

## PART-A

1. Write an application to demonstrate the activity lifecycle by logging the activities in the LogCat or toast at every stage

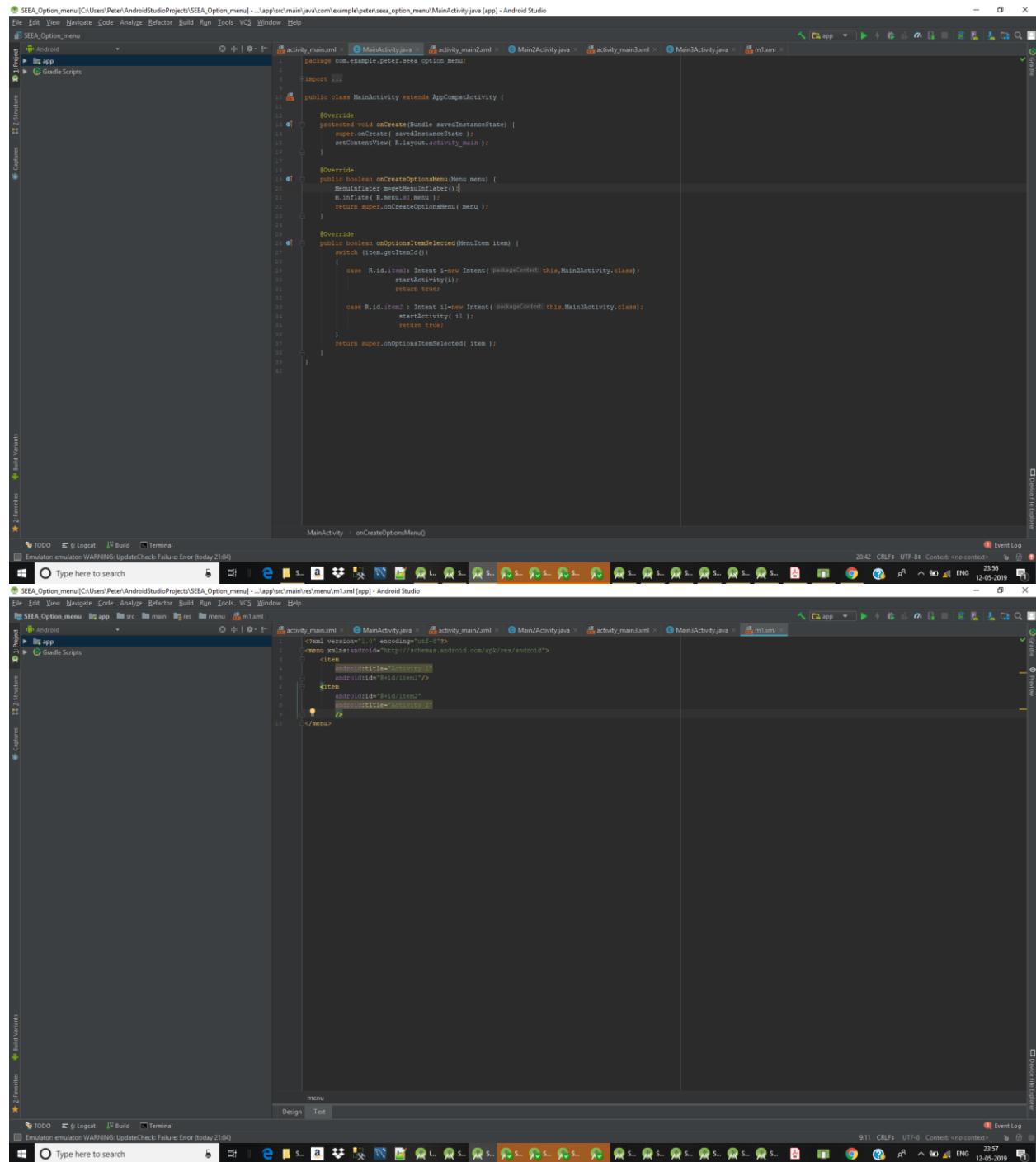
```
a\com\example\peter\logdefcts>MainActivity.java [app] - Android Studio
Window Help
activity_main.xml MainActivity.java
1 package com.example.peter.logdefcts;
2
3 import android.support.v7.app.AppCompatActivity;
4 import android.os.Bundle;
5 import android.util.Log;
6
7 public class MainActivity extends AppCompatActivity {
8
9     @Override
10    protected void onCreate(Bundle savedInstanceState) {
11        super.onCreate(savedInstanceState);
12        setContentView(R.layout.activity_main);
13        Log.d(tag, "Lifecycle", msg: "On Create");
14    }
15
16    @Override
17    protected void onStart() {
18        super.onStart();
19        Log.d(tag, "Lifecycle", msg: "On Start");
20    }
21
22    @Override
23    protected void onStop() {
24        super.onStop();
25        Log.d(tag, "Lifecycle", msg: "On Stop");
26    }
27
28    @Override
29    protected void onPause() {
30        super.onPause();
31        Log.d(tag, "Lifecycle", msg: "On Pause");
32    }
33
34    @Override
35    protected void onResume() {
36        super.onResume();
37        Log.d(tag, "Lifecycle", msg: "On Resume");
38    }
39
40    @Override
41    protected void onDestroy() {
42        super.onDestroy();
43        Log.d(tag, "Lifecycle", msg: "On Destroy");
44    }
45}
```

2. Create an application which generates a random color on each click.

```
ster\AndroidStudioProjects\SEABackgrndclr - ...app\src\main\java\com\example\peter\sea_backgrndclr>MainActivity.java [app] - Android Studio
File Analyze Refactor Build Run Tools VCS Window Help
src main java com example peter sea_backgrndclr MainActivity
activity_main.xml MainActivity.java
Gradle project sync failed. Basic functionality (e.g. editing, debugging) will not work properly.
1 package com.example.peter.sea_backgrndclr;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6     Button B;
7
8     @Override
9     protected void onCreate(Bundle savedInstanceState) {
10         super.onCreate(savedInstanceState);
11         setContentView(R.layout.activity_main);
12         B=(Button)findViewById(R.id.button);
13         B.setOnClickListener(new View.OnClickListener() {
14             @Override
15             public void onClick(View view) {
16                 RelativeLayout r=(RelativeLayout)findViewById(R.id.rel);
17                 Random gen=new Random();
18                 r.setBackgroundColor(Color.rgb(gen.nextInt(bound: 256),gen.nextInt(bound: 256),gen.nextInt(bound: 256)));
19             }
20         });
21     }
22 }
```

Sync failed at 12-05-2019 18:36 with 6 errors  
Unable to resolve dependency for ':app@debug/compileClasspath': Could not resolve com.android.support:appcompat-v7:28.+. Open File Show Details

### 3. Implement option menu concept in application to choose between two activities.



The screenshot shows the Android Studio interface with two tabs open: MainActivity.java and activity\_main.xml.

**MainActivity.java:**

```
1 package com.example.peter.seea_option_menu;
2
3 import android.os.Bundle;
4 import android.view.Menu;
5 import android.view.MenuItem;
6 import android.widget.Toast;
7
8 public class MainActivity extends AppCompatActivity {
9
10     @Override
11     protected void onCreate(Bundle savedInstanceState) {
12         super.onCreate(savedInstanceState);
13         setContentView(R.layout.activity_main);
14     }
15
16     @Override
17     public boolean onCreateOptionsMenu(Menu menu) {
18         getMenuInflater().inflate(R.menu.m1,menu);
19         return super.onCreateOptionsMenu(menu);
20     }
21
22     @Override
23     public boolean onOptionsItemSelected(MenuItem item) {
24         switch (item.getItemId()) {
25             case R.id.item1: Intent i=new Intent(getApplicationContext(),Main2Activity.class);
26                 startActivity(i);
27                 return true;
28
29             case R.id.item2: Intent ii=new Intent(getApplicationContext(),MainActivity.class);
30                 startActivity(ii);
31                 return true;
32         }
33         return super.onOptionsItemSelected(item);
34     }
35 }
```

**activity\_main.xml:**

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/item1"
        android:title="Main2Activity"/>
    <item
        android:id="@+id/item2"
        android:title="MainActivity"/>
</menu>
```

#### 4. Implement context menu concept in application to change the background color.

The screenshot shows two instances of the Android Studio interface. The top instance displays the `MainActivity.java` file, which contains Java code for handling context menus. The bottom instance displays the `m1.xml` file, which is an XML resource for a context menu. Both files are part of the `com.example.peter.seea_context_menu` project.

**MainActivity.java** (Top Window)

```
package com.example.peter.seea_context_menu;
import android.os.Bundle;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    TextView textView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textView = findViewById(R.id.textView);
        registerForContextMenu(textView);
    }
    @Override
    public void onCreateOptionsMenu(Menu menu, MenuInflater inflater) {
        inflater.inflate(R.menu.m1, menu);
        super.onCreateContextMenu(menu, inflater);
    }
    @Override
    public boolean onContextItemSelected(MenuItem item) {
        RelativeLayout rl = (RelativeLayout) findViewById(item.getItemId());
        switch (item.getItemId()) {
            case R.id.red:
                rl.setBackgroundDrawable(Color.RED);
                return true;
            case R.id.green:
                rl.setBackgroundDrawable(Color.GREEN);
                return true;
        }
        return super.onContextItemSelected(item);
    }
}
```

**m1.xml (Bottom Window)**

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:title="Red">
        <!-- android:background="#ff0000"-->
        <!-- android:id="@+id/red"-->
    </item>
    <item android:title="Green">
        <!-- android:background="#00ff00"-->
        <!-- android:id="@+id/green"-->
    </item>
</menu>
```

## 5. Write an application to send SMS using Intent class.

The screenshot shows two windows of the Android Studio interface. The top window displays the `MainActivity.java` file, which contains Java code for handling an incoming intent to send an SMS. The bottom window shows the `activity_main.xml` layout file, which defines a UI with two `EditText` fields and a `Button`.

