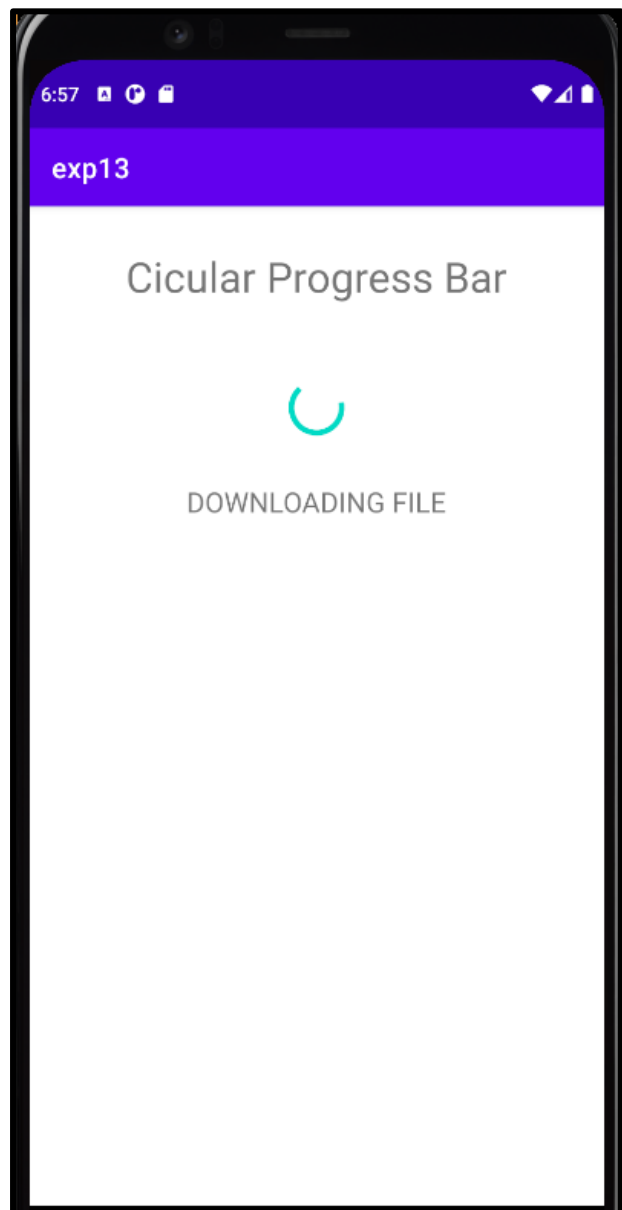# **Practical 13**

1. Write a Program to display circular progress bar

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Cicular Progress Bar"
        android:textSize="30sp"
        android:layout_gravity="center"
        android:layout_marginTop="30dp"
        />
    <ProgressBar
        android:indeterminate="false"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="50dp"
        />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:text="DOWNLOADING FILE"
        android:layout_gravity="center"
        android:layout_marginTop="30dp"
        />
</LinearLayout>
```

Output:

2. Write a Program to display the following output.

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/btn"
        android:layout_marginTop="100dp"
        android:backgroundTint="@color/black"
        android:layout_gravity="center"
        android:text="Download File"
        android:textSize="30dp"
        android:padding="10dp"
        />
</LinearLayout>
```
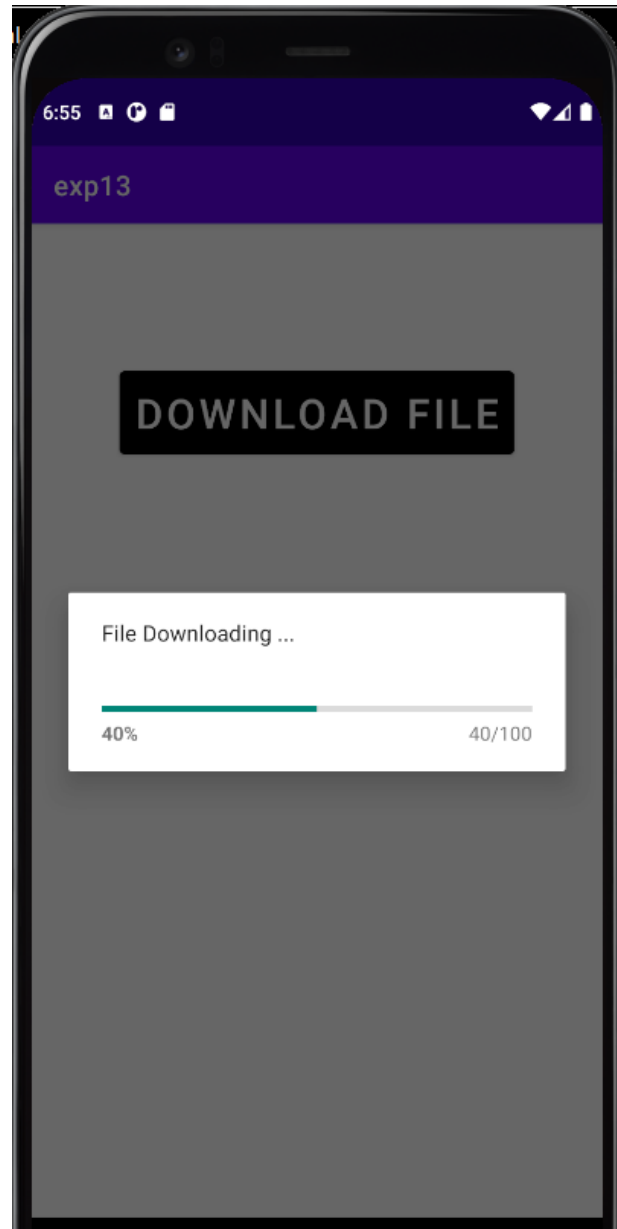
Java Code :

```java
package com.example.exp13;
import androidx.appcompat.app.AppCompatActivity;
import android.app.ProgressDialog;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
public class MainActivity2 extends AppCompatActivity {
    Button btnStartProgress;
    ProgressDialog progressBar;
    private int progressBarStatus = 0;
    private Handler progressBarHandler = new Handler();
    private long fileSize = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        addProgressBarOnButtonClick();
    }
    public void addProgressBarOnButtonClick() {
        btnStartProgress = findViewById(R.id.btn);
        btnStartProgress.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v) {
                progressBar = new ProgressDialog(v.getContext());
                progressBar.setCancelable(true);
                progressBar.setMessage("File Downloading ...");
                progressBar.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
                progressBar.setProgress(0);
```

```java
                progressBar.setMax(100);
                progressBar.show();
                progressBarStatus = 0;
                fileSize = 0;
                new Thread(new Runnable() {
                    public void run() {
                        while (progressBarStatus < 100) {
                            progressBarStatus = doOperation();
                            try
                            {
                                Thread.sleep(1000);
                            } catch (InterruptedException e)
                            {
                                e.printStackTrace();
                            }
                            progressBarHandler.post(new Runnable() {
                                public void run() {
                                    progressBar.setProgress(progressBarStatus);
                                }
                            });
                        }
                        if (progressBarStatus >= 100) {
                            try {
                                Thread.sleep(1000);
                            } catch (InterruptedException e) {
                                e.printStackTrace();
                            }
                            progressBar.dismiss();
                        }
                    }
                }).start();
            }
        });
    }
    public int doOperation() {
        while (fileSize <= 100000) {
            fileSize++;
            if (fileSize == 10000) {
                return 10;
            }
            else if (fileSize == 20000) {
                return 20;
            }
            else if (fileSize == 30000) {
                return 30;
            }
            else if (fileSize == 40000) {
                return 40;
            }
            else if (fileSize == 50000) {
                return 50;
            }
            else if (fileSize == 60000) {
                return 60;
            }
```

```
        else if (fileSize == 70000) {
            return 70;
        }
    }
    return 100;
  }
}
```

