## 1. Create an app to navigate from one activity to another using an intent object and passing data

**Steps**

1. Create Empty activity
1. Add editText and button
2. Add new Empty Activity
3. Add Textview in second activity
4. Code MainActivity.java

```
public class MainActivity extends AppCompatActivity {

    EditText editText;

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

        editText=findViewById(R.id.editTextTextPersonName);
    }

    public void nextPage(View view){
         Intent i=new Intent(this,MainActivity2.class);
         String text=editText.getText().toString();
         i.putExtra("Name",text);
         startActivity(i);
     }
}
```

5. Code MainActivity2.java

```
public class MainActivity2 extends AppCompatActivity {

    TextView textView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        textView=findViewById(R.id.textView2);
        Intent i =getIntent();
        String text=i.getStringExtra("Name");
        textView.setText("your text"+text);
    }
}
```

**2. Devise a Mobile App to showcase graphics on button states and add a widget at run time**

**Steps**

1. Create Empty activity
2. Copy paste button in drawable>24drawbale folder
3. New Drawable resource file

```
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
    <item
    android:state_enabled="false"
    android:drawable="@drawable/button_disabled"
    />
    <item
        android:state_pressed="true"
        android:drawable="@drawable/button_pressed"/>
    <item
        android:drawable="@drawable/button_default"/>
</selector>
```

4. Add new ImageButton widget and add change.xml to it
5. Add new switch
6. Add id to constraint layout
7. Code MainActivity.java

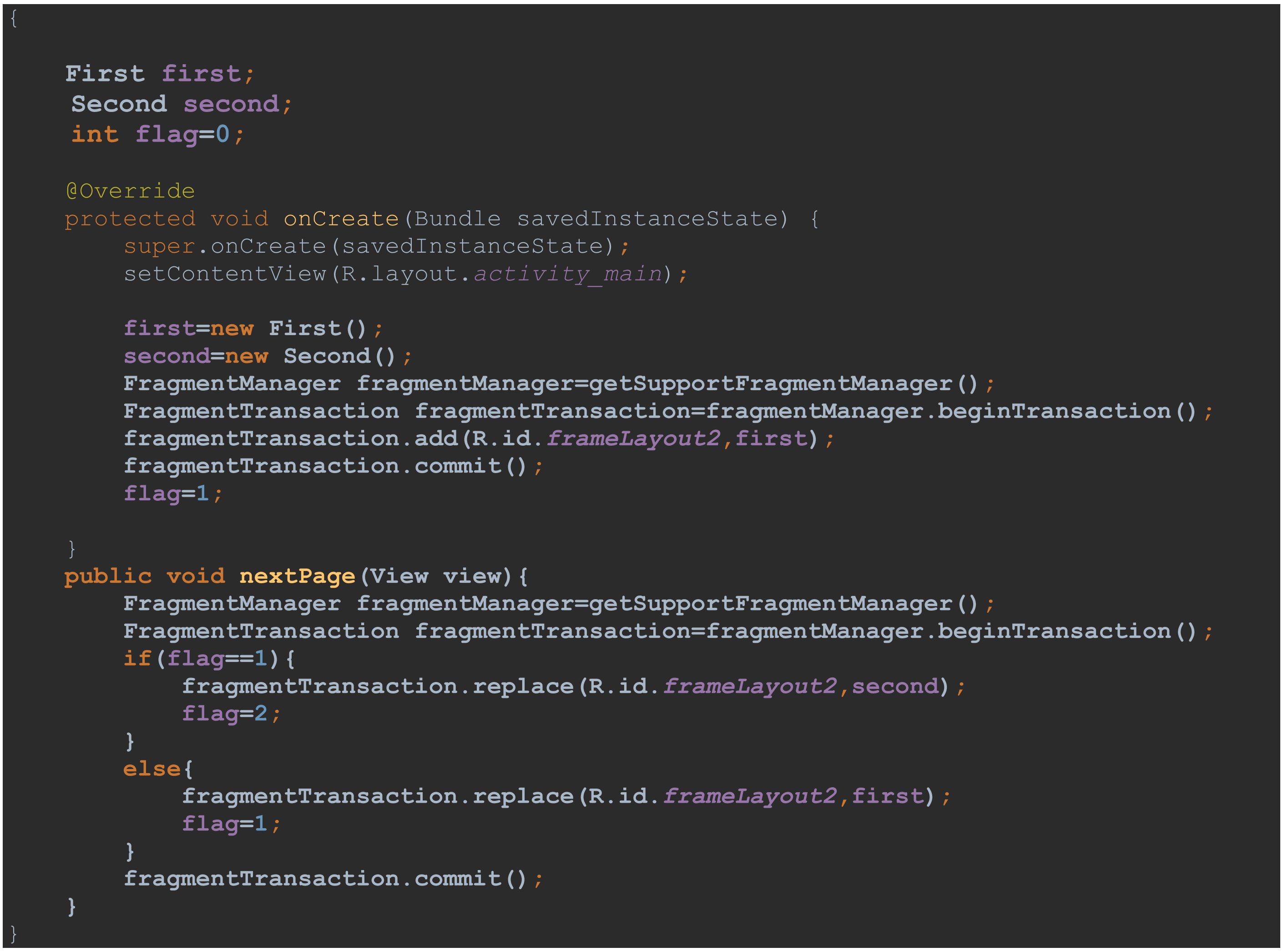
```
public class MainActivity extends AppCompatActivity {

    ImageButton imageButton;
    Switch aSwitch;
    ConstraintLayout constraintLayout;

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

        imageButton=findViewById(R.id.imageButton);
         aSwitch=findViewById(R.id.switch1);
         constraintLayout=findViewById(R.id.cl);

        aSwitch.setOnCheckedChangeListener(new
                    CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView,
                                          boolean isChecked) {
                if(isChecked){
                    imageButton.setEnabled(true);
                }
                else
                    imageButton.setEnabled(false);
            }
         });
    }
    public void nextPage(View view){
         Toast.makeText(this, "Clicked", Toast.LENGTH_SHORT).show();
         DatePicker datePicker=new DatePicker(this);
         constraintLayout.addView(datePicker);

    }
}
```