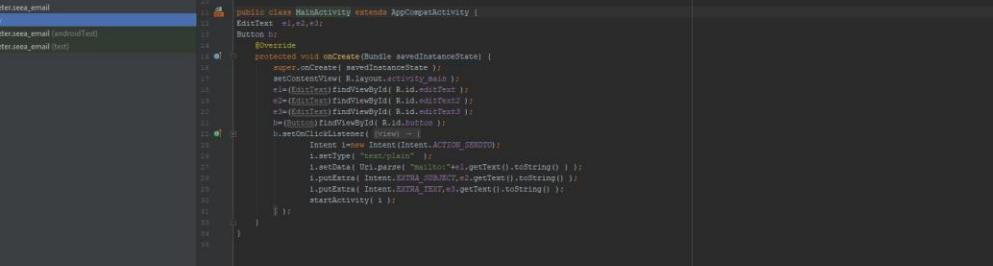
```
package com.example.peter.seea_sms;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText editText1 = findViewById(R.id.editText1);
        editText1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String phone = editText1.getText().toString();
                Intent intent = new Intent(Intent.ACTION_SENDTO);
                intent.setData(Uri.parse("smsto:" + phone));
                intent.putExtra("sms_body", editText2.getText().toString());
                startActivity(intent);
            }
        });
    }
}
```

The `activity_main.xml` layout file defines a `ConstraintLayout` with the following components and constraints:

- `editText1`: An `EditText` with ID `editText1`. It has a vertical constraint to the top with a height of 128, a vertical constraint to the bottom of `editText2` with a height of 210, and horizontal constraints to the left and right edges of the screen with a width of 72 each.
- `editText2`: An `EditText` with ID `editText2`. It has a vertical constraint to the top of `editText1` with a height of 72, a vertical constraint to the bottom of the `BUTTON` with a height of 284, and horizontal constraints to the left and right edges of the screen with a width of 72 each.
- `BUTTON`: A `Button` with ID `BUTTON`. It is positioned below `editText2` and has a horizontal constraint to the left edge of the screen with a width of 144.

6. Implement phone call concept in application by passing number from the user.

7. Demonstrate the sending of an email with the help of a registered email client on your android phone.

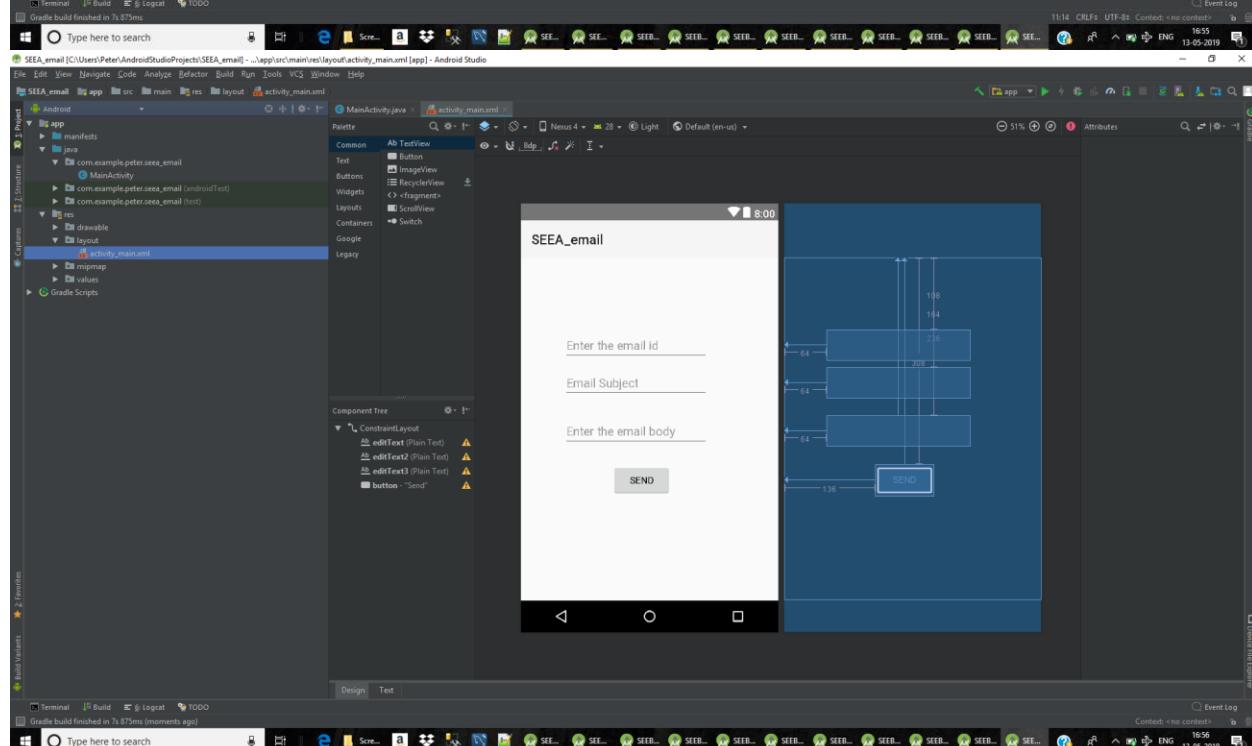


The screenshot shows the Android Studio interface with the project 'SEA\_email' open. The main window displays the Java code for 'MainActivity'. The code defines a class 'MainActivity' that extends 'AppCompatActivity'. It contains an 'onCreate' method that sets the content view to 'activity\_main', initializes an 'EditText' for email and password, and an 'EditText' for subject and message. It then creates an intent for sending an email with the recipient's email as the subject and the message body as the message. The code ends with a call to 'startActivity'.

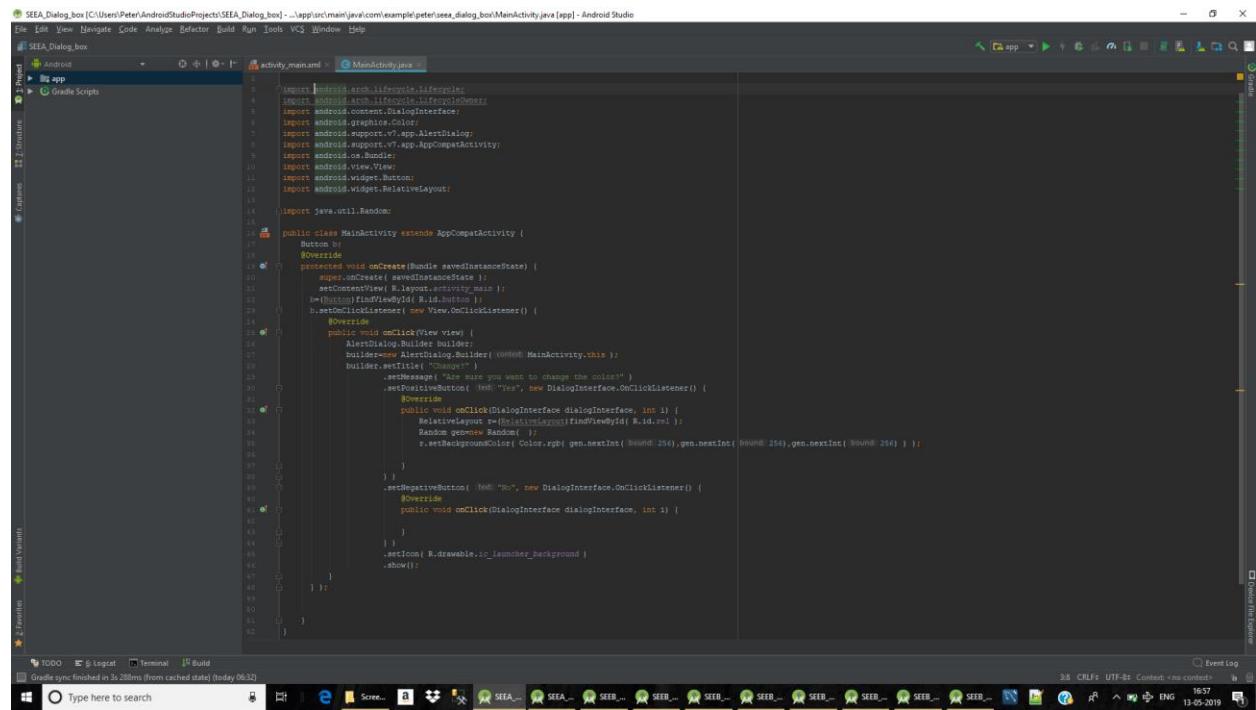
```
package com.example.peter.sea_email;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText et1,et2,et3;
    Button b1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et1=(EditText)findViewById(R.id.editText);
        et2=(EditText)findViewById(R.id.editText2);
        et3=(EditText)findViewById(R.id.editText3);
        b1=(Button)findViewById(R.id.button);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i=new Intent(Intent.ACTION_SENDTO);
                i.setType("text/plain");
                i.putExtra("android.intent.extra.TEXT",et1.getText().toString());
                i.putExtra(Intent.EXTRA_SUBJECT,et2.getText().toString());
                i.putExtra(Intent.EXTRA_TEXT,et3.getText().toString());
                startActivity(i);
            }
        });
    }
}
```