Output:

Practical 14

1. Write a Program to display the following output.

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:gravity="center"
    android:orientation="vertical"
    android:background="@color/black"
    >
    <ListView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/list1"
        android:divider="@color/white"
        android:dividerHeight="3dp"
        android:listSelector="#00008B"
    />
</LinearLayout>
```

Activity_listview.xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/txtview"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_gravity="center"
    android:gravity="center"
    android:padding="10dp"
    android:textSize="25dp"
    android:textColor="#FFFF00"
    >
</TextView>
```
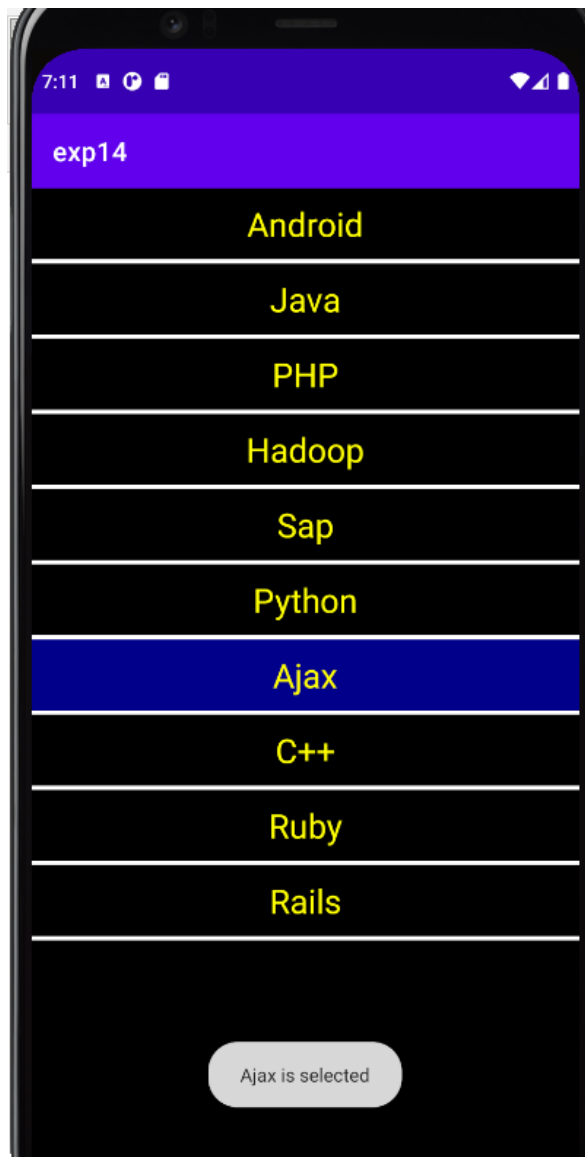
Java Code :

```java
package com.example.exp14;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final String[] items =
{"Android","Java","PHP","Hadoop","Sap","Python","Ajax","C++","Ruby","Rails"};
        ArrayAdapter arrayAdapter = new ArrayAdapter<String>(this,R.layout.activity_listview,items);
        ListView l1 = (ListView) findViewById(R.id.list1);
        l1.setAdapter(arrayAdapter);
        l1.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
                Toast.makeText(getApplicationContext(), ((TextView)view).getText() + " is selected",
Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

Output:

2. Write a Program to create a Grid View and display the name of different phones and operating system and toast selected Phone.

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2"
    android:orientation="vertical">
    <GridView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/gview"
        android:padding="10dp"
        android:numColumns="3"
        android:listSelector="@color/purple_200"
        android:horizontalSpacing="10sp"
        android:verticalSpacing="10sp"
        android:layout_marginTop="30dp"/>
</LinearLayout>
```

Activity_grid_view.xml Code :
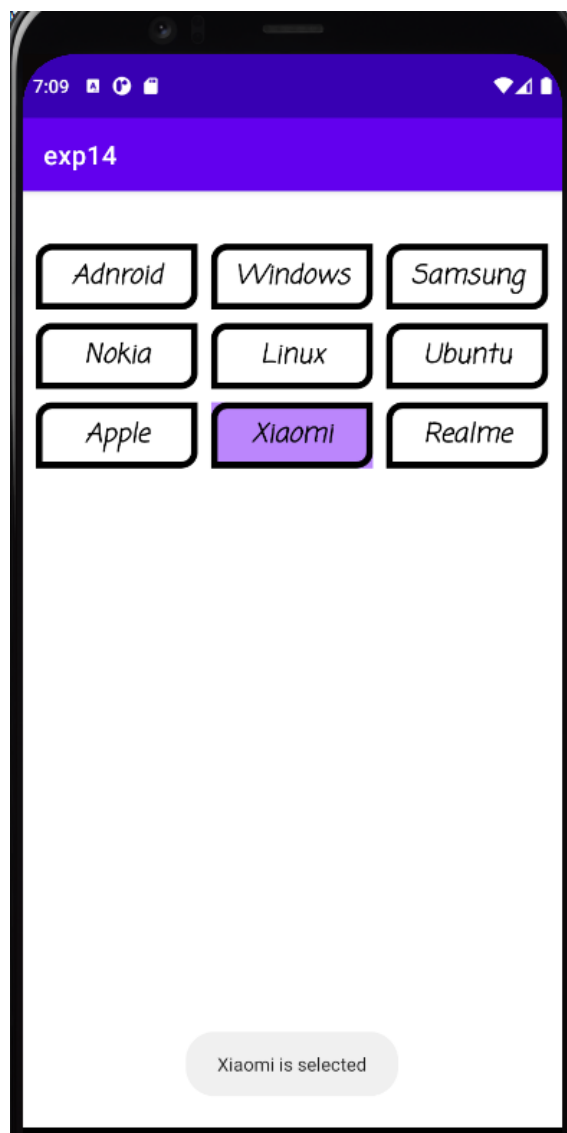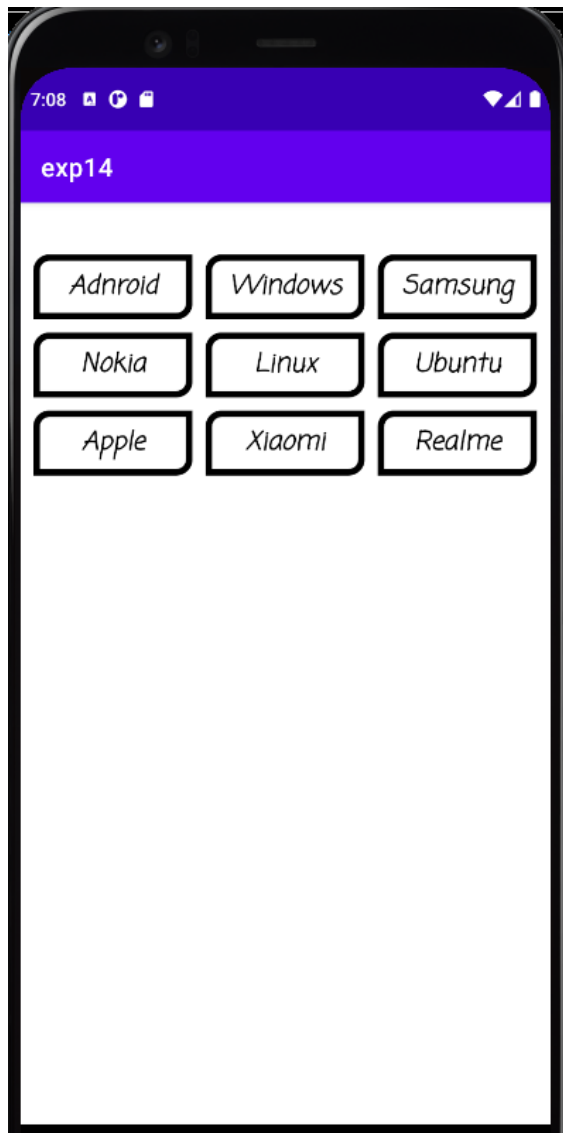
```xml
<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:id="@+id/tview"
    android:fontFamily="casual"
    android:gravity="center"
    android:padding="10dp"
    android:textSize="20dp"
    android:textStyle="italic|bold"
    android:textColor="@color/black"
    android:background="@drawable/bg"
    >
</TextView>
```