8. Add **android:background="@null"** in xml

## 3. Demonstrate adding and removing fragments at run time.

**Steps**

1. Create Empty Actvity
2. Add 2 fragments File>new>Fragment(Blank)
3. Add button and frame layout in MainActivity.xml
4. Code MainActivity.java



```
{

    First first;
     Second second;
     int flag=0;

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

        first=new First();
        second=new Second();
        FragmentManager fragmentManager=getSupportFragmentManager();
        FragmentTransaction fragmentTransaction=fragmentManager.beginTransaction();
        fragmentTransaction.add(R.id.frameLayout2,first);
        fragmentTransaction.commit();
        flag=1;

    }
    public void nextPage(View view){
        FragmentManager fragmentManager=getSupportFragmentManager();
        FragmentTransaction fragmentTransaction=fragmentManager.beginTransaction();
        if(flag==1){
            fragmentTransaction.replace(R.id.frameLayout2,second);
            flag=2;
        }
        else{
            fragmentTransaction.replace(R.id.frameLayout2,first);
            flag=1;
        }
        fragmentTransaction.commit();
    }
}
```

**4. Develop an app to display a ProgressBar and show a message with AlertDialog**

**Steps:**

1. Create Empty Actvity
2. Add progress bar and button
3. Code

```
public void nextPage(View view){

    AlertDialog.Builder ab=new AlertDialog.Builder(this);
    ab.setIcon(R.drawable.ic_launcher_background);
    ab.setTitle("EXIT?");
    ab.setMessage("Exit Sure??");

    ab.setPositiveButton("YES", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            finish();
        }
    });

    ab.setNegativeButton("NO", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            Toast.makeText(MainActivity.this, "WELCOME BACK",
Toast.LENGTH_SHORT).show();
        }
    });

    ab.setNeutralButton("CANCEL", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            Toast.makeText(MainActivity.this, "WELCOME AGINN",
Toast.LENGTH_SHORT).show();
        }
    });

    AlertDialog alertDialog=ab.create();
    alertDialog.show();
}
```