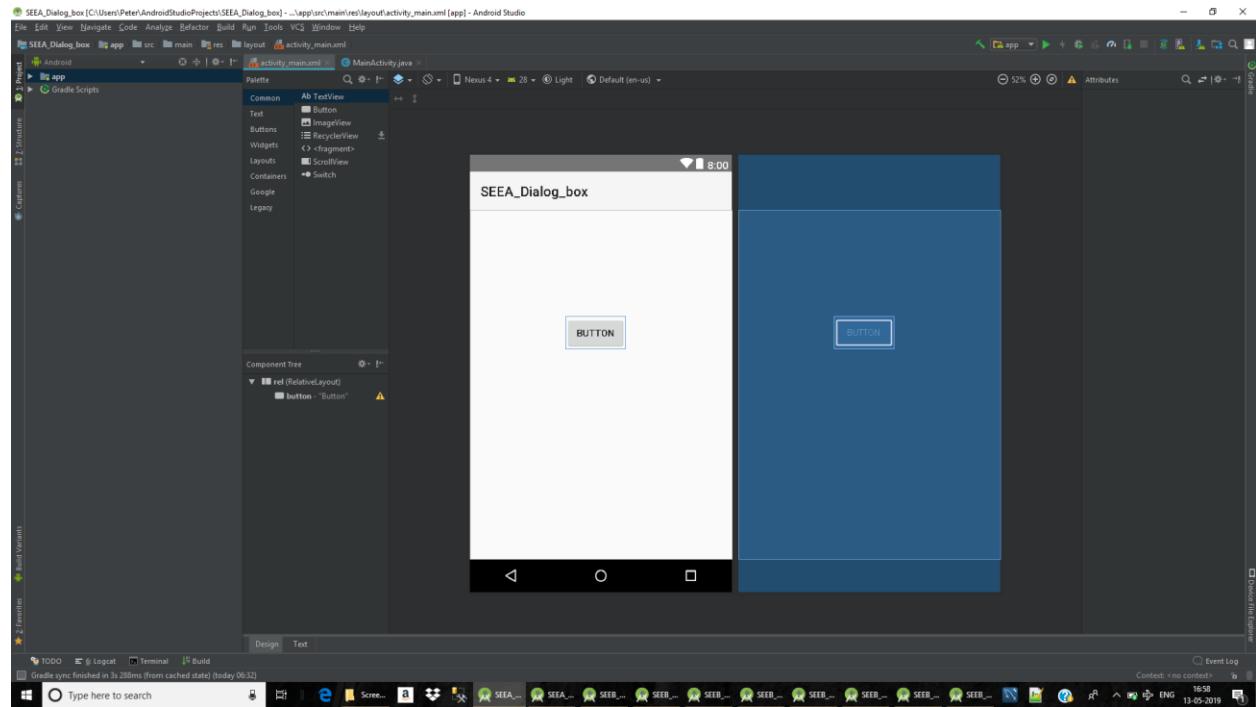
## 8. Write an application to make a dialogue box to confirm the change of background color or image.



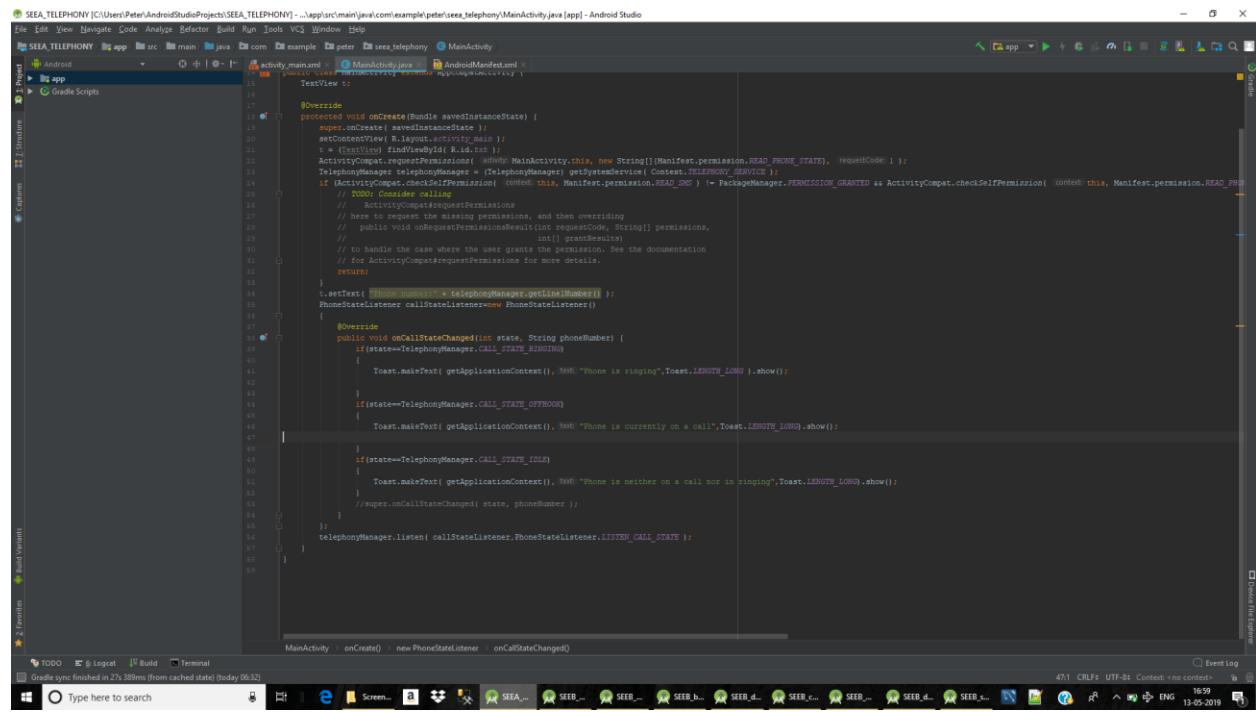
The screenshot shows the Android Studio interface with the code editor open. The file is `Mainactivity.java`. The code implements a custom dialog box that changes the background color based on user input. It uses Java's `Random` class to generate colors and an `AlertDialog.Builder` to build the dialog. The dialog has two buttons: "Yes" and "No". If "Yes" is clicked, it changes the background color of the main activity to a random shade of blue. If "No" is clicked, it remains white. The code also includes a placeholder for a `SEED...` icon.

```
import android.arch.lifecycle.Lifecycle;
import android.arch.lifecycle.LifecycleObserver;
import android.arch.lifecycle.OnLifecycleEvent;
import android.graphics.Color;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RelativeLayout;
import java.util.Random;

public class Mainactivity extends AppCompatActivity {
    Button b;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b=(Button) findViewById(R.id.button);
        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                AlertDialog.Builder builder;
                builder=new AlertDialog.Builder(MainActivity.this);
                builder.setTitle("Color");
                builder.setMessage("Do you want to change the color?");
                builder.setPositiveButton("Yes", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                        Random random = new Random();
                        int r = random.nextInt(256);
                        int g = random.nextInt(256);
                        int b = random.nextInt(256);
                        r.setBackgroundColors(Color.rgb(g.nextInt(256),g.nextInt(256),g.nextInt(256)));
                    }
                });
                builder.setNegativeButton("No", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {
                    }
                });
                builder.setIcon(R.drawable.ic_launcher_background);
                builder.show();
            }
        });
    }
}
```