Java Code :

```java
package com.example.exp14;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.GridView;
import android.widget.TextView;
import android.widget.Toast;
```

```
public class MainActivity2 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        final String[] OS =
{"Adnroid","Windows","Samsung","Nokia","Linux","Ubuntu","Apple","Xiaomi","Realme"};
        ArrayAdapter arrayAdapter = new ArrayAdapter<String>(this, R.layout.activity_grid_view, OS);
        GridView gv = (GridView) findViewById(R.id.gview);
        gv.setAdapter(arrayAdapter);
        gv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
                Toast.makeText(getApplicationContext(),((TextView)view).getText() + " is
selected",Toast.LENGTH_LONG).show();
            }});
    }}
```

Output:

Practical 15

1. Write a Program to create two buttons as "Simple Toast" and "Custom Toast" on click of Simple Toast normal toast must be displayed and on click of Custom toast button a message with an image must be displayed.

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    >
    <Button
        android:layout_width="300dp"
        android:layout_height="80dp"
        android:text="Simple Toast"
        android:textSize="30dp"
        android:backgroundTint="@color/black"
        android:layout_gravity="center"
        android:layout_marginTop="100dp"
        android:id="@+id/btn1"
        />
    <Button
        android:layout_width="300dp"
        android:layout_height="80dp"
        android:text="Custom Toast"
        android:textSize="30dp"
        android:backgroundTint="@color/black"
        android:layout_gravity="center"
        android:layout_marginTop="40dp"
        android:id="@+id/btn2"
        />
</LinearLayout>
```

Custom toast xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="280dp"
    android:layout_height="160dp"
    tools:context=".exp15a"
    android:orientation="vertical"
    android:id="@+id/custom_toast"
```
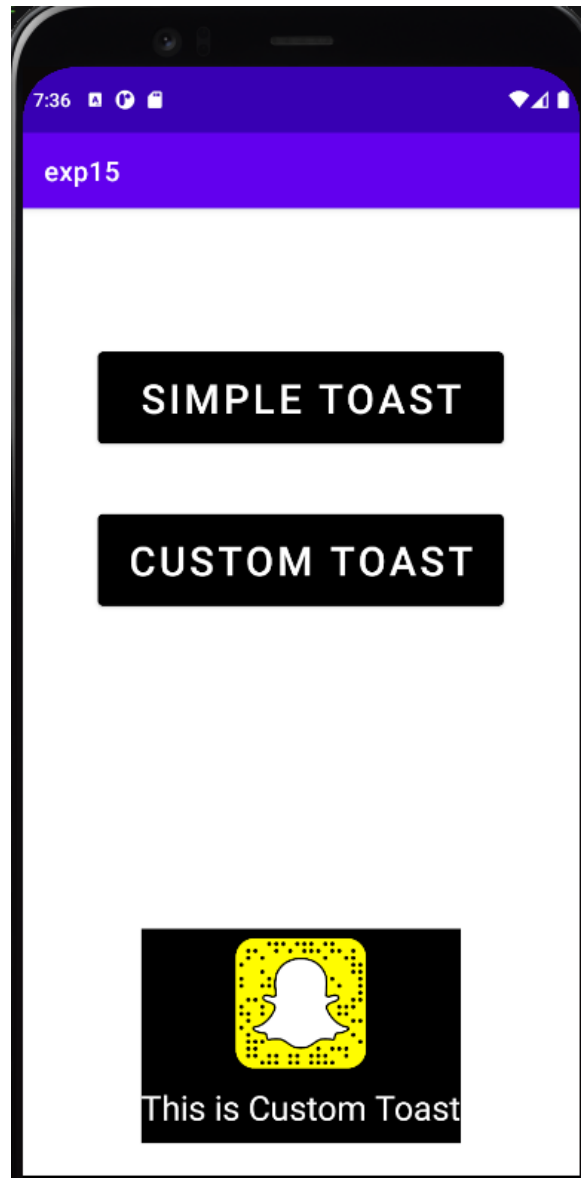
```
        android:backgroundTint="@color/black"
        android:background="@color/black"
        >
    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/img"
        android:layout_gravity="center"
        android:layout_marginTop="5dp"
        />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="This is Custom Toast"
        android:textSize="25dp"
        android:layout_gravity="center"
        android:layout_marginTop="10dp"
        android:textColor="@color/white"
        android:layout_marginBottom="10dp"
        />
</LinearLayout>
```

Java Code :

```
package com.example.exp15;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button simpletoast = (Button) findViewById(R.id.btn1);
        Button customtoast = (Button) findViewById(R.id.btn2);
        simpletoast.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(), "This is simple toast",
Toast.LENGTH_LONG).show();
            }
        });
        customtoast.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                LayoutInflater inflater = getLayoutInflater();
                View object = inflater.inflate(R.layout.activity_exp15a, (ViewGroup)
findViewById(R.id.custom_toast));
                Toast toast = new Toast(getApplicationContext());
                toast.setDuration(toast.LENGTH_LONG);
                toast.setView(object);
```

```
        toast.show();
      }
    });
  }
}
```

Output:

2. Write a Program to display three checkboxes and one button named "Order" as shown below. Once your click on button it should display simple toast along with items name and total price. Display custom toast on selection of checkbox.