## 5. Implement an application that will create a database with a table of user credentials and create a login portal system

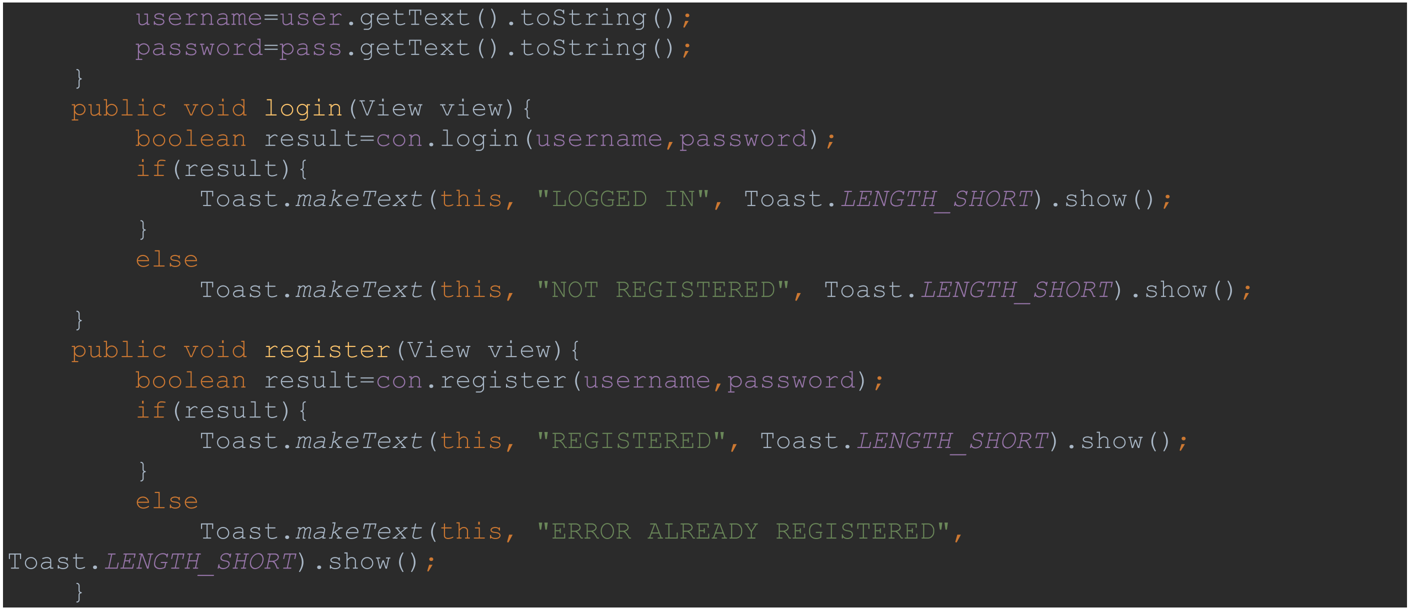
**Steps**

1.Create empty activity add 2 editTExt and 2 button

2.Create new java class Connection

```
public class Connection extends SQLiteOpenHelper {
    public Connection(Context context) {
        super(context, "login.db", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table login(username TEXT, password TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("drop table if exists login");
    }
    public  boolean register(String name,String password){
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues cv=new ContentValues();
        cv.put("username",name);
        cv.put("password",password);

        int result=(int)db.insert("login",null,cv);
        if(result==-1)
            return false;
        else
            return true;
    }

    public boolean login(String name,String password){
        SQLiteDatabase db=this.getReadableDatabase();
        Cursor c=db.rawQuery("select * from login where username=? and password=?",new
String[]{name,password});
        if(c.getCount()>0)
            return true;
        else
            return false;
    }
}
```

```
public class MainActivity extends AppCompatActivity {

    EditText user,pass;
    String username,password;
    Connection con;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        user=findViewById(R.id.editTextTextPersonName);
        pass=findViewById(R.id.editTextTextPassword);
        con=new Connection(this);
```



```
        username=user.getText().toString();
        password=pass.getText().toString();
    }
    public void login(View view){
        boolean result=con.login(username,password);
        if(result){
            Toast.makeText(this, "LOGGED IN", Toast.LENGTH_SHORT).show();
        }
        else
            Toast.makeText(this, "NOT REGISTERED", Toast.LENGTH_SHORT).show();
    }
    public void register(View view){
        boolean result=con.register(username,password);
        if(result){
            Toast.makeText(this, "REGISTERED", Toast.LENGTH_SHORT).show();
        }
        else
            Toast.makeText(this, "ERROR ALREADY REGISTERED",
Toast.LENGTH_SHORT).show();
    }
```

**6. Develop an application to send SMS to a particular contact from the Phonebook.**

**Steps:**

1. Create Empty Activity
2. Add two EditText and a Button
3. Code MainActivity

```
public class MainActivity extends AppCompatActivity {

    String number,message;

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