9. Write an app to read phone status and phone number using telephony API.



The screenshot shows the Android Studio interface with the project 'SEEA\_TELEPHONY' open. The main window displays the Java code for 'MainActivity.java'. The code uses the TelephonyManager to monitor call states and retrieve the phone number. It includes permission requests for READ\_PHONE\_STATE and READ\_CONTACTS, and handles various call state transitions like RINGING, OFFHOOK, and IDLE.

```
package com.example.peter.seea_telephony;
import android.os.Bundle;
import android.telephony.PhoneStateListener;
import android.telephony.TelephonyManager;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.List;
import java.util.StringTokenizer;

public class MainActivity extends AppCompatActivity {
    TextView textView;
    TelephonyManager telephonyManager;
    String phoneNumber;
    PhoneStateListener callStateListener;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textView = findViewById(R.id.textView);
        ActivityCompat.requestPermissions(this, new String[]{Manifest.permission.READ_PHONE_STATE}, requestCode: 1);
        telephonyManager = (TelephonyManager) getSystemService(Context.TELEPHONY_SERVICE);
        if (ActivityCompat.checkSelfPermission(this, Manifest.permission.READ_PHONE_STATE) != PackageManager.PERMISSION_GRANTED && ActivityCompat.checkSelfPermission(this, Manifest.permission.READ_PHONE_STATE) == PackageManager.PERMISSION_GRANTED)
            return;
        telephonyManager.listen(callStateListener, PhoneStateListener.LISTEN_CALL_STATE);
    }

    @Override
    public void onCallStateChanged(int state, String phoneNumber) {
        if (state == TelephonyManager.CALL_STATE_RINGING) {
            Toast.makeText(getApplicationContext(), "Phone is ringing", Toast.LENGTH_LONG).show();
        }
        if (state == TelephonyManager.CALL_STATE_OFFHOOK) {
            Toast.makeText(getApplicationContext(), "Phone is currently on a call", Toast.LENGTH_LONG).show();
        }
        if (state == TelephonyManager.CALL_STATE_IDLE) {
            Toast.makeText(getApplicationContext(), "Phone is neither on a call nor is ringing", Toast.LENGTH_LONG).show();
        }
    }
}
```

10. Write an app to capture the image using camera and set it as background for your app.

The screenshot shows two tabs open in the main editor area of Android Studio:

- MainActivity.java**: The code defines a Main Activity that extends AppCompatActivity. It contains methods for onCreate, onClick, and onActivityResult. The onClick method handles a camera capture intent. The onActivityResult method retrieves a Bitmap from the Intent's extras and sets it as the background of a relative layout.
- AndroidManifest.xml**: The manifest file declares a single activity named com.example.peter.seea\_camera. It includes a uses-feature tag for android.hardware.camera. The application tag specifies a launcher icon and supports landscape orientation. The activity tag has an intent-filter for the home action and a category for the launcher.

The bottom of the screen shows the Android Studio interface with toolbars, a search bar, and a taskbar with various icons.

2

## PART-B

- Implement an AsyncTask to count from 1 to 1000 in the background and the display the progress using progress bar on the screen.

The screenshot shows the Android Studio interface with two windows open:

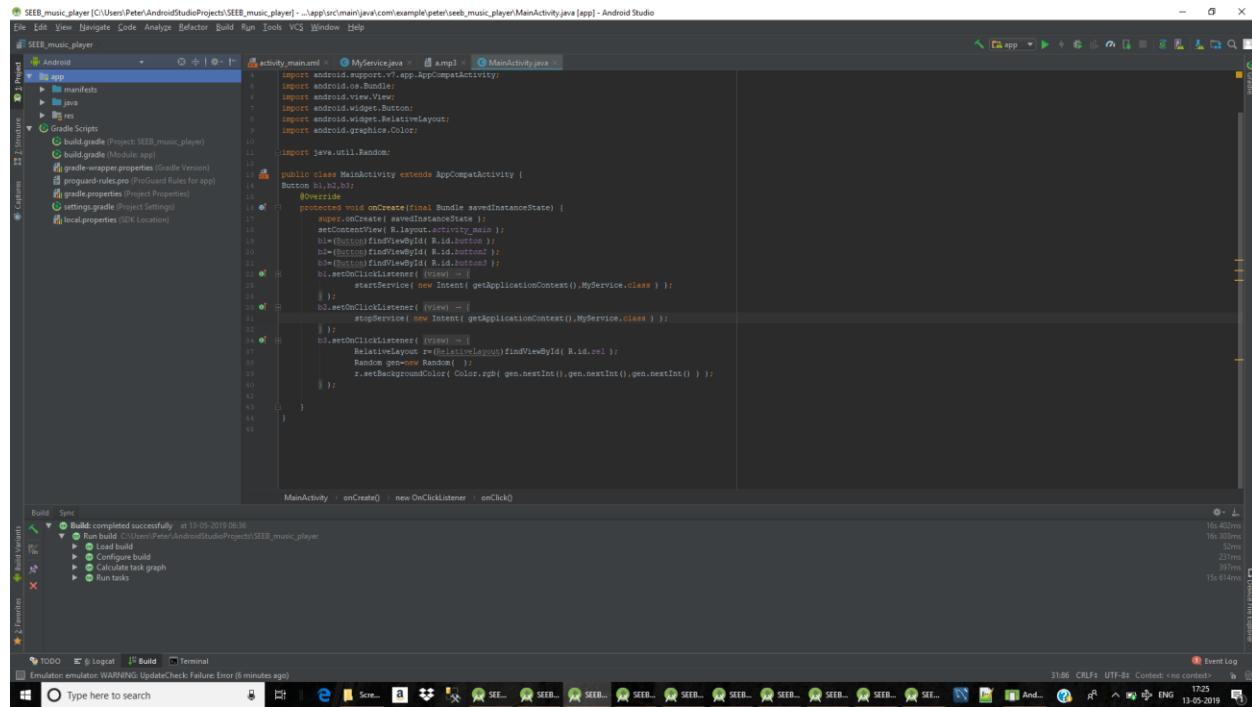
- Code Editor:** Displays the Java code for `MainActivity.java`. The code implements `View.OnClickListener` and uses an `AsyncTask` to count from 1 to 1000, updating a progress bar and text view in the UI.
- Design View:** Shows the layout XML for `activity_main.xml`. It contains a button labeled "START" and a horizontal progress bar. The progress bar's width is set to 280dp, and its maximum value is 1000. The layout also includes constraints for the button and progress bar.

```

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
    ...
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button bt;
        TextView ti;
        Button bt;
        ...
        bt.setOnClickListener(this);
        ti=findViewById(R.id.textView);
        pb=(ProgressBar)findViewById(R.id.progressBar);
        bt.setOnClickListener(this);
    }
    ...
    @Override
    public void onClick(View view) {
        if (view==bt) {
            t1=new Thread();
            t1.execute("1000");
        }
    }
    class t1 extends AsyncTask<String, Integer, String> {
        ...
        protected void onPreExecute() {
            super.onPreExecute();
        }
        ...
        protected String doInBackground(String... strings) {
            int max=Integer.parseInt(strings[0]);
            int i=0;
            while(i<max) {
                try {
                    Thread.sleep(1000);
                } catch (InterruptedException e) {
                    e.printStackTrace();
                }
                i++;
                publishProgress(i);
            }
            return null;
        }
        ...
        protected void onProgressUpdate(Integer... values) {
            pb.setProgress(values[0]);
            ti.setText("Value is "+String.valueOf(values[0]));
            super.onProgressUpdate(values);
        }
    }
}
Mainactivity : onClick()

```

2. Implement a service concept to play the music in the background for long duration and perform a foreground job.



```

SEEB_music_player [C:\Users\Peter\AndroidStudioProjects\SEEB_music_player - ...] app\src\main\java\com\example\peter\seeb_music_player>MainActivity.java [app] - Android Studio

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RelativeLayout;
import android.graphics.Color;
import java.util.Random;

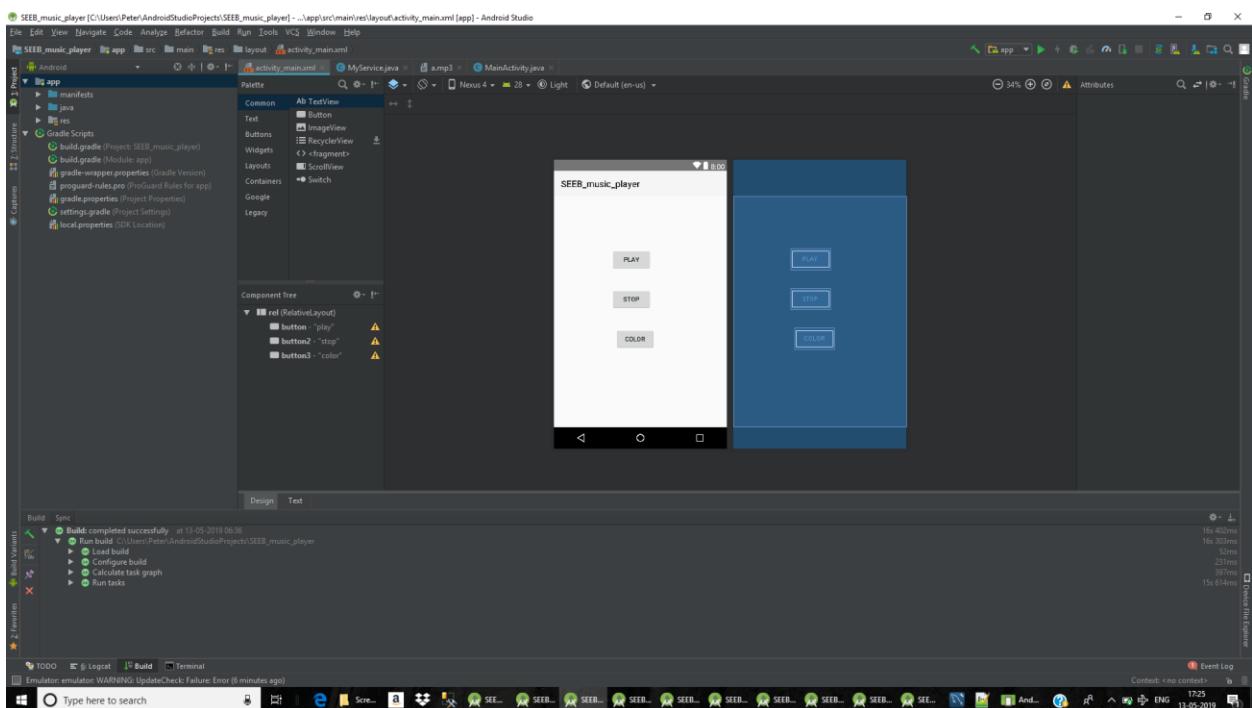
public class MainActivity extends AppCompatActivity {
    Button b1,b2,b3;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=(Button)findViewById(R.id.button);
        b2=(Button)findViewById(R.id.button2);
        b3=(Button)findViewById(R.id.button3);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startService(new Intent(getApplicationContext(),MyService.class));
            }
        });
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                stopService(new Intent(getApplicationContext(),MyService.class));
            }
        });
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                RelativeLayout r=(RelativeLayout)findViewById(R.id.rel);
                Random gen=new Random();
                r.setBackgroundColor(Color.rgb(gen.nextInt(),gen.nextInt(),gen.nextInt()));
            }
        });
    }
}