Xml Code :

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

```xml
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2"
    android:orientation="vertical">
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Pizza"
        android:textSize="25dp"
        android:layout_gravity="center"
        android:layout_marginTop="80dp"
        android:id="@+id/pizza"
        android:onClick="custm"
        />
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Coffee"
        android:textSize="25dp"
        android:layout_gravity="center"
        android:layout_marginTop="10dp"
        android:id="@+id/coffee"
        android:onClick="custm"
        />
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Burger"
        android:textSize="25dp"
        android:layout_gravity="center"
        android:layout_marginTop="10dp"
        android:id="@+id/burger"
        android:onClick="custm"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Order"
        android:backgroundTint="@color/black"
        android:textColor="@color/white"
        android:textSize="30dp"
        android:layout_gravity="center"
        android:layout_marginTop="20dp"
        android:id="@+id/btn"
        />
</LinearLayout>
```

Custom toast xml Code :

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

```
    android:layout_height="150dp"
    tools:context=".exp15b"
    android:orientation="vertical"
    android:backgroundTint="@color/black"
    android:background="@color/black"
    android:id="@+id/pizz">
        <ImageView
            android:layout_width="100dp"
            android:layout_height="100dp"
            android:layout_gravity="center"
            android:layout_marginTop="10dp"
            android:id="@+id/item"
            />
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textSize="22dp"
            android:textColor="@color/white"
            android:layout_gravity="center"
            android:layout_marginTop="7dp"
            android:id="@+id/item_text"
            />
</LinearLayout>
```
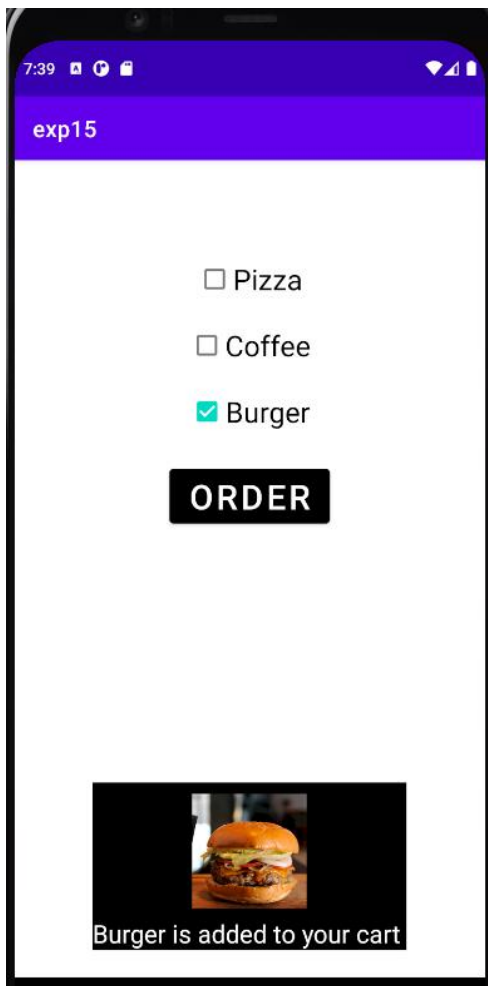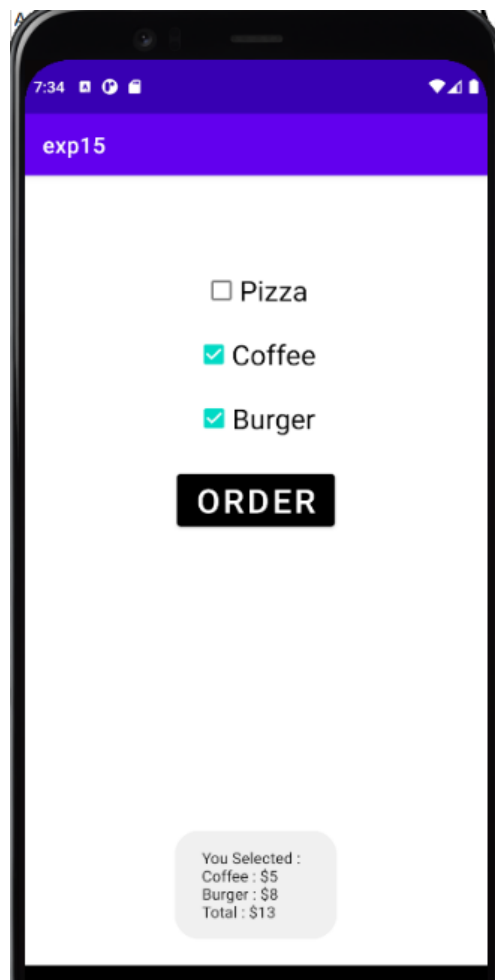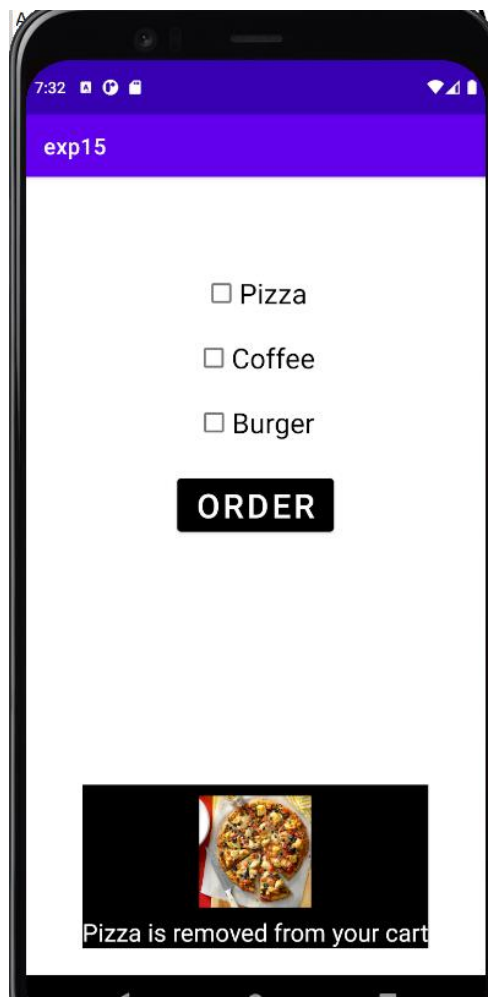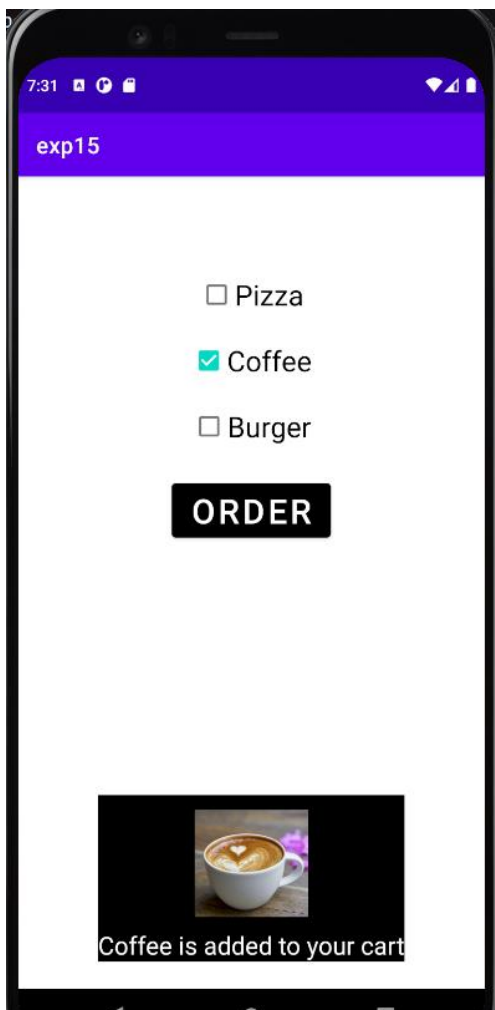
Java Code :

```java
package com.example.exp15;
import androidx.appcompat.app.AppCompatActivity;
import android.media.Image;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.ImageView;
import android.widget.TextView;
import android.widget.Toast;
import org.w3c.dom.Text;
public class MainActivity2 extends AppCompatActivity {
    String str,result;
    Integer tot;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        CheckBox c1 = (CheckBox) findViewById(R.id.pizza);
        CheckBox c2 = (CheckBox) findViewById(R.id.coffee);
        CheckBox c3 = (CheckBox) findViewById(R.id.burger);
        Button order = (Button) findViewById(R.id.btn);
        order.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                str = "You Selected : \n";
```

```java
            tot = 0;
            if(c1.isChecked()){
                Integer p1 = 10;
                tot += p1;
                str += c1.getText().toString()+" : $"+p1+"\n";
            }
            if(c2.isChecked()){
                Integer p2 = 5;
                tot += p2;
                str += c2.getText().toString()+" : $"+p2+"\n";
            }
            if(c3.isChecked()){
                Integer p3 = 8;
                tot+=p3;
                str+=c3.getText().toString()+" : $"+p3+"\n";
            }
            str+="Total : $"+tot;
            Toast.makeText(getApplicationContext(), str, Toast.LENGTH_SHORT).show();
        }
    });
  }
  public void custm(View view) {
    boolean checked = ((CheckBox)view).isChecked();
    result="";
    LayoutInflater inflater = getLayoutInflater();
    View object = inflater.inflate(R.layout.activity_exp15b, (ViewGroup) findViewById(R.id.pizz));
    ImageView item = (ImageView) object.findViewById(R.id.item);
    TextView item_txt = (TextView) object.findViewById(R.id.item_text);
    switch (view.getId()){
        case R.id.pizza:
            result = checked ? "Pizza is added to your cart ":"Pizza is removed from your cart";
            item.setImageResource(R.drawable.img_1);
            break;
        case R.id.coffee:
            result = checked ? "Coffee is added to your cart":"Coffee is removed from your cart";
            item.setImageResource(R.drawable.coffee);
            break;
        case R.id.burger:
            result = checked ? "Burger is added to your cart ":"Burger is removed from your cart";
            item.setImageResource(R.drawable.img_2);
            break;
    }
    item_txt.setText(result);
    Toast toast = new Toast(getApplicationContext());
    toast.setDuration(toast.LENGTH_LONG);
    toast.setView(object);
    toast.show();
  }
}
```
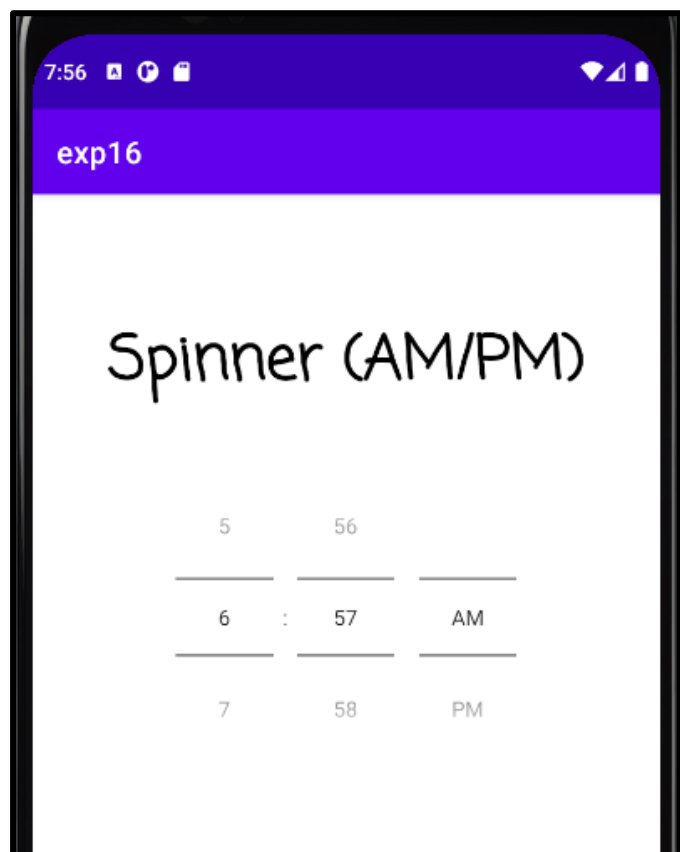
Output:

