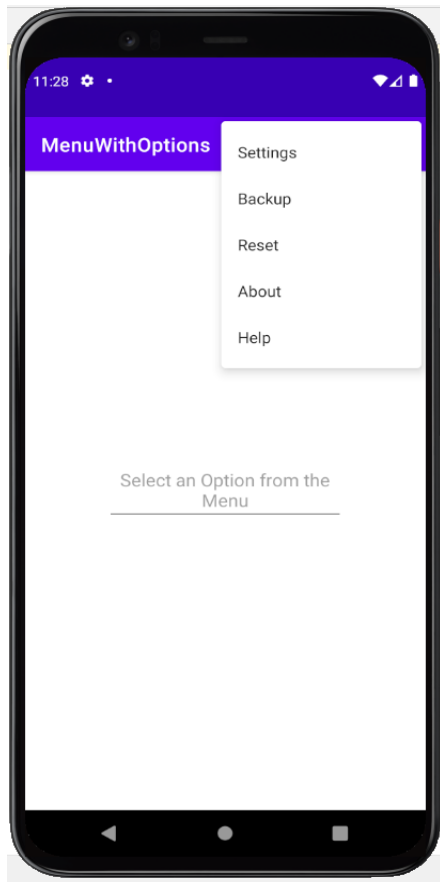
## main\_menu.xml

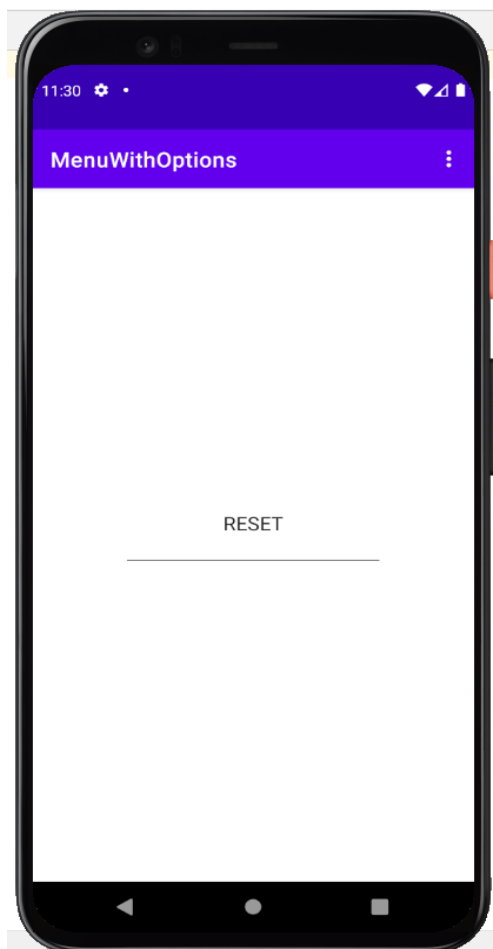
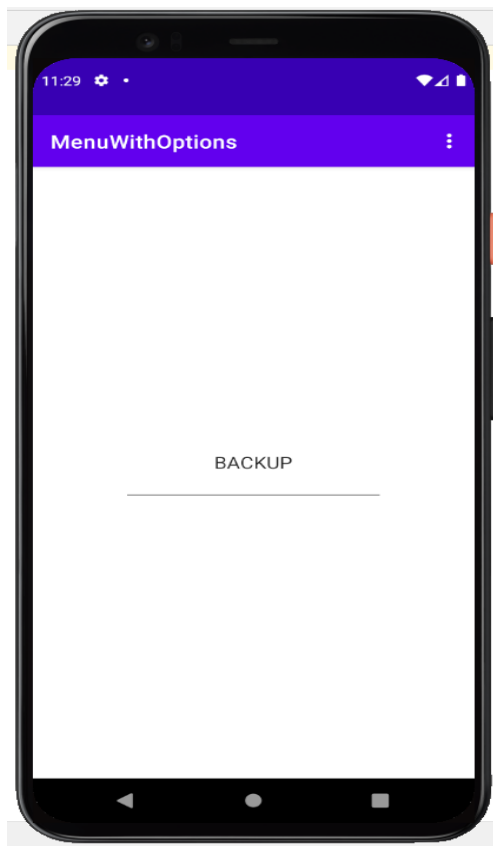
```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/miSettings"
        android:title="@string/settings" />
    <item
        android:id="@+id/miBackup"
        android:title="@string/backup" />
    <item
        android:id="@+id/miReset"
        android:title="@string/reset" />
    <item
        android:id="@+id/miAbout"
        android:title="@string/about" />
    <item
        android:id="@+id/miHelp"
        android:title="@string/help" />
</menu>

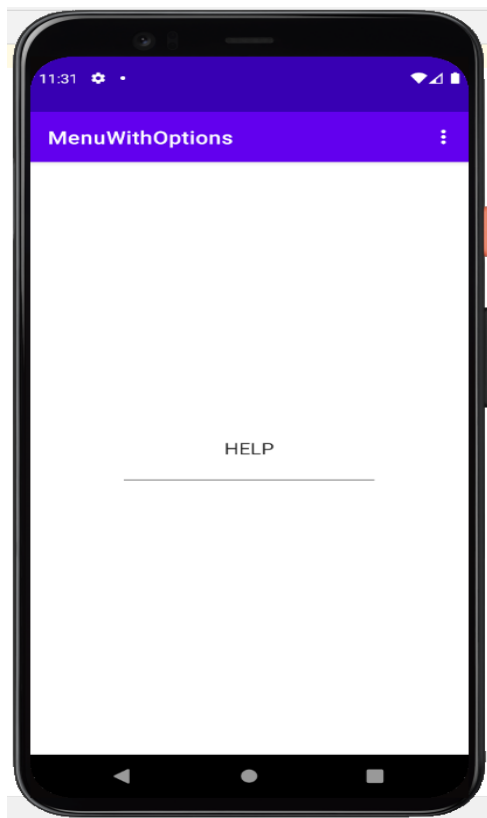
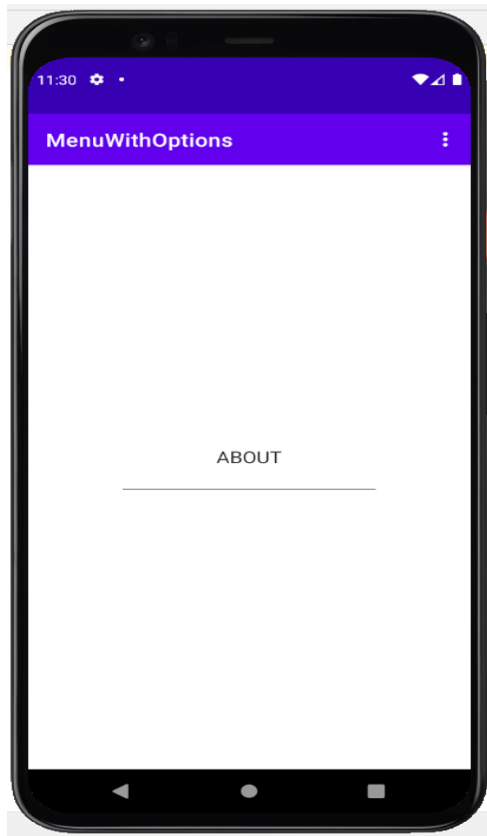
```

Output:









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