```

Build Sync Build completed successfully at 13-05-2019 06:38

- Run build C:\Users\Peter\AndroidStudioProjects\SEEB\_music\_player
- Load build
- Configure build
- Calculate task graph
- Run tasks

Event Log: 31:06 CRLF: UTF-8 Context: <no context> 17:25 13-05-2019



```

SEEB_music_player [C:\Users\Peter\AndroidStudioProjects\SEEB_music_player] - app\src\main\java\com\example\peter\seeb_music_player\MyService.java [app] - Android Studio
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
SEEB_music_player app src main java com example peter seeb_music_player MyService
Android
Project Structure
Gradle Scripts
build.gradle (Project: SEEB_music_player)
build.gradle (Module: app)
gradle-wrapper.properties (Gradle Version)
proguard-rules.pro (ProGuard Rules for app)
gradle.properties (Project Properties)
settings.gradle (Project Setting)
local.properties (SDK Location)

activity_main.xml MyService.java amp MainActivity.java
1 package com.example.peter.seeb_music_player;
2 import android.app.Service;
3 import android.content.Intent;
4 import android.media.MediaPlayer;
5
6 public class MyService extends Service {
7     public MyService() {
8     }
9
10     @Override
11     public void onCreate() {
12         super.onCreate();
13         MediaPlayer music;
14
15         @Override
16         public void onStart(Intent intent, int startId) {
17             super.onStart(intent, startId);
18             music.start();
19         }
20
21         @Override
22         public void onDestroy() {
23             super.onDestroy();
24             music.stop();
25         }
26
27         @Override
28         public void onBind(Intent intent) {
29             // TODO: Return the communication channel to the service.
30             throw new UnsupportedOperationException("Not yet implemented");
31         }
32     }
33
34     @Override
35     protected void onStart(Intent intent, int startId) {
36         super.onStart(intent, startId);
37         music.start();
38     }
39
40     @Override
41     protected void onDestroy() {
42         super.onDestroy();
43     }
44
45     @Override
46     protected void onBind(Intent intent) {
47         super.onBind(intent);
48         IntentFilter filter = new IntentFilter();
49         filter.addAction("android.intent.action.BATTERY_CHANGED");
50         registerReceiver(b, filter);
51     }
52
53     @Override
54     protected void onStop() {
55         super.onStop();
56         unregisterReceiver(b);
57     }
58 }

```

Build Sync

- Build completed successfully at 13-05-2019 06:36
- Run build C:\Users\Peter\AndroidStudioProjects\SEEB\_music\_player
- Configure build
- Calculate task graph
- Run tasks

Event Log

Type here to search

### 3. Implement broadcast receiver to carry out the following:

```

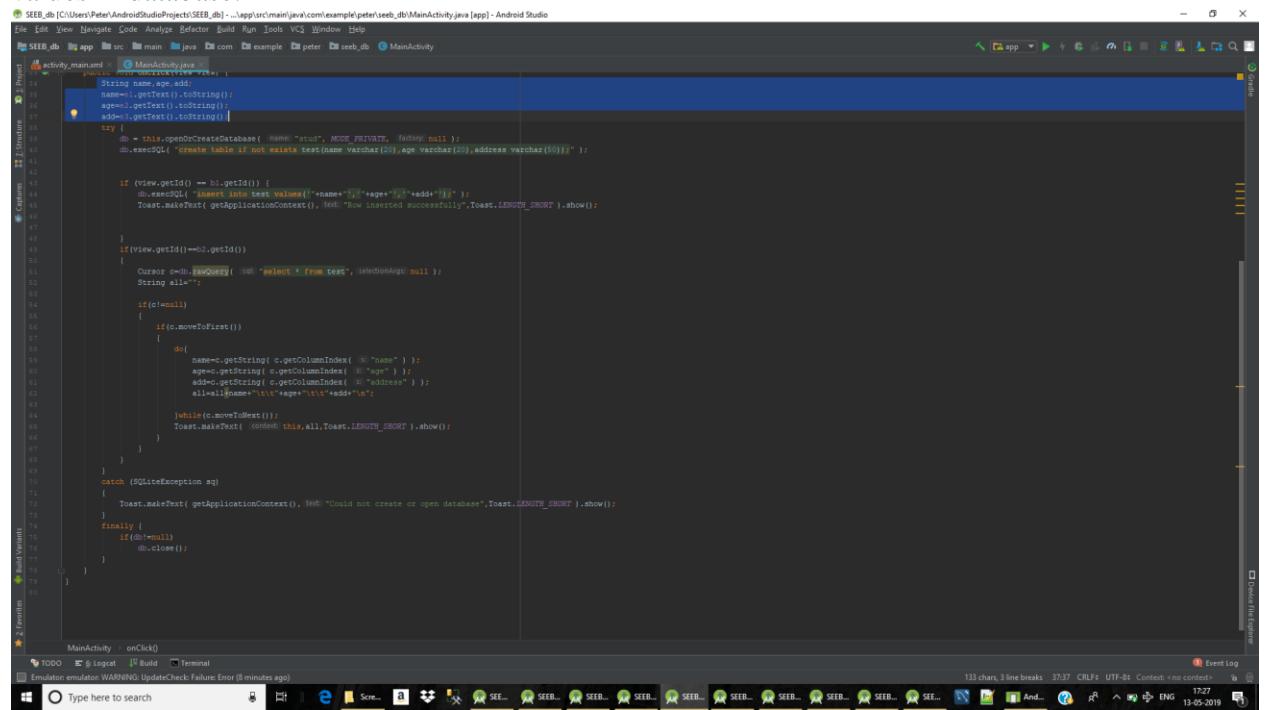
SEEB_batterylevel [C:\Users\Peter\AndroidStudioProjects\SEEB_batterylevel] - app\src\main\java\com\example\peter\seeb_batterylevel\MainActivity.java [app] - Android Studio
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
SEEB_batterylevel app src main java com example peter seeb_batterylevel MainActivity
activity_main.xml MainActivity.java amp
1 package com.example.peter.seeb_batterylevel;
2 import android.graphics.Color;
3
4 public class MainActivity extends AppCompatActivity {
5     TextView t;
6     ProgressBar pb;
7     BroadcastReceiver b;
8
9     @Override
10    protected void onCreate(Bundle savedInstanceState) {
11        super.onCreate(savedInstanceState);
12        setContentView(R.layout.activity_main);
13        t=(TextView)findViewById(R.id.txt);
14        pb=(ProgressBar)findViewById(R.id.progressBar);
15        b=(BroadcastReceiver) new BroadcastReceiver() {
16            @Override
17            public void onReceive(Context context, Intent intent) {
18                int level=intent.getIntExtra(BatteryManager.EXTRA_LEVEL, defaultValue);
19                if(level==100)
20                    t.setBackgroundColor(Color.GREEN);
21                else if(level>30)
22                    t.setBackgroundColor(Color.BLUE);
23                else
24                    t.setBackgroundColor(Color.RED);
25            }
26        };
27
28        @Override
29        protected void onStart() {
30            super.onStart();
31            registerReceiver(b,new IntentFilter( Intent.ACTION_BATTERY_CHANGED ) );
32        }
33
34        @Override
35        protected void onStop() {
36            super.onStop();
37            unregisterReceiver(b);
38        }
39    }
40
41 }

```

Event Log

Type here to search

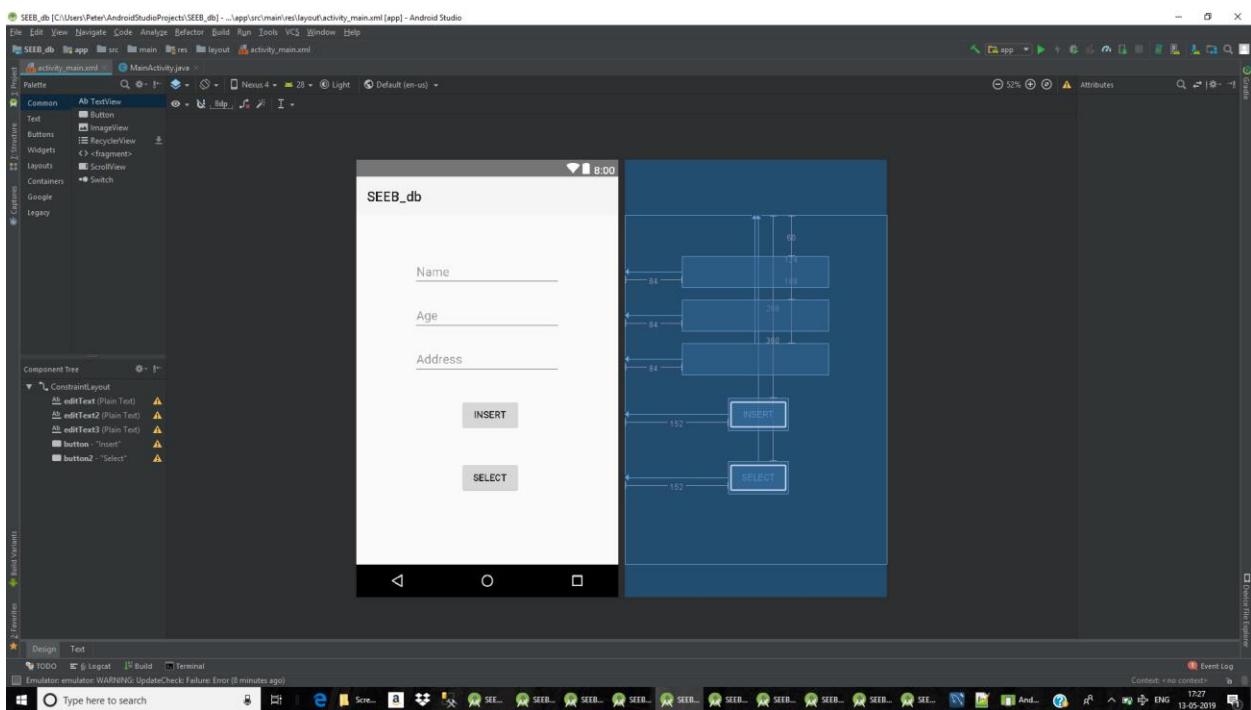
4. Write an application to insert the data entered by a user into a database and display all the values in database.



```

SEEB_db [C:\Users\Peter\AndroidStudioProjects\SEEB_db] - \app\src\main\java\com\example\peter\seeb_db\MainActivity.java [app] - Android Studio
File Edit View Navigate Tools Analyze Refactor Build Run Tools VCS Window Help
SEEB_db app src main java com example peter seeb_db MainActivity
activity_main.xml C MainActivity.java
public class MainActivity extends AppCompatActivity {
    EditText name;
    EditText age;
    EditText address;
    Button insert;
    Button select;
    DatabaseHelper db;
    Cursor c;
    String nameString;
    String ageString;
    String addressString;
    int id;
    String[] columns;
    SQLiteDatabase db2;
    Context context;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = (EditText) findViewById(R.id.name);
        age = (EditText) findViewById(R.id.age);
        address = (EditText) findViewById(R.id.address);
        insert = (Button) findViewById(R.id.insert);
        select = (Button) findViewById(R.id.select);
        db = new DatabaseHelper(this);
        insert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String nameString = name.getText().toString();
                String ageString = age.getText().toString();
                String addressString = address.getText().toString();
                db.insertData(nameString, ageString, addressString);
                Toast.makeText(getApplicationContext(), "Row inserted successfully", Toast.LENGTH_SHORT).show();
            }
        });
        select.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Cursor cursor = db.getData();
                if (cursor != null) {
                    cursor.moveToFirst();
                    String name = cursor.getString(cursor.getColumnIndex("name"));
                    String age = cursor.getString(cursor.getColumnIndex("age"));
                    String address = cursor.getString(cursor.getColumnIndex("address"));
                    nameString = name;
                    ageString = age;
                    addressString = address;
                    while (cursor.moveToNext());
                    Toast.makeText(MainActivity.this, name + "\n" + age + "\n" + address, Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
    public void insertData(String name, String age, String address) {
        db.open();
        db.execSQL("insert into test values('"+name+"','"+age+"','"+address+"')");
        db.close();
    }
    public Cursor getData() {
        db.open();
        Cursor cursor = db.rawQuery("select * from test", null);
        db.close();
        return cursor;
    }
    class DatabaseHelper extends SQLiteOpenHelper {
        public DatabaseHelper(Context context) {
            super(context, "test", null, 1);
        }
        @Override
        public void onCreate(SQLiteDatabase db) {
            db.execSQL("create table if not exists test(name varchar(20),age varchar(20),address varchar(50))");
        }
        @Override
        public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
            db.execSQL("drop table if exists test");
            onCreate(db);
        }
    }
}

```



```

SEEB_db [C:\Users\Peter\AndroidStudioProjects\SEEB_db] - app\src\main\java\com\example\peter\seeb_db\MainActivity.java [app] - Android Studio

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
    Button bl1,b2;
    EditText e1,e2,e3;
    SQLiteDatabase db=null;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bl1=(Button)findViewById(R.id.button);
        e1=(EditText)findViewById(R.id.editText);
        e2=(EditText)findViewById(R.id.editText2);
        e3=(EditText)findViewById(R.id.editText3);
        bl1.setOnClickListener(this);
        e1.setOnClickListener(this);
        e2.setOnClickListener(this);
        e3.setOnClickListener(this);
    }

    @Override
    public void onClick(View view) {
        String name,age,address;
        name=e1.getText().toString();
        age=e2.getText().toString();
        address=e3.getText().toString();
        try {
            db=this.openOrCreateDatabase("name","stu1", MODE_PRIVATE, factory);
            db.execSQL("create table if not exists test(name varchar(20),age varchar(20),address varchar(50))");

            if(view.getId()==bl1.getId()){
                db.execSQL("Insert into test values('"+name+"','"+age+"','"+address+"')");
                Toast.makeText(getApplicationContext(), "Row inserted successfully",Toast.LENGTH_SHORT).show();
            }
        }
        if(view.getId()==bl2.getId()){
            Cursor c=db.rawQuery(" select * from test", selectionArgs);
            String all="";
            if(c!=null){
                if(c.moveToFirst()){
                    do{
                        name=c.getString(c.getColumnIndex("name"));
                        age=c.getString(c.getColumnIndex("age"));
                        address=c.getString(c.getColumnIndex("address"));
                        all+=name+"\n"+age+"\n"+address+"\n";
                    }while(c.moveToNext());
                }
            }
            Toast.makeText(getApplicationContext(), all,Toast.LENGTH_LONG).show();
        }
    }
}

>MainActivity : onClick()