Practical 16

1. Write a Program to display the time picker in spinner mode.

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">
    <TextView
        android:layout_marginTop="80dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Spinner (AM/PM)"
        android:textSize="40dp"
        android:textStyle="bold"
        android:fontFamily="casual"
        android:textColor="@color/black"
        android:layout_gravity="center"
        />
    <TimePicker
        android:id="@+id/timepik1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:timePickerMode="spinner"
        android:layout_gravity="center"
        android:layout_marginTop="30dp" />
</LinearLayout>
```

Output:

2. Write a Program to display time picker in 24 hours format in spinner mode.

Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">
    <TextView
        android:layout_marginTop="80dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Spinner 24 Hours Format"
        android:textSize="30dp"
        android:textStyle="bold"
        android:fontFamily="casual"
        android:textColor="@color/black"
        android:layout_gravity="center"
        />
    <TimePicker
        android:id="@+id/t2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:timePickerMode="spinner"
        android:layout_gravity="center"
        android:layout_marginTop="30dp"/>
</LinearLayout>
```

Java Code :

```java
package com.example.exp16;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TimePicker;
public class MainActivity2 extends AppCompatActivity
{
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        TimePicker tp1 = (TimePicker)
findViewById(R.id.t2);
        tp1.setIs24HourView(true);
    }
}
```

Output:

3. Write a Program to display the following output.Select and display date and time on click of "select date" and "select time" buttons respectively.

