

Display the life cycle methods called for the following actions:

- a. Start of the App.
- b. Switches to another app.
- c. Back button is pressed.
- d. App is closed.

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.util.Log;
import android.os.Bundle;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    protected void onCreate(Bundle savedInstanceState){
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Toast.makeText(this, "ON CREATE", Toast.LENGTH_SHORT).show();
    }
    protected void onStart(){
        super.onStart();
        Toast.makeText(this, "ON START", Toast.LENGTH_SHORT).show();
    }
    protected void onResume(){
        super.onResume();
        Toast.makeText(this, "ON RESUME", Toast.LENGTH_SHORT).show();
    }
    protected void onPause(){
        super.onPause();
        Toast.makeText(this, "ON PAUSE", Toast.LENGTH_SHORT).show();
    }
    protected void onStop()
    {
        super.onStop();
        Toast.makeText(this, "ON STOP", Toast.LENGTH_SHORT).show();
    }
    protected void onRestart(){
        super.onRestart();
        Log.d("lifecycle", "onRestart invoked");
    }
    protected void onDestroy() {
        super.onDestroy();
        Toast.makeText(this, "ON DESTROY", Toast.LENGTH_SHORT).show();
    }
}
```

Create an App to compute total cost incurred for buying food items in an outlet. If the cost exceeds Rs. 300, give discount of 10%. Use Checkbox to display the list of items.

Create an App to compute total cost incurred for buying grocery items in an outlet. If the cost exceeds Rs. 500, give discount of 20%. Use custom checkbox to display the list of items.

```
<Button
    android:id="@+id/btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="calculate"
    android:text="Calculate"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.72" />
```

```
public class MainActivity extends AppCompatActivity {

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

    public void calculate(View v){
        int amt = 0;
        if(((CheckBox)findViewById(R.id.fooditem)).isChecked())
            amt+=250;
        if(((CheckBox)findViewById(R.id.fooditem1)).isChecked())
            amt+=100;
        if(((CheckBox)findViewById(R.id.fooditem2)).isChecked())
            amt+=50;
        if(amt>300)
            amt*=0.9;

        Toast.makeText(this,"Total cost is "+ amt, Toast.LENGTH_SHORT).show();
    }
}
```

Write program to display list of colors and allow the user to choose one of his favorite color. Display the color which he is chosen. Use Listview.

```
public class MainActivity extends AppCompatActivity {

    ListView lv;
    String [] colorsList = {"RED", "GREEN", "BLUE"};
    Integer [] clrList = {-65536, -16711936, -16776961};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        lv = findViewById(R.id.lv);
        final ArrayAdapter<String> arrAdap = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1, colorsList);
        lv.setAdapter(arrAdap);

        lv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i, long
1) {
                Toast.makeText(getApplicationContext(), "You clicked on:
"+colorsList[i], Toast.LENGTH_SHORT).show();
                view.setBackgroundColor(clrList[i]);
            }
        });
    }
}
```

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

    <ListView
        android:layout_width="match_parent"
        android:id="@+id/lv"
        android:layout_height="match_parent" />
</RelativeLayout>
```

Write program to display list of colleges and allow the user to choose one of the colleges and display the selected option. Use spinner.

```
public class MainActivity extends AppCompatActivity {

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

        Spinner s;
        final String[] colleges = {"BMSCE", "RVCE", "MSRIT", "DSCE"};

        s = findViewById(R.id.spinner);
        ArrayAdapter<String> arrAdap = new ArrayAdapter<>(this,
        android.R.layout.simple_spinner_item, colleges);
        s.setAdapter(arrAdap);
        s.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i,
            long l) {
                Toast.makeText(getApplicationContext(), "You have selected:
                "+colleges[i], Toast.LENGTH_SHORT).show();
            }

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

            }
        });
    }
}
```

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

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="246dp"
        android:layout_height="53dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.477" />

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

Create an application to choose the Colors from a dropdown and when a color is selected it should open another activity and display the chosen color.

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

    Spinner s;
    final String[] clr = {"RED", "GREEN", "YELLOW"};

    s = findViewById(R.id.spinner);
    ArrayAdapter<String> arrAdap = new ArrayAdapter<>(this,
    android.R.layout.simple_spinner_item, clr);
    s.setAdapter(arrAdap);
    s.setOnItemClickListener(new AdapterView.OnItemClickListener() {

        @Override
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long
1) {
            Toast.makeText(getApplicationContext(), "You have selected: "+clr[i],
    Toast.LENGTH_SHORT).show();
            Intent it = new Intent(getApplicationContext(), SecondActivity.class);
            it.putExtra("ColorSelected", clr[i]);
            startActivity(it);
        }

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

        }
    });
}
```

```
public class SecondActivity extends AppCompatActivity {

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

        Intent it = getIntent();
        String color = it.getStringExtra("ColorSelected");
        Toast.makeText(this, color, Toast.LENGTH_SHORT).show();
        ConstraintLayout cs = findViewById(R.id.mainConstraint);
        if(color == "RED")
            cs.setBackgroundColor(Color.RED);
        else if(color == "GREEN")
            cs.setBackgroundColor(Color.GREEN);
        else if(color == "YELLOW")
            cs.setBackgroundColor(Color.YELLOW);
        }
}
```

Create a basic calculator computing application by taking two inputs and operation to perform from user. Display the result in a font color Green.

Create an application which performs basic arithmetic operation, select the four operations to be performed using RadioButton and based on the choice display the result.

Create a relative layout with reading student name, usn, autocomplete textbox to enter the branch and submit button.

```
String[] branches = {"ISE", "CSE", "ECE", "IEM", "CHE", "EEE"};
Button btn;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    final EditText us = (EditText)findViewById(R.id.etUSN);
    final EditText na = (EditText)findViewById(R.id.etName);

    ArrayAdapter<String> arrayAdapter = new ArrayAdapter<>(this,
android.R.layout.select_dialog_item, branches);
    AutoCompleteTextView actv = (AutoCompleteTextView)findViewById(R.id.actv);
    actv.setAdapter(arrayAdapter);
    actv.setThreshold(1);
    actv.setTextColor(Color.RED);

    btn = findViewById(R.id.btn);
    btn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            final String usn = us.getText().toString();
            final String name = na.getText().toString();
            final String ans = usn+"\n"+name;
            Toast.makeText(getApplicationContext(), ans, Toast.LENGTH_SHORT).show();
        }
    });
}
```

```
<?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"
    >

    <EditText
        android:id="@+id/etUSN"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="100dp"
        android:layout_marginTop="101dp"
        android:layout_marginEnd="101dp"
        android:layout_marginBottom="15dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="USN" />

    <EditText
        android:id="@+id/etName"
        android:layout_width="212dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="99dp"
```

```
android:layout_marginTop="193dp"
android:layout_marginEnd="100dp"
android:ems="10"
android:inputType="textPersonName"
android:text="Name" />
```

<AutoCompleteTextView

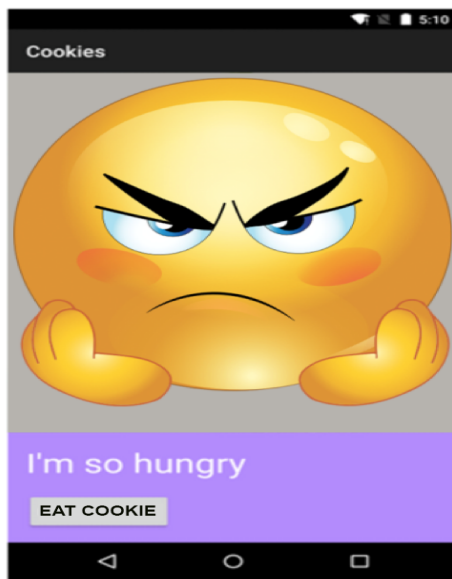
```
android:id="@+id/actv"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="111dp"
android:layout_marginTop="368dp"
android:layout_marginEnd="105dp"
android:text="Branch" />
```

<Button

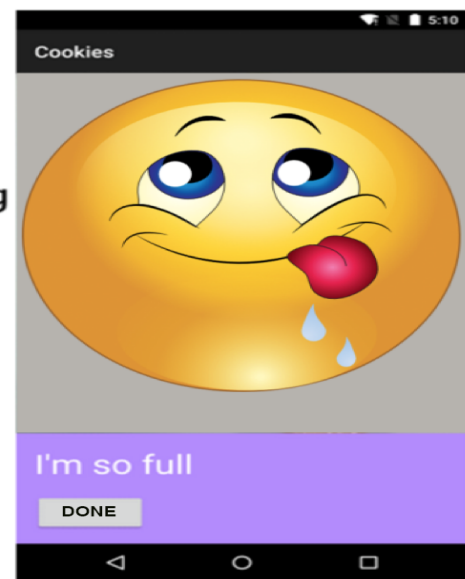
```
android:id="@+id/btn"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="162dp"
android:layout_marginTop="495dp"
android:layout_marginEnd="162dp"
android:text="Display" />
```

</RelativeLayout>

Build the app shown below. Users are initially presented with an "unhappy" character with the corresponding text "I'm so hungry". After hitting the button "EAT COOKIE", the character becomes "happy" with corresponding text "I'm so full".



After pressing
the button
becomes



```
public class MainActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
  
        final TextView tv = (TextView)findViewById(R.id.msg);  
        Button btn = (Button)findViewById(R.id.eatCookie);  
        final ImageView img = (ImageView)findViewById(R.id.img);  
  
        btn.setOnClickListener(new View.OnClickListener() {  
            @Override  
            public void onClick(View view) {  
                img.setImageResource(R.drawable.happy);  
                tv.setText("Im Full");  
            }  
        });  
    }  
}
```

```
<?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/eatCookie"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:text="Eat Cookie"
```

```
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.593" />
```

<TextView

```
android:id="@+id/msg"
android:layout_width="135dp"
android:layout_height="41dp"
android:padding="5dp"
android:text="I'm So Hungry"
android:textSize="20dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.512"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.745" />
```

<ImageView

```
android:id="@+id/img"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.274"
app:srcCompat="@drawable/sad" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

Create an application with two buttons named as Toast Button and Increment Button and also TextView with value displayed as Zero initially. when the user clicks on Toast Button, Toast message to be displayed. when user clicks on Increment Button, it displays the current count after Count is tapped. Each tap increases the count by one.

```
public class MainActivity extends AppCompatActivity {
    int counter;
    TextView tv;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button t = (Button)findViewById(R.id.t);
        Button i = (Button)findViewById(R.id.i);
        tv = (TextView)findViewById(R.id.tv);
        counter = 0;
        t.setOnClickListener(new View.OnClickListener() {
//            String tmsg = tv.getText().toString();
            @Override
            public void onClick(View view) {
//                counter++;
                Toast.makeText(getApplicationContext(), "Toast Clicked: "+counter,
Toast.LENGTH_SHORT).show();
            }
        });

        i.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Log.d("HAHA", "You are here");
                counter++;
                String c = ""+counter;
                tv.setText(c);
            }
        });
    }
}
```

```
<?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"
    >

    <Button
        android:id="@+id/i"
        android:layout_width="114dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="244dp"
        android:layout_marginTop="377dp"
        android:layout_marginEnd="56dp"
```

```
android:text="Increment"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.84"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.466" />
```

<Button

```
android:id="@+id/t"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="78dp"
android:layout_marginTop="380dp"
android:layout_marginEnd="248dp"
android:text="Toast"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.205"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.466" />
```

<TextView

```
android:id="@+id/tv"
android:layout_width="39dp"
android:layout_height="51dp"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="188dp"
android:layout_marginTop="232dp"
android:layout_marginEnd="187dp"
android:gravity="center"
android:text="0"
android:textSize="30sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.53"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.259" />
```

</RelativeLayout>

Implement an Android application to perform the following database operations using SQLite: Insert, Update, Delete and Display details for an payroll management system.

DBHelper.java

```
package com.example.listviewlearn;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.Nullable;

public class DBHelper extends SQLiteOpenHelper {
    public DBHelper(Context context) {
        super(context, "CompanyXYZ.db", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase DB) {
        DB.execSQL("CREATE TABLE PAYROLL(id TEXT primary key, name TEXT, dob TEXT, salary TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase DB, int i, int i1) {
        DB.execSQL("DROP TABLE IF EXISTS PAYROLL");
    }

    public Boolean insertData(String id, String name, String dob, String salary){
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put("id", id);
        cv.put("name", name);
        cv.put("dob", dob);
        cv.put("salary", salary);
        long res = db.insert("PAYROLL", null, cv);
        if (res == -1){
            return false;
        }else{
            return true;
        }
    }

    public Boolean updateData(String id, String name, String dob, String salary){
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put("name", name);
        cv.put("dob", dob);
        cv.put("salary", salary);

        Cursor cur= db.rawQuery("SELECT * FROM PAYROLL WHERE id=?", new String[]{id});
        if(cur.getCount()>0){
            long res = db.update("PAYROLL", cv, "id=?", new String[] {id});
            if (res == -1){
                return false;
            }else{
                return true;
            }
        }
        else{
            return false;
        }
    }
}
```

```

    }

    public Boolean deleteData(String id){
        SQLiteDatabase db = this.getWritableDatabase();
        Cursor cur= db.rawQuery("SELECT * FROM PAYROLL WHERE id=?", new String[]{id});
        if(cur.getCount()>0){
            long res = db.delete("PAYROLL","id=?", new String[] {id});
            if (res == -1){
                return false;
            }else{
                return true;
            }
        }
        else{
            return false;
        }
    }

    public Cursor viewData(){
        SQLiteDatabase db = this.getWritableDatabase();
        Cursor cur= db.rawQuery("SELECT * FROM PAYROLL", null);

        return cur;
    }
}

```

MainActivity.java

```

package com.example.listviewlearn;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.database.Cursor;
import android.graphics.Color;
import android.media.Image;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.ListView;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button insert,update,view,delete;
    EditText name, id, dob, salary;
    DBHelper db;

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

```

```

name = findViewById(R.id.tvName);
id = findViewById(R.id.tvID);
dob = findViewById(R.id.tvDOB);
salary = findViewById(R.id.tvSalary);

insert = findViewById(R.id.btnInsert);
delete = findViewById(R.id.btnDelete);
update = findViewById(R.id.btnUpdate);
view = findViewById(R.id.btnView);

db = new DBHelper(this);

insert.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String nameTXT = name.getText().toString();
        String idTXT = id.getText().toString();
        String dobTXT = dob.getText().toString();
        String salaryTXT = salary.getText().toString();

        Boolean check = db.insertData(idTXT, nameTXT, dobTXT, salaryTXT);
        if(check){
            Toast.makeText(getApplicationContext(), "Insert Passed",
Toast.LENGTH_SHORT).show();
        }else{
            Toast.makeText(getApplicationContext(), "Insert Failed",
Toast.LENGTH_SHORT).show();
        }
    }
});

update.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String nameTXT = name.getText().toString();
        String idTXT = id.getText().toString();
        String dobTXT = dob.getText().toString();
        String salaryTXT = salary.getText().toString();

        Boolean check = db.updateData(idTXT, nameTXT, dobTXT, salaryTXT);
        if(check){
            Toast.makeText(getApplicationContext(), "Update Passed",
Toast.LENGTH_SHORT).show();
        }else{
            Toast.makeText(getApplicationContext(), "Update Failed",
Toast.LENGTH_SHORT).show();
        }
    }
});

delete.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String idTXT = id.getText().toString();
        Boolean check = db.deleteData(idTXT);
        if(check){
            Toast.makeText(getApplicationContext(), "Delete Passed",
Toast.LENGTH_SHORT).show();
        }else{
            Toast.makeText(getApplicationContext(), "Delete Failed",
Toast.LENGTH_SHORT).show();
        }
    }
});

```

```

        view.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Cursor res = db.viewData();
                if(res.getCount() <= 0){
                    Toast.makeText(MainActivity.this, "No Data",
Toast.LENGTH_SHORT).show();
                    return;
                }
                StringBuffer buffer = new StringBuffer();
                while(res.moveToNext()){
                    buffer.append("ID: "+res.getString(0)+"\n");
                    buffer.append("Name: "+res.getString(1)+"\n");
                    buffer.append("DOB: "+res.getString(2)+"\n");
                    buffer.append("Salary: "+res.getString(3)+"\n");
                }

                AlertDialog.Builder al = new AlertDialog.Builder(MainActivity.this);
                al.setCancelable(true);
                al.setTitle("USERS");
                al.setMessage(buffer.toString());
                al.show();
            }
        });
    }
}

```

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"
    >

    <EditText
        android:id="@+id/tvName"
        android:layout_width="184dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="121dp"
        android:layout_marginTop="23dp"
        android:layout_marginEnd="109dp"
        android:hint="Name" />

    <EditText
        android:id="@+id/tvID"
        android:layout_width="184dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_marginStart="115dp"
        android:layout_marginTop="97dp"
        android:layout_marginEnd="115dp"
        android:hint="ID" />

    <EditText
        android:id="@+id/tvDOB"

```



```
android:layout_width="184dp"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="112dp"
android:layout_marginTop="173dp"
android:layout_marginEnd="118dp"
android:hint="DOB" />
```

<EditText

```
android:id="@+id/tvSalary"
android:layout_width="184dp"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="110dp"
android:layout_marginTop="251dp"
android:layout_marginEnd="120dp"
android:hint="Salary" />
```

<Button

```
android:id="@+id/btnInsert"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="66dp"
android:layout_marginTop="341dp"
android:layout_marginEnd="260dp"
android:text="Insert" />
```

<Button

```
android:id="@+id/btnUpdate"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="252dp"
android:layout_marginTop="338dp"
android:layout_marginEnd="74dp"
android:text="Update" />
```

<Button

```
android:id="@+id/btnDelete"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="72dp"
android:layout_marginTop="426dp"
android:layout_marginEnd="254dp"
android:text="Delete" />
```

<Button

```
android:id="@+id/btnView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentTop="true"
android:layout_alignParentEnd="true"
android:layout_marginStart="256dp"
```

```
android:layout_marginTop="423dp"  
android:layout_marginEnd="70dp"  
android:text="View" />
```

```
</RelativeLayout>
```

Design a multipane user interface using fragments. Fragment1 contains the ListView with name of students. Fragment2 contains two TextView to display the name and location.

Create an APP with UI design to accept the username, password and a switch. The App should retain the data entered earlier and display the same when the app is again executed.

Create an App with the UI design below, on selecting share it should take to a new activity and display a message.

```
package com.example.menuimplementation;

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

import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.menu_options, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        int id = item.getItemId();
        switch(id){
            case R.id.opt1:
                Toast.makeText(this, "Selected Option 1", Toast.LENGTH_SHORT).show();
                Intent it = new Intent(MainActivity.this, SecondActivity.class);
                startActivity(it);
                break;
            case R.id.opt2:
                Toast.makeText(this, "Selected Option 2", Toast.LENGTH_SHORT).show();
                break;
            case R.id.opt3:
                Toast.makeText(this, "Selected Option 3", Toast.LENGTH_SHORT).show();
                break;
            default:
                return super.onOptionsItemSelected(item);
        }
        return super.onOptionsItemSelected(item);
    }
}
```

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/opt1"
        android:icon="@drawable/ic_baseline_accessible_24"
        android:title="Option 1"/>

    <item android:id="@+id/opt2"
        android:icon="@drawable/ic_baseline_accessible_forward_24"
        android:title="Option 2"/>
</menu>
```

```
<item android:id="@+id/opt3"  
      android:title="Option 3"/>  
</menu>
```

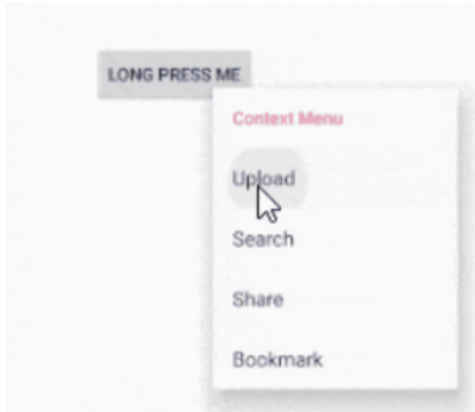
POPUP MENU

Create an App with a popup menu, on selecting any option it should display a toast message

CONTEXT MENU

38) Create an App with the UI design below, on selecting upload it should take to a new activity and display a message.

39) Create an App with the UI design below, on selecting share it should take to a new activity and display a message.



OPTIONS MENU

FRAGMENTS

23) Design an app which has two fragments that displays different greeting messages.

24) Create an app to demonstrate fragment life cycle

SQLITE

31) Design a reservation app for train with necessary fields and app should support CRUD operations

28) Design an employee app where the empid, username, sex(radiobutton), date of birth(datepicker) is read from the user. perform CRUD operation using sqllite

31) Design a reservation app for train with necessary fields and app should support CURD operations

32) Design a student registration form for an event and store the data in SQL Lite and perform CURD operations

30) Design a reservation app for bus with necessary fields and app should support CURD operations

28) Design an employee app where the empid, username, sex(radiobutton), date of birth(datepicker) is read from the user. perform CURD operation using sqllite

SPINNER

18) Create an app with a list of juices. Upon selecting one from the spinner list a Toast should pop up indicating the choice.

20) Create an android application with two activity the first activity should read the user name and on clicking a button it should take to the second activity which displays a spinner with list of colleges.

13) Create an app with a list of pizzas. Eg. Ham and pineapple, Supreme, Seafood, Italian, Meat lovers etc. Upon selecting one from the spinner list a Toast should pop up indicating the choice.

ANIMATION

36) Create an App to perform the following animation on an image zoom and blink

Create an app for animating fade in fade out and zoom in

37) Create an App to perform the following animation on an image
rotate slideup and moveup

SHAPES

25) Create an app to display rectangle circle square shapes on click of respective buttons and also a toast message should be displayed

LISTVIEW

21) Create a library app with two activities. The main activity contains the book list. On Selecting a book the app should display the selected book in the second activity.

14) Create an app with a list of pizzas. Upon selecting one from the listview a Toast should pop up indicating the choice.

16) Create an android application with two activity the first activity should display a welcome message and on clicking a button it should take to the second activity which displays a List having names of the flower.

19) Create an app with a list of schools. Upon selecting one from the listview a Toast should pop up indicating the choice.

GENERAL

15) Create two buttons with any five properties set for each view. If the user selects first button display an image and second button display the web page.

DIALOG BOX

17) Create a student log in form with usn, name and two custom radio button. Once the user clicks on submit button display an alert message to confirm submission.

6) Create a login page email id and password. The password should not be shown when the user enters the password. When the user submits the button. Display the alertdialog confirming the submission.

SHARED PREFERNECES

26) Create a login page that remembers your name and password for the next run using shraed preferences

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Switch;
import android.widget.TextView;
```

```

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    EditText et;
    TextView tv;
    Button save, show, check;

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

        et = findViewById(R.id.et);
        tv = findViewById(R.id.tv);
        show = findViewById(R.id.btn);
        save = findViewById(R.id.btn1);
        check = findViewById(R.id.showme);

        show.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                tv.setText(et.getText().toString());
            }
        });

        save.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                SharedPreferences sp = getSharedPreferences("sp_69", MODE_PRIVATE);
                SharedPreferences.Editor ed = sp.edit();
                ed.putString("NAME", "NOTHINGTOSEE");
                ed.putString("PASSWORD", et.getText().toString());
                ed.apply();
                Toast.makeText(getApplicationContext(), "Saved",
Toast.LENGTH_SHORT).show();
            }
        });

        check.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                SharedPreferences sp = getSharedPreferences("sp_69", MODE_PRIVATE);
                String username = sp.getString("NAME", "");
                String password = sp.getString("PASSWORD", "");
                Toast.makeText(getApplicationContext(), ""+username+"\n"+password,
Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```


TOAST

```
package com.example.myapplication;

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

import android.content.SharedPreferences;
import android.os.Build;
import android.os.Bundle;
import android.view.Gravity;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Switch;
import android.widget.TextView;
import android.widget.TimePicker;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button normalToast, customToast;

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

        customToast = findViewById(R.id.toastCustom);
        normalToast = findViewById(R.id.toastNormal);

        customToast.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                showToast();
            }
        });
    }

    public void showToast(){
        LayoutInflater inflater = getLayoutInflater();
        View layout = inflater.inflate(R.layout.activity_main,
(ViewGroup)findViewById(R.id.toastContainer));
        Toast t = new Toast(getApplicationContext());
        t.setDuration(Toast.LENGTH_SHORT);
        t.setView(layout);
        TextView tv = layout.findViewById(R.id.toastText);
        t.setGravity(Gravity.CENTER, 0,0);
        tv.setText("ARE YOU HAPPY?");
        t.show();
    }
}
```

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

```
tools:context=".MainActivity">
```

```
<LinearLayout
```

```
    android:id="@+id/toastContainer"
    android:layout_width="302dp"
    android:layout_height="75dp"
    android:orientation="horizontal"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.495"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.91">
```

```
    <ImageView
```

```
        android:layout_width="80dp"
        android:layout_height="80dp"
        android:background="@drawable/happy" />
```

```
    <TextView
```

```
        android:id="@+id/toastText"
        android:layout_width="210dp"
        android:layout_height="35dp"
        android:layout_gravity="center"
        android:layout_margin="5dp"
        android:layout_marginBottom="520dp" />
```

```
</LinearLayout>
```

```
<Button
```

```
    android:id="@+id/toastCustom"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="BUTTER TOAST"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.809"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.371" />
```

```
<Button
```

```
    android:id="@+id/toastNormal"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="NORMAL TOAST"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.156"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.371" />
```

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