```

5. Write an application to search for a given USN from a student database and call to that student.

```

SEEB_call_DB [C:\Users\Peter\AndroidStudioProjects\SEEB_call_DB] - app\src\main\java\com\example\peter\seeb_call_db\MainActivity.java [app] - Android Studio

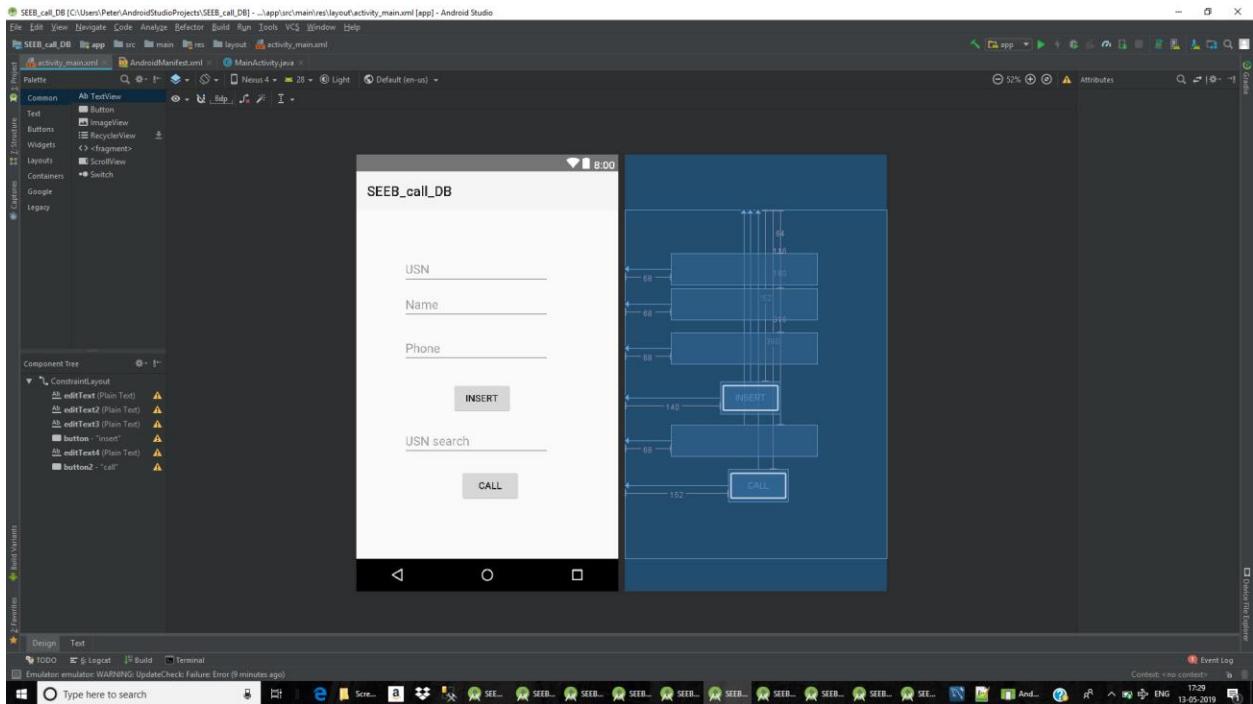
public class MainActivity extends AppCompatActivity {
    Button bl1,bl2;
    EditText e1,e2,e3;
    ActivityCompat.OnRequestPermissionsResultCallback permission;
    Intent i;
    Uri u;
    String usn,phn;
    SQLiteDatabase db=null;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bl1=(Button)findViewById(R.id.button);
        bl2=(Button)findViewById(R.id.button2);
        e1=(EditText)findViewById(R.id.editText);
        e2=(EditText)findViewById(R.id.editText2);
        e3=(EditText)findViewById(R.id.editText3);
        ActivityCompat.requestPermissions(this,new String[]{Manifest.permission.CALL_PHONE}, requestCode);
        bl1.setOnClickListener(this);
        bl2.setOnClickListener(this);
    }

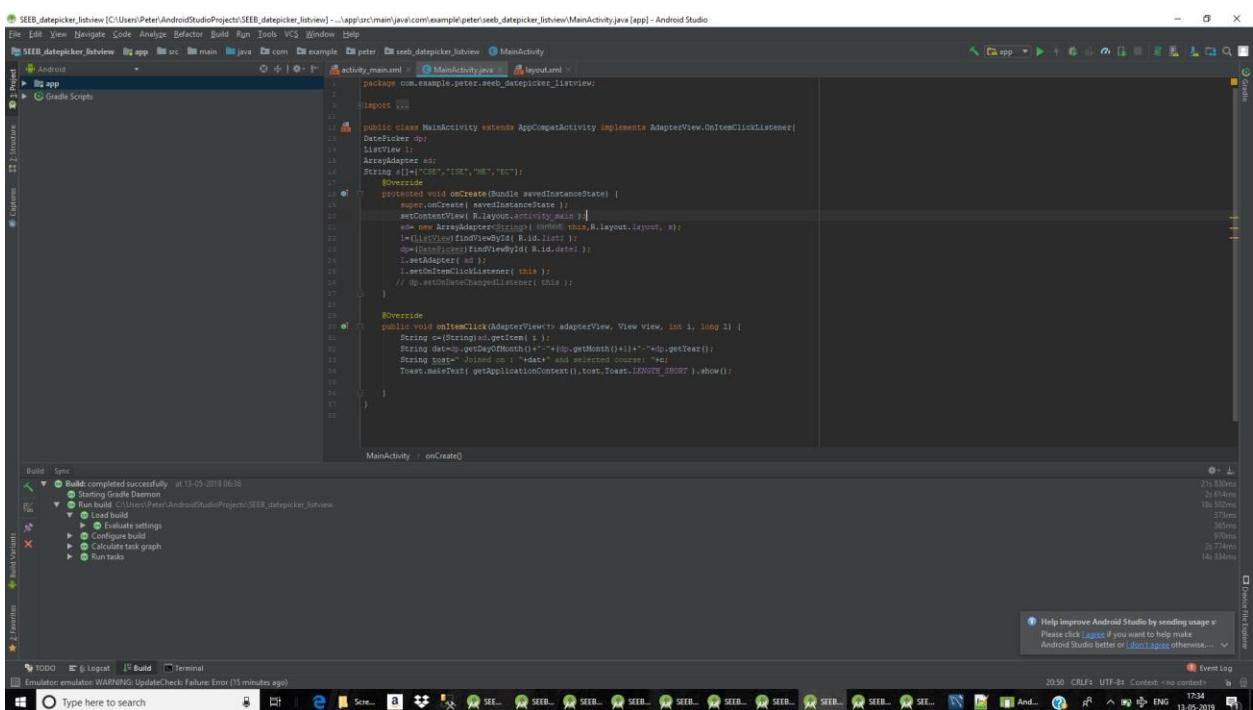
    @Override
    public void onClick(View view) {
        String name,usn,phn;
        name=e1.getText().toString();
        usn=e2.getText().toString();
        phn=e3.getText().toString();
        try {
            db=this.openOrCreateDatabase("name","stu1", MODE_PRIVATE, factory);
            db.execSQL("create table if not exists test(usn varchar(20),name varchar(20),phone varchar(20))");
            if(view.getId()==bl1.getId()){
                db.execSQL("Insert into test values('"+usn+"','"+name+"','"+phn+"')");
                Toast.makeText(getApplicationContext(), "Row inserted successfully",Toast.LENGTH_SHORT).show();
            }
            if(view.getId()==bl2.getId()){
                Cursor c=db.rawQuery(" select * from test where usn='"+usn.getText().toString()+"", selectionArgs);
                if(c.getCount()!=0){
                    Toast.makeText(getApplicationContext(), "invalid",Toast.LENGTH_SHORT).show();
                }
                else{
                    c.moveToFirst();
                    phn=c.getString(c.getColumnIndex("phone"));
                    i=new Intent(Intent.ACTION_CALL);
                    i.setData(Uri.parse("tel:"+phn));
                    startActivity(i);
                }
            }
        }
        catch (SQLException e){
            Toast.makeText(getApplicationContext(), "Error",Toast.LENGTH_SHORT).show();
        }
    }
}

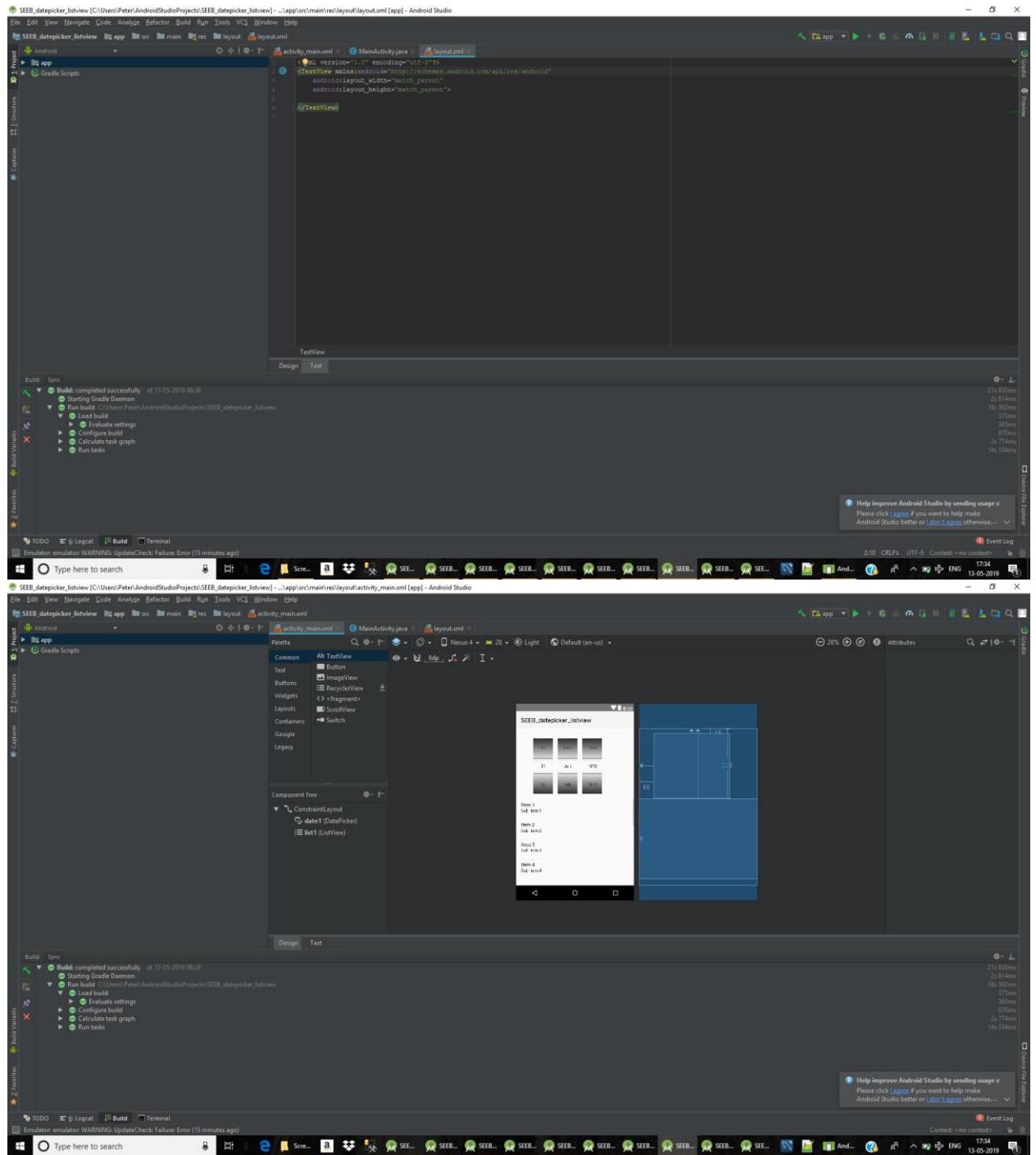
>MainActivity : onClick()

```



6. Write an application to toast your joining date and course selected for engineering using date picker and list view.





## 7. Implement web view concept in application which contains multiple activity and default HTML pages.

The screenshots show the code for `Main2Activity.java` at three different stages of development:

```
SEEB_webview [C:\Users\Peter.AndroidStudioProjects\SEEB_webview] - app\src\main\java\com\example\peter\seeb\webview>Main2Activity.java [app] - Android Studio
```

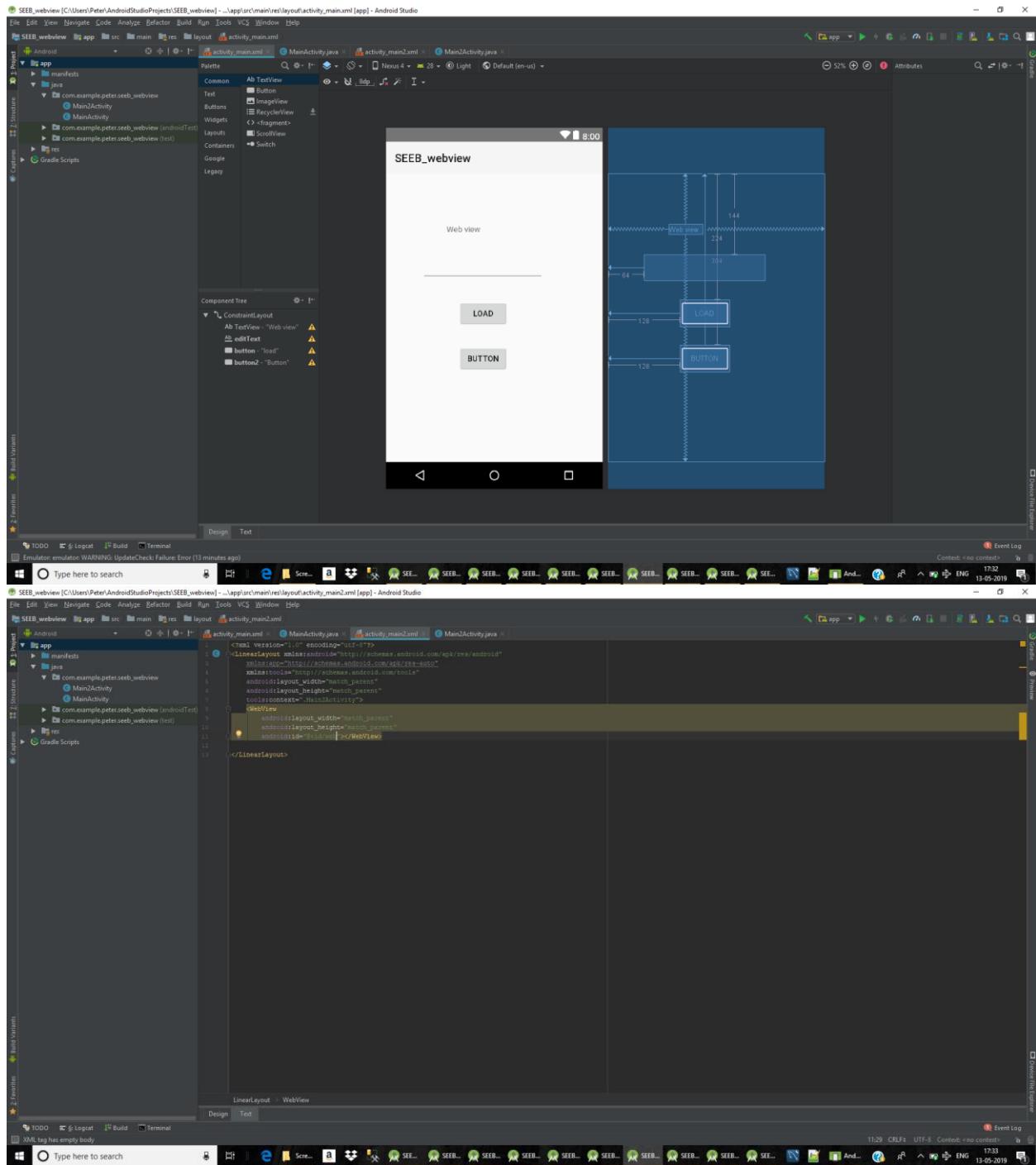
```
1 package com.example.peter.seeb.webview;
2
3 import android.os.Bundle;
4 import android.app.Activity;
5 import android.view.Menu;
6
7 public class Main2Activity extends AppCompatActivity {
8     @Override
9     protected void onCreate(Bundle savedInstanceState) {
10         super.onCreate(savedInstanceState);
11         setContentView(R.layout.activity_main);
12         WebView webView = (WebView) findViewById(R.id.webView);
13         webView.setWebViewClient(new WebViewClient());
14         webView.loadUrl("http://www.google.com");
15     }
16 }
```

```
SEEB_webview [C:\Users\Peter.AndroidStudioProjects\SEEB_webview] - app\src\main\java\com\example\peter\seeb\webview>Main2Activity.java [app] - Android Studio
```

```
1 package com.example.peter.seeb.webview;
2
3 import android.os.Bundle;
4 import android.app.Activity;
5 import android.view.Menu;
6
7 public class Main2Activity extends AppCompatActivity {
8     @Override
9     protected void onCreate(Bundle savedInstanceState) {
10         super.onCreate(savedInstanceState);
11         setContentView(R.layout.activity_main);
12         EditText et = (EditText) findViewById(R.id.editText);
13         Button b1, b2;
14
15         b1 = (Button) findViewById(R.id.button);
16         b1.setOnClickListener(new View.OnClickListener() {
17             Intent i = new Intent(getApplicationContext(), MainActivity.class);
18             i.putExtra("name", et.getText().toString());
19             startActivity(i);
20         });
21         b2 = (Button) findViewById(R.id.button2);
22         b2.setOnClickListener(new View.OnClickListener() {
23             Intent i2 = new Intent(getApplicationContext(), MainActivity.class);
24             i2.putExtra("name", "defeult");
25             startActivity(i2);
26         });
27     }
28 }
```

```
SEEB_webview [C:\Users\Peter.AndroidStudioProjects\SEEB_webview] - app\src\main\java\com\example\peter\seeb\webview>Main2Activity.java [app] - Android Studio
```

```
1 package com.example.peter.seeb.webview;
2
3 import android.os.Bundle;
4 import android.app.Activity;
5 import android.view.Menu;
6
7 public class Main2Activity extends AppCompatActivity {
8     @Override
9     protected void onCreate(Bundle savedInstanceState) {
10         super.onCreate(savedInstanceState);
11         setContentView(R.layout.activity_main);
12         EditText et = (EditText) findViewById(R.id.editText);
13         Button b1, b2;
14
15         b1 = (Button) findViewById(R.id.button);
16         b1.setOnClickListener(new View.OnClickListener() {
17             Intent i = new Intent(getApplicationContext(), MainActivity.class);
18             i.putExtra("name", et.getText().toString());
19             startActivity(i);
20         });
21         b2 = (Button) findViewById(R.id.button2);
22         b2.setOnClickListener(new View.OnClickListener() {
23             Intent i2 = new Intent(getApplicationContext(), MainActivity.class);
24             i2.putExtra("name", "defeult");
25             startActivity(i2);
26         });
27     }
28 }
```



## 8. Implement an application to store and retrieve data by using shared preference. (Include save, delete and retrieve operations)