Xml Code :

```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=".MainActivity3"
    >
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Date and Time picker"
        android:textSize="40dp"
        android:gravity="center"
        android:layout_marginTop="30dp"
        android:textColor="@color/black"
        android:id="@+id/txt"
        />
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="25dp"
        android:textColor="@color/black"
        android:layout_below="@id/txt"
        android:layout_marginTop="50dp"
        android:layout_marginLeft="15dp"
        android:id="@+id/datetextview"
        />
    <EditText
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:textSize="25dp"
        android:textColor="@color/black"
        android:layout_below="@id/datetextview"
        android:layout_marginTop="20dp"
        android:layout_marginLeft="15dp"
        android:id="@+id/timetextview"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select Date"
        android:textSize="20dp"
        android:layout_toRightOf="@id/datetextview"
        android:layout_marginTop="135dp"
        android:layout_marginLeft="10dp"
        android:backgroundTint="@color/black"
```

```xml
        android:id="@+id/datebutton"
        />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select Time"
        android:textSize="20dp"
        android:layout_toRightOf="@id/timetextview"
        android:layout_marginTop="205dp"
        android:layout_marginLeft="10dp"
        android:backgroundTint="@color/black"
        android:layout_alignBottom="@id/timetextview"
        android:id="@+id/timebutton"
        />
</RelativeLayout>
```
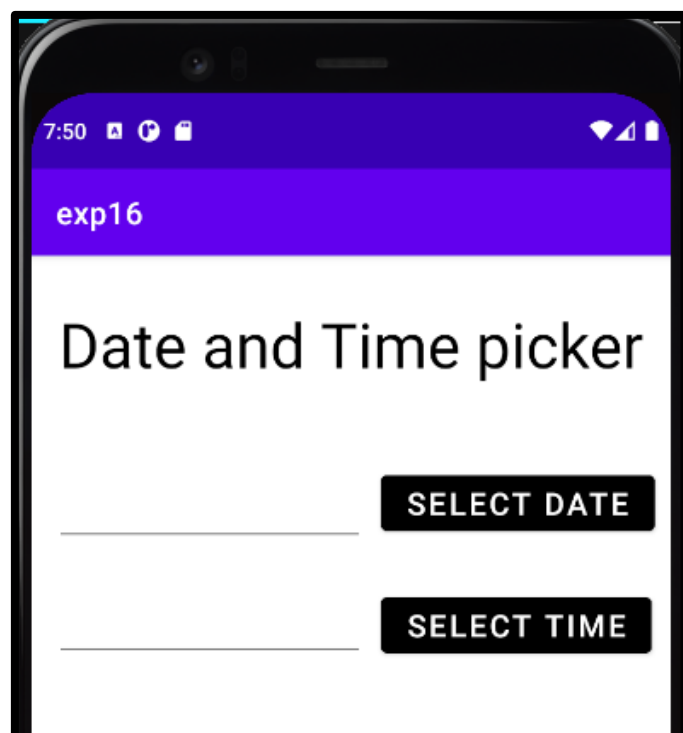
Java Code :

```java
package com.example.exp16;
import androidx.appcompat.app.AppCompatActivity;
import android.app.DatePickerDialog;
import android.app.TimePickerDialog;
import android.os.Bundle;
import android.text.format.DateFormat;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.TimePicker;
import java.util.Calendar;
public class MainActivity3 extends AppCompatActivity {
    Button date,time;
    EditText dtext,ttext;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);
        date = (Button) findViewById(R.id.datebutton);
        time = (Button) findViewById(R.id.timebutton);
        dtext = (EditText) findViewById(R.id.datetextview);
        ttext = (EditText) findViewById(R.id.timetextview);
        date.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                dispdate();
            }
        });
        time.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                disptime();
            }
        });
    }
```
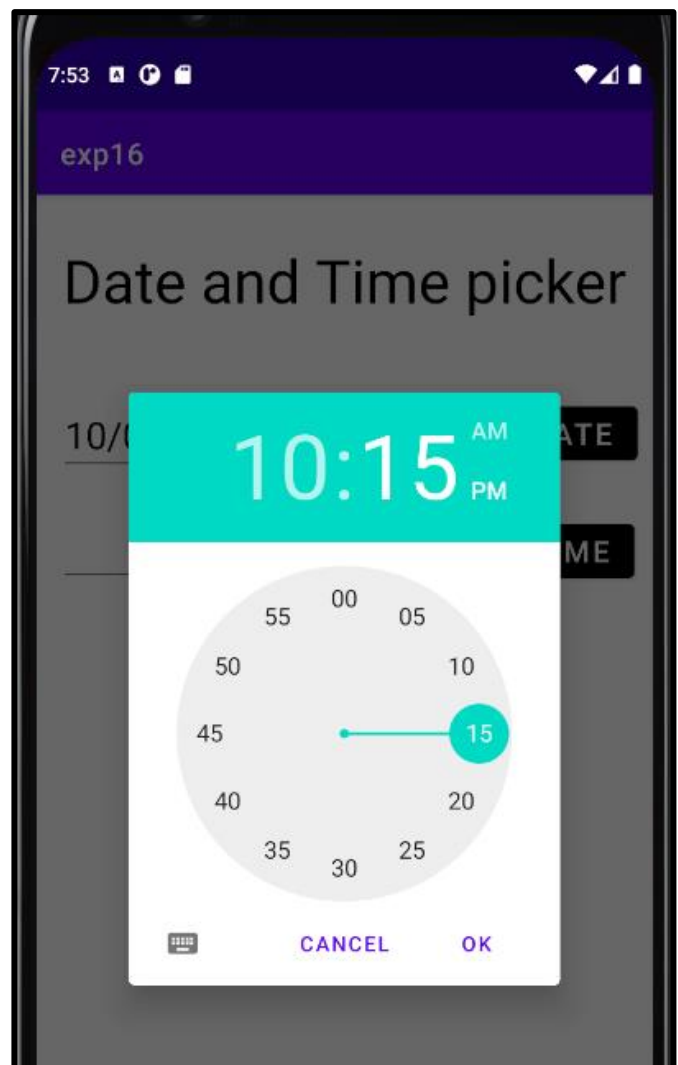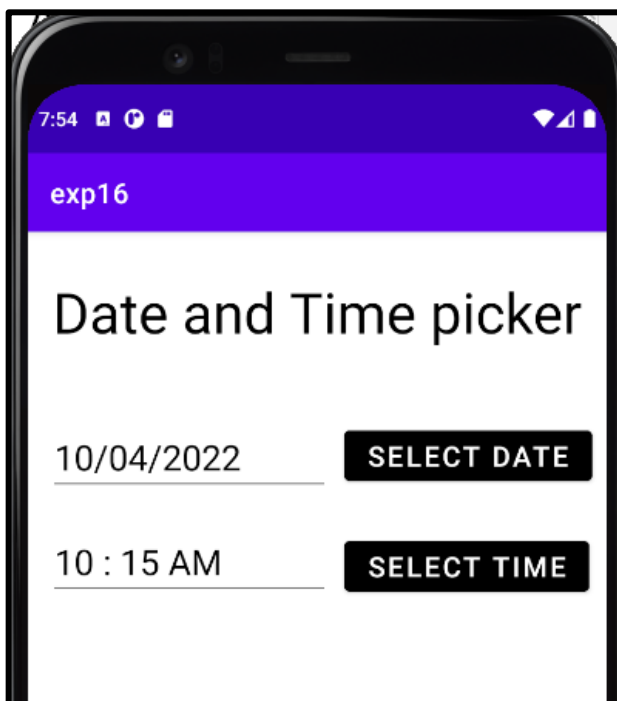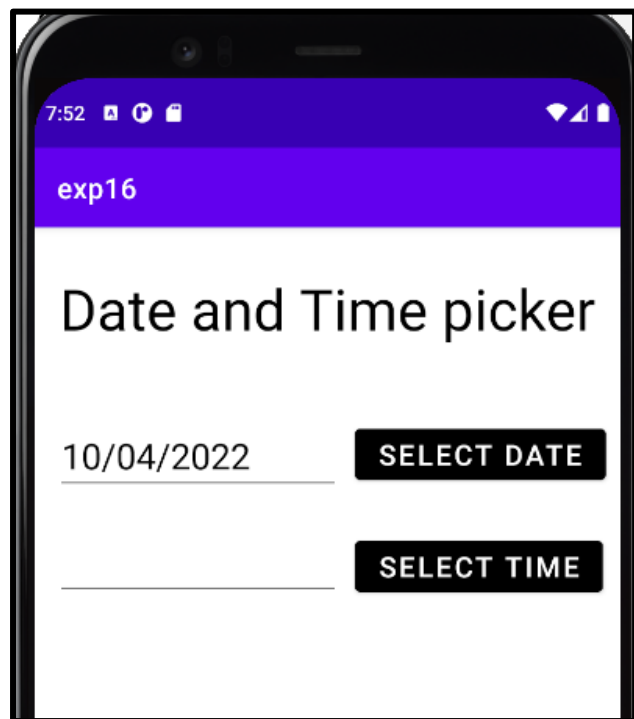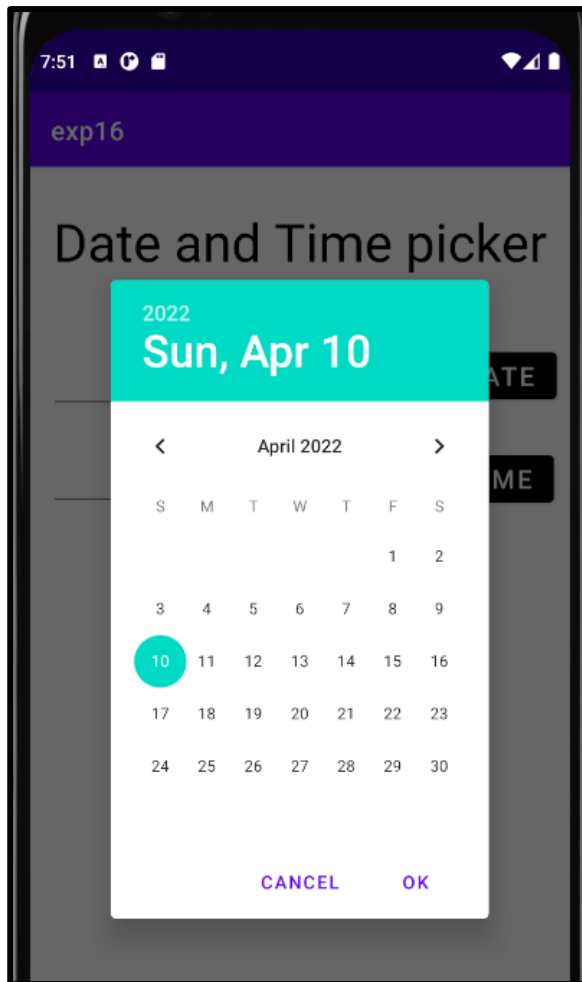
```java
    public void dispdate(){
        Calendar calendar = Calendar.getInstance();
        int year = calendar.get(Calendar.YEAR);
        int month = calendar.get(Calendar.MONTH);
        int date = calendar.get(Calendar.DATE);

        DatePickerDialog datePickerDialog = new DatePickerDialog(this, new
DatePickerDialog.OnDateSetListener() {
            @Override
            public void onDateSet(DatePicker datePicker, int YEAR, int MONTH, int DATE) {
                Calendar calendar1 = Calendar.getInstance();
                calendar1.set(Calendar.YEAR,YEAR);
                calendar1.set(Calendar.MONTH,MONTH);
                calendar1.set(Calendar.DATE,DATE);
                CharSequence charSequence = DateFormat.format("dd/MM/yyyy",calendar1);
                dtext.setText(charSequence);
            }
        },year,month,date);
        datePickerDialog.show();
    }
    public void disptime(){
        Calendar calendar = Calendar.getInstance();
        int hour = calendar.get(Calendar.HOUR);
        int minute = calendar.get(Calendar.MINUTE);
        boolean is24hour = DateFormat.is24HourFormat(this);
        TimePickerDialog timePickerDialog = new TimePickerDialog(this, new
TimePickerDialog.OnTimeSetListener() {
            @Override
            public void onTimeSet(TimePicker timePicker, int H, int M) {
                Calendar calendar1 = Calendar.getInstance();
                calendar1.set(Calendar.HOUR,H);
                calendar1.set(Calendar.MINUTE,M);
                CharSequence charSequence = DateFormat.format("h : mm a",calendar1);
                ttext.setText(charSequence);
            }
        }, hour, minute, is24hour);
        timePickerDialog.show();
    }
}
```