        number=findViewById(R.id.editTextTextPersonName).toString();
        message=findViewById(R.id.editTextTextPersonName2).toString();
    }
    public void sendSMS(View view){
        try {
            SmsManager smsManager = SmsManager.getDefault();
            smsManager.sendTextMessage(number, null, message, null, null);
            Toast.makeText(this, "Sent SMS", Toast.LENGTH_SHORT).show();
        }
        catch (Exception e){
            Toast.makeText(this, (CharSequence) e, Toast.LENGTH_SHORT).show();
        }
    }
}
```

## 7 8. Build a simple web page using PWA by adding a Service Worker.

**Steps:**

1. Check nodejs and npm are there or not in ubuntu.

   - whereis nodejs
   - whereis npm

2. if nodejs and npm are not there in ubuntu first install nodejs and npm.

   - sudo apt install nodejs
   - sudo apt install npm

3. Then install npm in vs code

   - npm install

4. Then start npm

   - npm start

5.create manifest file:-

   - public->right click->new file->manifest.json

6.create sw.js file:-

   - public->right click->new file->sw.js

7.ctrl+shift+i-open developer option

**index.html:-**

```
<head>
<link rel="manifest" href="manifest.json">
</head>
<body>
<script>
        if('serviceWorker' in navigator)
        {
                navigator.serviceWorker.register('sw.js')
                .then((reg) => console.log('ServiceWorker is register',reg))
                .catch((err) => console.log('ServiceWorker is not register',err))
        }
</script>
</body>
```

**sw.js:-**

```
self.addEventListener('install',event=>
console.log('ServiceWorker is installed',event)
);

self.addEventListener('activate',event=>

console.log('ServiceWorker is Actived',event)

);

self.addEventListener('fetch',event=>

console.log('ServiceWorker is fetch',event)

);
```

**manifest.json:-**

```
{

        "name": "Login in PWA",

         "short_name": "login",

         "dir": "ltr",

        "display": "fullscreen",

        "orientation": "portrait-primary",

        "scope": ".",

        "start_url": "index.html",

        "id": "index.html",

        "background_color": "#e2e2e2",

        "theme_color": "#e2e2e2",

         "description": "The is Simple Program",

        "icons":

        [

                {

                         "src": "/images/icons/icon-72x72.png",

                        "type": "image/png",

                         "sizes": "72x72"

                 },

                 {

                        "src": "/images/icons/icon-128x128.png",

                        "type": "image/png",

                        "sizes": "128x128"

                }

         ]

}
```