Output:

Practical 17

1. Write a Program to create an activity using all Life cycle methods to display messages using log.d.

Java Code :

```
package com.example.exp17;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      Log.d("Life Cycle","onCreate");
   }
   @Override
   protected void onStart(){
      super.onStart();
      Log.d("Activity Life Cycle","onStart Invoked");
   }
   @Override
   protected void onResume(){
      super.onResume();
      Log.d("Activity Life Cycle","onResume Invoked");
   }
   @Override
   protected void onPause(){
      super.onPause();
      Log.d("Activity Life Cycle","onPause Invoked");
   }
   @Override
   protected void onRestart(){
      super.onRestart();
      Log.d("Activity Life Cycle","onRestart Invoked");
   }
   @Override
   protected void onStop(){
      super.onStop();
      Log.d("Activity Life Cycle","onStop Invoked");
   }
   @Override
   protected void onDestroy(){
      super.onDestroy();
      Log.d("Activity Life Cycle","onDestroy Invoked");
   }}
```

Output:

```
2022-04-17 17:03:30.986 25923-25923/com.example.exp17 D/Activity Life Cycle: onStart Invoked
2022-04-17 17:03:30.993 25923-25923/com.example.exp17 D/Activity Life Cycle: onResume Invoked
2022-04-17 17:03:57.984 25923-25923/com.example.exp17 D/Activity Life Cycle: onPause Invoked
2022-04-17 17:03:58.056 25923-25923/com.example.exp17 D/Activity Life Cycle: onStop Invoked
2022-04-17 17:04:02.021 25923-25923/com.example.exp17 D/Activity Life Cycle: onRestart Invoked
2022-04-17 17:04:02.038 25923-25923/com.example.exp17 D/Activity Life Cycle: onStart Invoked
2022-04-17 17:04:02.040 25923-25923/com.example.exp17 D/Activity Life Cycle: onResume Invoked
2022-04-17 17:04:35.482 25923-25923/com.example.exp17 D/Activity Life Cycle: onPause Invoked
2022-04-17 17:04:35.541 25923-25923/com.example.exp17 D/Activity Life Cycle: onStop Invoked
2022-04-17 17:04:38.337 25923-25923/com.example.exp17 D/Activity Life Cycle: onDestroy Invoked
```

<u>Practical 18</u>

1. Write a Program to create an EditText and Button. When you enter "www.google.com" and press enter it should open google page.

Xml Code :

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">
    <EditText
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:hint="Enter Url"
        android:paddingLeft="10dp"
        android:layout_marginLeft="30dp"
        android:layout_marginRight="30dp"
        android:textSize="22dp"
        android:layout_marginTop="80dp"
        android:background="@drawable/button_bg"
        android:id="@+id/url"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Click Me To Visit"
        android:textSize="25dp"
        android:backgroundTint="@color/black"
        android:layout_gravity="center"
        android:layout_marginTop="30dp"
        android:id="@+id/btn"/>
</LinearLayout>
```
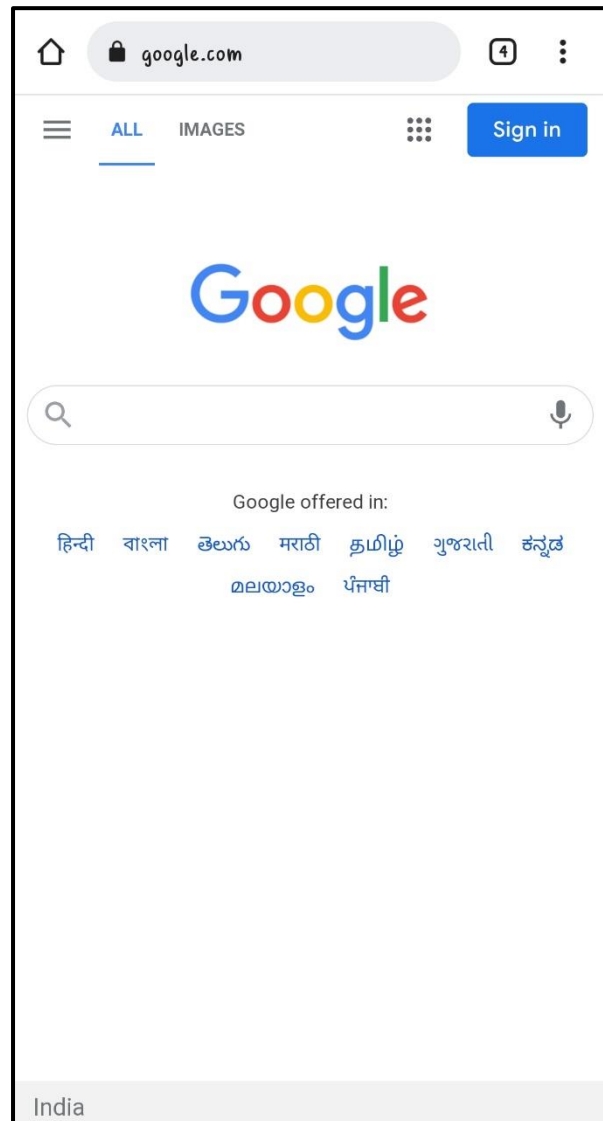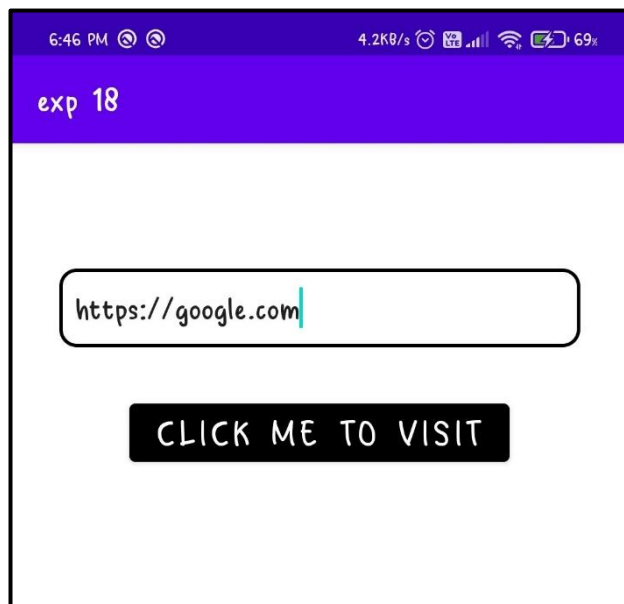
Java Code :

```
package com.example.exp18;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
```

```
    @Override
  protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      Button btn = (Button) findViewById(R.id.btn);
      EditText url = (EditText) findViewById(R.id.url);
      btn.setOnClickListener(new View.OnClickListener() {
          @Override
          public void onClick(View view) {
              String urll = url.getText().toString();
              Intent i1 = new Intent(Intent.ACTION_VIEW, Uri.parse(urll));
              startActivity(i1);
          }
      });
  }
}
```

Output:

2. Write a Program to create button start dialer. When you click on this button it should open phone dialer.

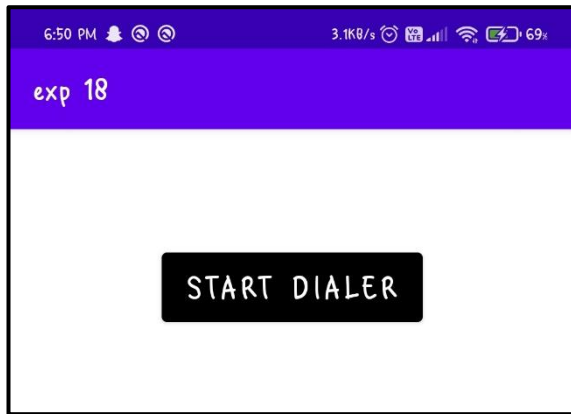Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2"
    android:orientation="vertical">
    <Button
        android:layout_width="wrap_content"
        android:layout_height="60dp"
        android:text="Start Dialer"
        android:textSize="25dp"
        android:backgroundTint="@color/black"
        android:layout_gravity="center"
        android:layout_marginTop="80dp"
        android:id="@+id/btn"/>
</LinearLayout>
```

Java Code :

```java
package com.example.exp18;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity2 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        Button btn = (Button) findViewById(R.id.btn);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i1 = new Intent(Intent.ACTION_DIAL);
                startActivity(i1);
            }
        });
    }
}
```

Output:

3. Program to create two screens. First screen will take one number input from user. After click on Factorial button, second screen will open and it should display factorial of the same number. Also specify which type of intent you will use in this case.

Main Xml Code :

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical">
    <EditText
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:hint="Enter any number"
        android:paddingLeft="10dp"
        android:layout_marginLeft="30dp"
        android:layout_marginRight="30dp"
        android:textSize="22dp"
        android:layout_marginTop="80dp"
        android:background="@drawable/button_bg"
        android:id="@+id/num"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
        android:text="Find Factorial"
        android:textSize="25dp"
        android:backgroundTint="@color/black"
        android:layout_gravity="center"
        android:layout_marginTop="30dp"
        android:id="@+id/btn"/>
</LinearLayout>
```

Factorial XML code:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".factorial"
    android:orientation="vertical"
    android:layout_margin="50dp"
    android:id="@+id/l1">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:id="@+id/txt"/>
</LinearLayout>
```

Main Java Code :

```java
package com.example.exp18;
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 MainActivity3 extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main3);
        EditText e1 = (EditText) findViewById(R.id.num);
        Button find_factorial = (Button) findViewById(R.id.btn);
        find_factorial.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i1 = new Intent(getApplicationContext(),factorial.class);
                i1.putExtra("f",e1.getText().toString());
                startActivity(i1);
            }
        });
    }
}
```

Factorial Java Code:

```
package com.example.exp18;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;
import android.widget.LinearLayout;
import android.widget.TextView;
public class factorial extends AppCompatActivity {
    String msg = "f";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_factorial);
        Intent intent = getIntent();
        String num = intent.getStringExtra(msg);
        Integer n = Integer.parseInt(num);
        Integer fact = 1;
        for(int i=1;i<=n;i++){
            fact = fact * i;
        }
        TextView t1 = (TextView) findViewById(R.id.txt);
        t1.setText("Factorial of "+n+" is "+fact);
        t1.setTextColor(Color.BLACK);
        t1.setTextSize(25);
    }}
```

Output: