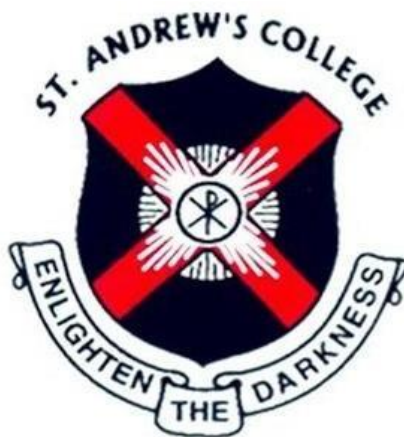


Advanced Mobile Programming Journal

ST. ANDREW'S COLLEGE OF ARTS, SCIENCE AND COMMERCE

St Dominic Road, Bandra (W)

MUMBAI 400050



This is to certify that _____

Of Class _____ Semester _____ bearing Roll No. _____

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Internal Guide

External Examiner

Co-ordinator, B.Sc.(I.T.)

Principal

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Practical 1

Aim: Create a basic hello world app.

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:id="@+id/main"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Hello World!"
            android:layout_centerInParent="true"
            android:textSize="40dp"
            />

    </RelativeLayout>
```

MainActivity.java

```
package com.example.helloworld;

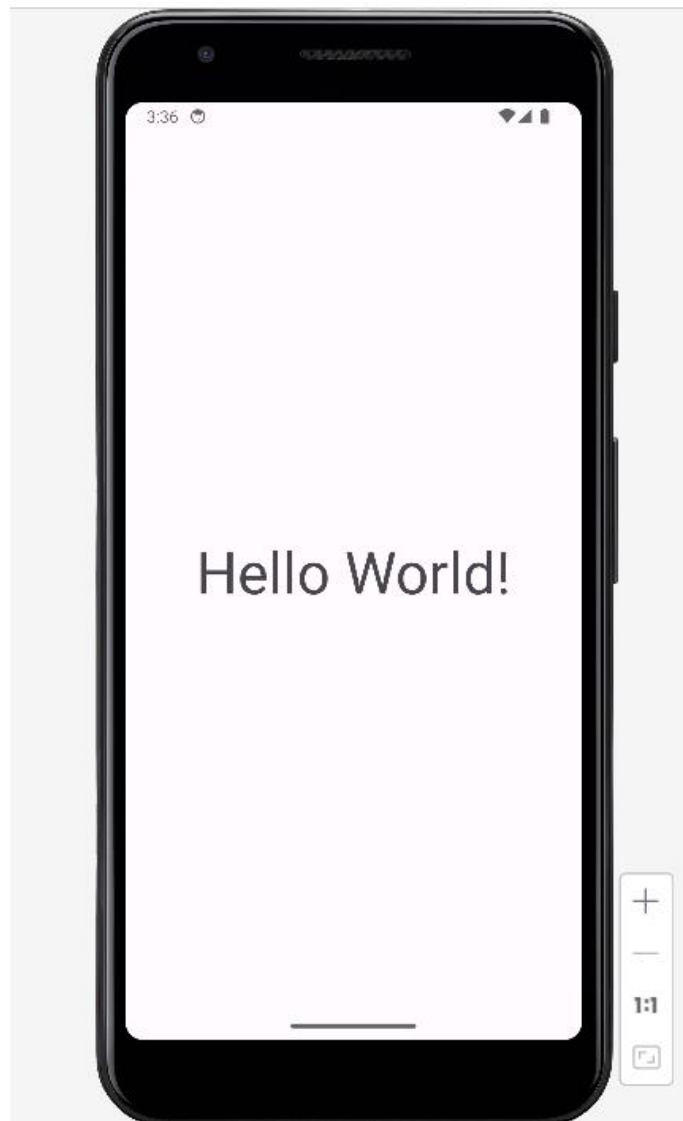
import android.os.Bundle;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

Output:



Practical 2

Aim: Using different layouts design a calculator.

activity_main.xml

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

        <!-- Title -->
        <TextView
            android:id="@+id/textViewTitle"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Calculator"
            android:textSize="30sp"
            android:textColor="#FFFFFF"
            android:background="#800080"
            android:padding="16dp"
            android:textAlignment="center"/>

        <EditText
            android:id="@+id/editTextFirstOperand"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/textViewTitle"
            android:layout_margin="16dp"
            android:hint="First Operand"
            android:inputType="numberDecimal"/>

        <EditText
            android:id="@+id/editTextSecondOperand"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/editTextFirstOperand"
            android:layout_margin="16dp"
            android:hint="Second Operand"
            android:inputType="numberDecimal"/>

        <EditText
            android:id="@+id/editTextResult"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/editTextSecondOperand"
            android:layout_margin="16dp"
            android:hint="Result"
            android:inputType="none"
            android:enabled="false"/>

        <Button
            android:id="@+id/btnPlus"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="+"
            android:layout_below="@id/editTextResult"
            android:layout_alignParentStart="true"
            android:layout_marginTop="16dp"
            android:layout_marginStart="16dp"/>

        <Button
            android:id="@+id/btnMinus"
```

```

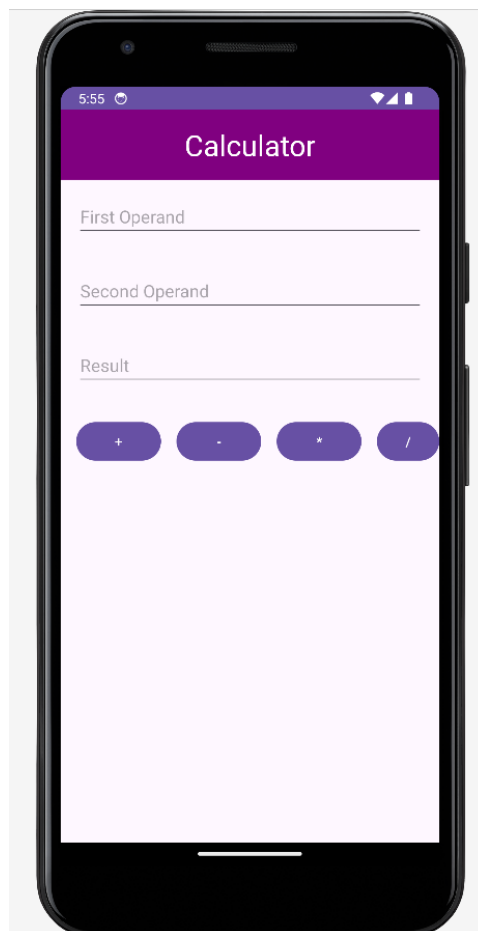
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="-"
        android:layout_below="@id/editTextResult"
        android:layout_toEndOf="@id/btnPlus"
        android:layout_marginTop="16dp"
        android:layout_marginStart="16dp"/>

<Button
    android:id="@+id/btnMultiply"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="*"
    android:layout_below="@id/editTextResult"
    android:layout_toEndOf="@id/btnMinus"
    android:layout_marginTop="16dp"
    android:layout_marginStart="16dp"/>

<Button
    android:id="@+id/btnDivide"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="/"
    android:layout_below="@id/editTextResult"
    android:layout_toEndOf="@id/btnMultiply"
    android:layout_marginTop="16dp"
    android:layout_marginStart="16dp"/>
</RelativeLayout>

```

Output:



Practical 3

Aim: How to move from one page to another with data.

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:id="@+id/main"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity">

        <EditText
            android:id="@+id/name"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:hint="Enter Your Name"
            android:layout_centerInParent="true"
            android:padding="20dp"
            android:width="300dp"
            />

        <Button
            android:id="@+id/send"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Send"
            android:layout_below="@+id/name"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="20dp"
            />

    </RelativeLayout>
```

activity_main2.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:id="@+id/main"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".MainActivity2">

        <TextView
            android:id="@+id/received_value_id"
            android:layout_width="300dp"
            android:layout_height="50dp"
            android:layout_marginLeft="40dp"
```



```

        android:layout_marginTop="20dp"
        android:textSize="40sp"
        android:textStyle="bold"
        android:layout_marginStart="40dp"
        android:layout_centerInParent="true"
        android:text="Welcome "
    />

</RelativeLayout>

```

MainActivity.java

```

package com.example.practical3;

import android.content.Intent;
import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {
    Button send;
    EditText uname;

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

        uname = findViewById(R.id.name);
        send = findViewById(R.id.send);

        send.setOnClickListener(view -> {
            String name = uname.getText().toString().trim();
            if (name.isEmpty()) {
                Toast.makeText(MainActivity.this, "Enter Your Name",
                    Toast.LENGTH_SHORT).show();
            } else {
                Intent intent = new Intent(MainActivity.this,
                    MainActivity2.class);
                intent.putExtra("name", name);
                startActivity(intent);
            }
        });
    }
}

```

MainActivity2.java

```
package com.example.practical3;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity2 extends AppCompatActivity {

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

        msg = findViewById(R.id.received_value_id);

        // create the get Intent object
        Intent intent = getIntent();
        // receive the value by getStringExtra() method and
        // key must be same which is send by first activity
        String str = intent.getStringExtra("name");
        String weclomemsg = "Welcome " + str;
        // display the string into textView
        msg.setText(weclomemsg);
    }
}
```

AndroidManifest.xml

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

    <application
      android:allowBackup="true"
      android:dataExtractionRules="@xml/data_extraction_rules"
      android:fullBackupContent="@xml/backup_rules"
      android:icon="@mipmap/ic_launcher"
      android:label="@string/app_name"
      android:roundIcon="@mipmap/ic_launcher_round"
      android:supportsRtl="true"
      android:theme="@style/Theme.Movefromonepagetoother"
      tools:targetApi="31">
      <activity
        android:name=".MainActivity"
        android:exported="true">
        <intent-filter>
          <action android:name="android.intent.action.MAIN"

          />

          <category
            android:name="android.intent.category.LAUNCHER" />
          </intent-filter>
        </activity>

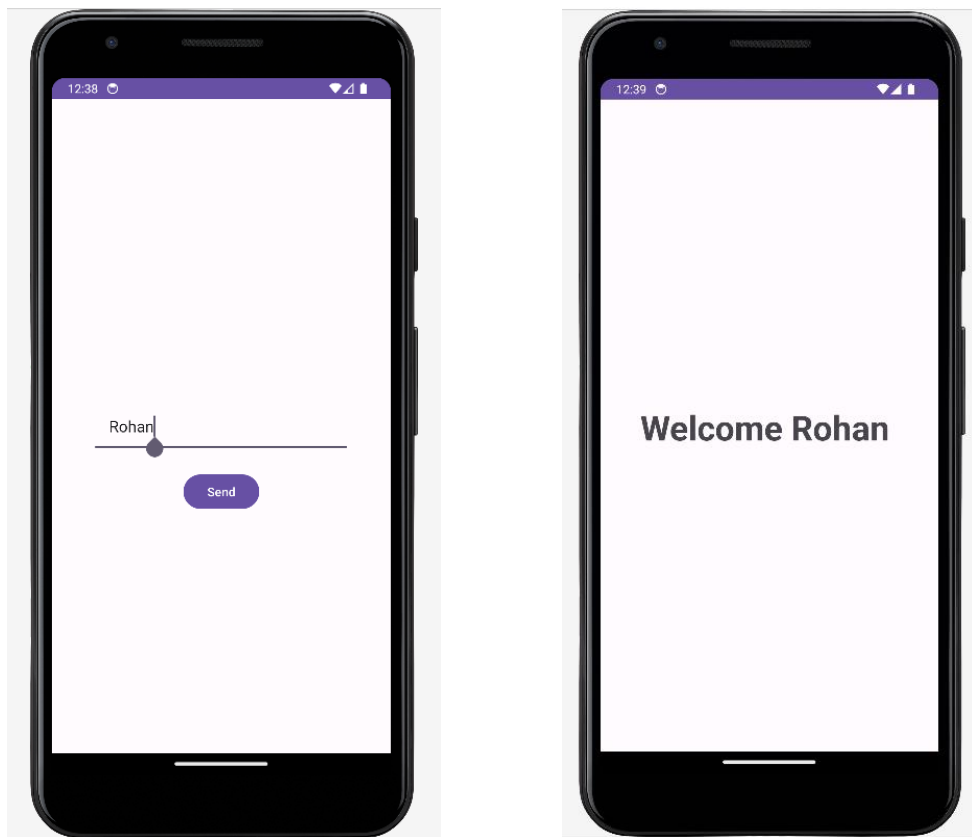
        <activity android:name=".MainActivity2"
          android:exported="true">
          <intent-filter>
            <action android:name="android.intent.action.MAIN"

            />

            </intent-filter>
          </activity>
        </application>

      </manifest>
```

Output:



Practical 4

Aim: Implement the use of shared preferences.

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">

    <TextView
        android:id="@+id/login"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Login"
        android:textSize="20dp"
        android:textAlignment="center"
        android:textColor="@color/black"
        android:layout_margin="10dp"
        android:padding="10dp"
    />

    <EditText
        android:id="@+id/userid"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/login"
        android:hint="Enter Username"
        android:textColorHint="@color/black"
        android:padding="10dp"
        android:layout_margin="30dp"
        android:inputType="text"
        android:maxLength="10"
    />

    <EditText
        android:id="@+id/passwd"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/userid"
        android:hint="Enter Password"
        android:textColorHint="@color/black"
        android:padding="10dp"
        android:layout_margin="30dp"
        android:inputType="textPassword"
    />

    <TextView
        android:id="@+id/resetpass"
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:text="Forgot Password?"
        android:layout_below="@+id/passwd"
        android:padding="10dp"
        android:layout_marginLeft="30dp"
        android:textColor="@color/black"
    />
    <Button
        android:id="@+id/loginbtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/resetpass"
        android:text="Login"
        android:textColor="@color/white"
        android:layout_centerHorizontal="true"
    />
</RelativeLayout>

```

activity_homepage.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=".Homepage">

    <TextView
        android:id="@+id/welcome_message"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:padding="10dp"
        android:text="Welcome to Home Page"
        android:textStyle="bold"
        android:textSize="24sp"
        android:layout_centerInParent="true"
    />

    <Button
        android:id="@+id/logout_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="end"
        android:layout_marginTop="16dp"
        android:text="Logout"
        android:layout_below="@+id/welcome_message"
        android:layout_centerHorizontal="true"
    />

</RelativeLayout>

```

MainActivity.java

```
package com.example.helloworld;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText username, password;
    Button login;
    TextView forgotpassword;

    public static final String mypref = "MyPref";
    SharedPreferences sharedPreferences;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        username = findViewById(R.id.userid);
        password = findViewById(R.id.passwd);
        forgotpassword = findViewById(R.id.resetpass);
        login = findViewById(R.id.loginbtn);
        sharedPreferences = getSharedPreferences(mypref,
MODE_PRIVATE);

        login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String un = username.getText().toString().trim();
                String ps = password.getText().toString().trim();
                if (un.equals("Rohan") && ps.equals("123456")) {
                    // Toast.makeText(MainActivity.this, "Login
Successful!", Toast.LENGTH_SHORT).show();

                    SharedPreferences.Editor editor =
sharedPreferences.edit();
                    editor.putString("User", un);
                    editor.apply();
                    Intent i = new Intent(getApplicationContext(),
```

```

Homepage.class);
                i.putExtra("User", un);
                startActivity(i);
                finish();
            } else {
                Toast.makeText(MainActivity.this, "Login
Failed!", Toast.LENGTH_SHORT).show();
            }
        }
    });

    forgotpassword.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View view) {

        }
    });
}
}

```

Homepage.java

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

public class Homepage extends AppCompatActivity {
    TextView welcomeMessage;
    Button logoutButton;
    SharedPreferences sharedPreferences;

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

        welcomeMessage = findViewById(R.id.welcome_message);
        logoutButton = findViewById(R.id.logout_button);
        sharedPreferences = getSharedPreferences(MainActivity.mypref,
MODE_PRIVATE);

        String username = sharedPreferences.getString("User", "");
        welcomeMessage.setText("Welcome, " + username);
        welcomeMessage.setVisibility(View.VISIBLE);
        logoutButton.setVisibility(View.VISIBLE);
    }
}

```



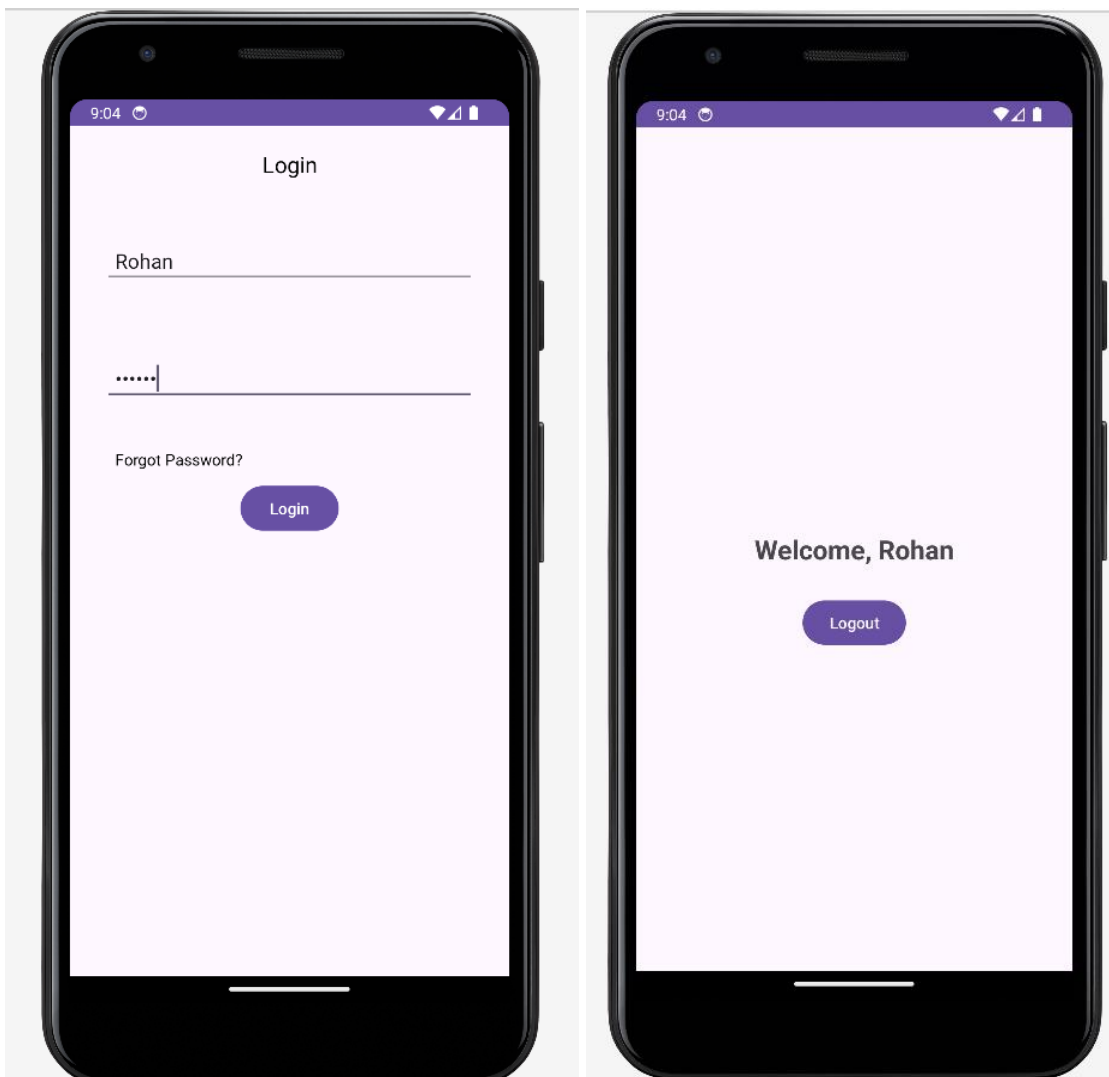
```

        logoutButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Clear user data
                SharedPreferences.Editor editor =
sharedPreferences.edit();
                editor.remove("User");
                editor.apply();

                // Navigate back to login page
                Intent intent = new Intent(Hompage.this,
MainActivity.class);
                startActivity(intent);
                finish();
            }
        });
    }
}

```

Output:



Practical 5

Aim: Create a Music API to start and stop a ringtone.

AndroidManifest.xml

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

    <application
      android:allowBackup="true"
      android:dataExtractionRules="@xml/data_extraction_rules"
      android:fullBackupContent="@xml/backup_rules"
      android:icon="@mipmap/ic_launcher"
      android:label="@string/app_name"
      android:supportRtl="true"
      android:theme="@style/Theme.Music"
      tools:targetApi="31">
      <activity
        android:name=".MainActivity"
        android:exported="true">
        <intent-filter>
          <action android:name="android.intent.action.MAIN" />

          <category
            android:name="android.intent.category.LAUNCHER" />
          </intent-filter>
        </activity>
        <service android:name=".musicService"/>
      </application>

    </manifest>
```

MainActivity.java

```
package com.example.music;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    Button start, stop;

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

        start=findViewById(R.id.play);
        stop=findViewById(R.id.pause);

        start.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                startService(new
Intent(MainActivity.this,musicService.class));
            }
        });
        stop.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                stopService(new
Intent(MainActivity.this,musicService.class));
            }
        });
    }
}
```

musicService.java

```
package com.example.music;

import android.app.Service;
import android.content.Intent;
import android.media.MediaPlayer;
import android.os.IBinder;
import android.provider.Settings;

import androidx.annotation.Nullable;

public class musicService extends Service {
    MediaPlayer mp;
```

```

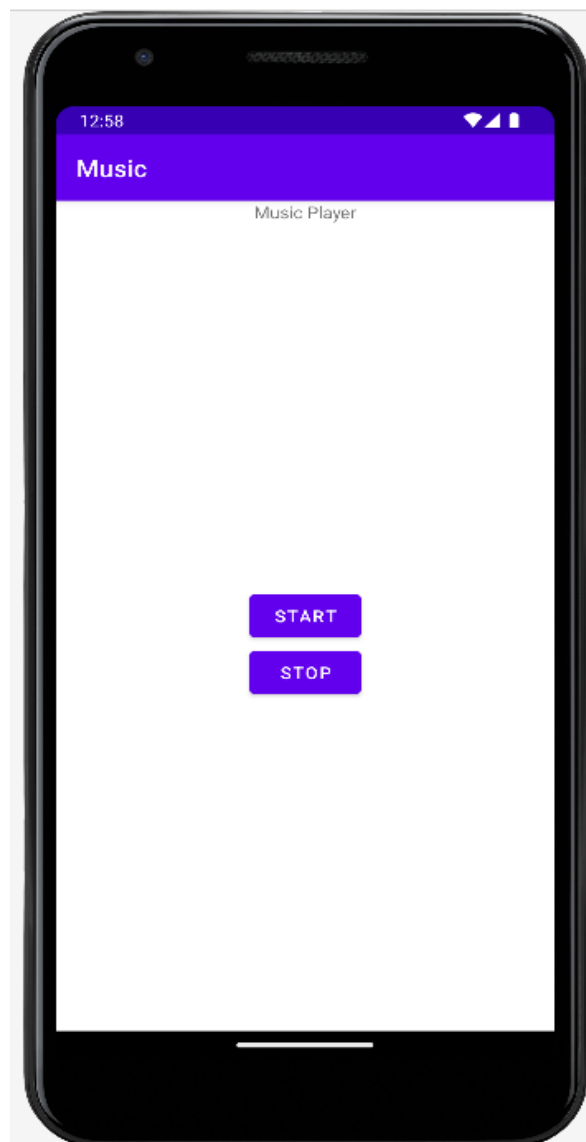
        @Nullable
        @Override
        public IBinder onBind(Intent intent) {
            return null;
        }

        @Override
        public int onStartCommand(Intent intent, int flags, int startId) {
            mp = MediaPlayer.create(this, Settings.System.DEFAULT_RINGTONE_URI);
            mp.setLooping(true);
            mp.start();
            return START_STICKY;
        }

        @Override
        public void onDestroy() {
            super.onDestroy();
            if (mp != null) {
                mp.stop();
                mp.release();
            }
        }
    }
}

```

Output:



Practical 6

Aim: Implement the use of alert dialog.

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">
    <Button
        android:id="@+id/click"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="261dp"
        android:layout_centerInParent="true"
        android:text="Click Me!"
    />
</RelativeLayout>
```

MainActivity.java

```
package com.example.myapplication;

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

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

public class MainActivity extends AppCompatActivity {
    Button b;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b= findViewById(R.id.click);

        b.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                AlertDialog.Builder builder = new
AlertDialog.Builder(MainActivity.this);
                builder.setTitle("Success");
                builder.setMessage("Alert Dialog is visible");
                builder.setCancelable(false);
                builder.setIcon(R.drawable.baseline_close_24);

                builder.setPositiveButton("Okay", new
DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i)
                {
```

```

        }
    });
    builder.setNegativeButton("Cancel", new
DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialogInterface, int i)
        {

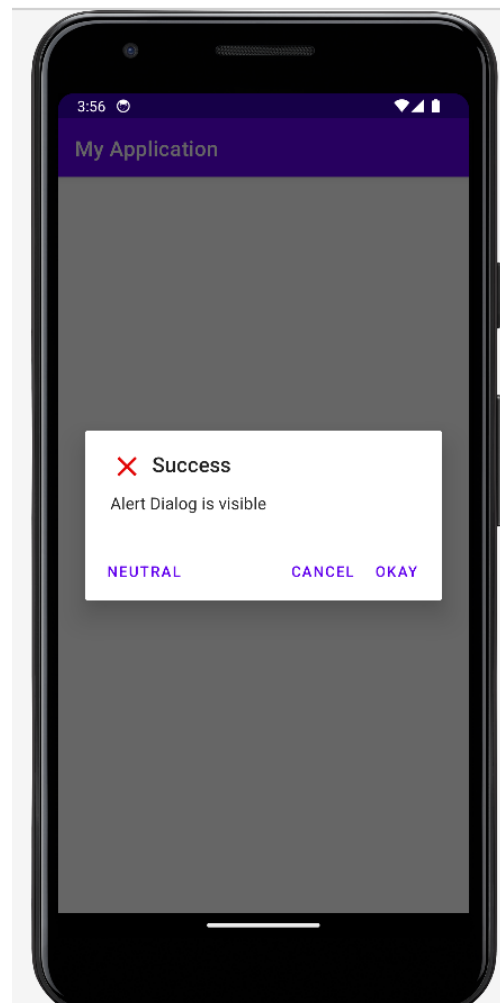
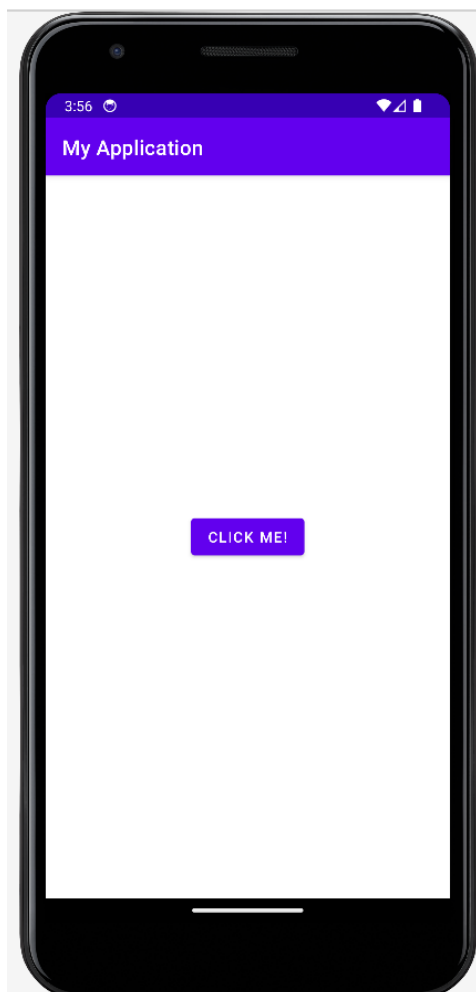
        }
    });

    builder.setNeutralButton("Neutral", new
DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialogInterface, int i)
        {

        }
    });
    builder.show();
}
}
}

```

Output:



Practical 7

Aim: Implement the use of menus.

activity_main.xml

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

        <application
            android:allowBackup="true"
            android:dataExtractionRules="@xml/data_extraction_rules"
            android:fullBackupContent="@xml/backup_rules"
            android:icon="@mipmap/ic_launcher"
            android:label="@string/app_name"
            android:supportsRtl="true"
            android:theme="@style/Theme.Menu"
            tools:targetApi="31">
            <activity
                android:name=".MainActivity"
                android:exported="true">
                <intent-filter>
                    <action android:name="android.intent.action.MAIN" />

                    <category
                        android:name="android.intent.category.LAUNCHER" />
                </intent-filter>
            </activity>
        </application>

    </manifest>
```

menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
    <menu xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto">
        <item android:title="Welcome" android:id="@+id/menu_welcome" />
        <item android:title="Welcome" android:id="@+id/menu_welcome1" />
        <item android:id="@+id/Logout" android:title="Logout"
            android:icon="@drawable/baseline_logout_24"
            app:showAsAction="ifRoom"></item>
    </menu>
```

MainActivity.java

```
package com.example.menu;

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

import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;

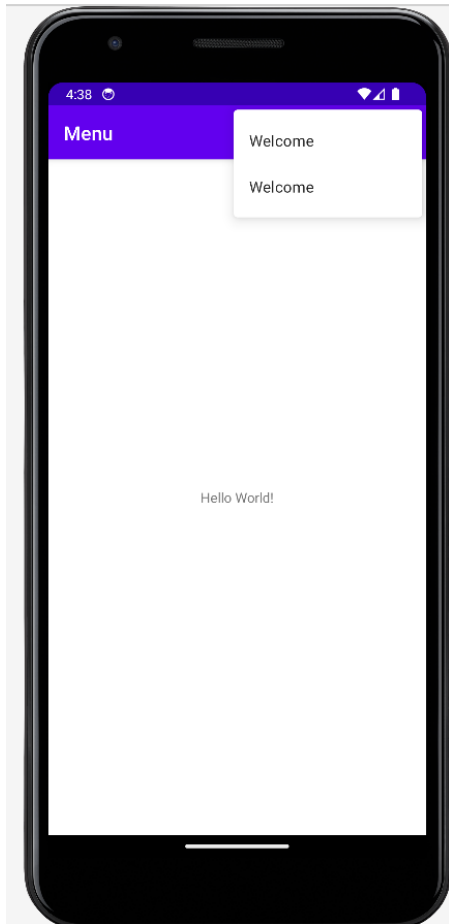
public class MainActivity extends AppCompatActivity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu, null);
        return super.onCreateOptionsMenu(menu);
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        int id=item.getItemId();
        if(id==R.id.menu_welcome){
            return true;
        } else if (id==R.id.menu_welcome1) {
            return true;
        }
        return super.onOptionsItemSelected(item);
    }
}
```


Output:



Practical 8

Aim: . Design a basic login form and validate the user using specific controls.

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">

        <TextView
            android:id="@+id/login"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Login"
            android:textSize="20dp"
            android:textAlignment="center"
            android:textColor="@color/purple"
            android:layout_margin="10dp"
            android:padding="10dp"
            />

        <EditText
            android:id="@+id/userid"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/login"
            android:hint="Enter Username"
            android:textColorHint="@color/black"
            android:padding="10dp"
            android:layout_margin="30dp"
            android:inputType="text"
            android:maxLength="10"
            />

        <EditText
            android:id="@+id/passwd"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/userid"
            android:hint="Enter Password"
            android:textColorHint="@color/black"
            android:padding="10dp"
            android:layout_margin="30dp"
            android:inputType="textPassword"
            />

        <TextView
            android:id="@+id/resetpass"
            android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:text="Forgot Password?"
        android:layout_below="@+id/passwd"
        android:padding="10dp"
        android:layout_marginLeft="30dp"
        android:textColor="@color/purple"
    />
    <Button
        android:id="@+id/loginbtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/resetpass"
        android:text="Login"
        android:textColor="@color/white"
        android:layout_centerHorizontal="true"
    />
</RelativeLayout>

```

MainActivity.java

```

package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText username, password;
    Button login;
    TextView forgotpassword;
    String un,ps;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        username=findViewById(R.id.userid);
        password=findViewById(R.id.passwd);
        forgotpassword=findViewById(R.id.resetpass);

        login=findViewById(R.id.loginbtn);
        login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                un=username.getText().toString().trim();
                ps=password.getText().toString().trim();
                if(un == "Rohan" && ps == "123456"){
                    Toast.makeText(MainActivity.this, "Login

```

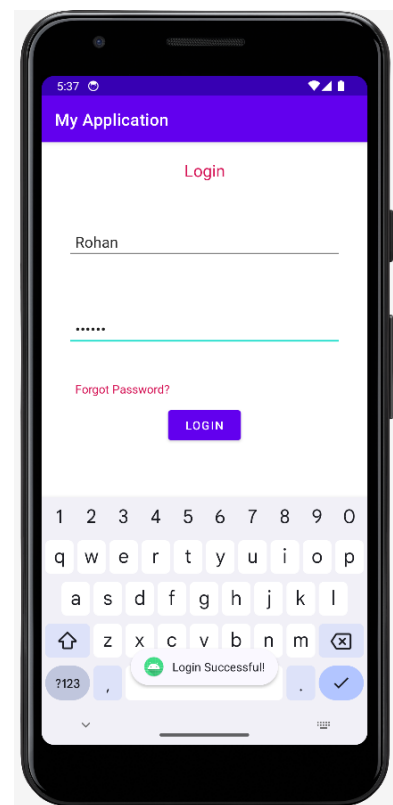
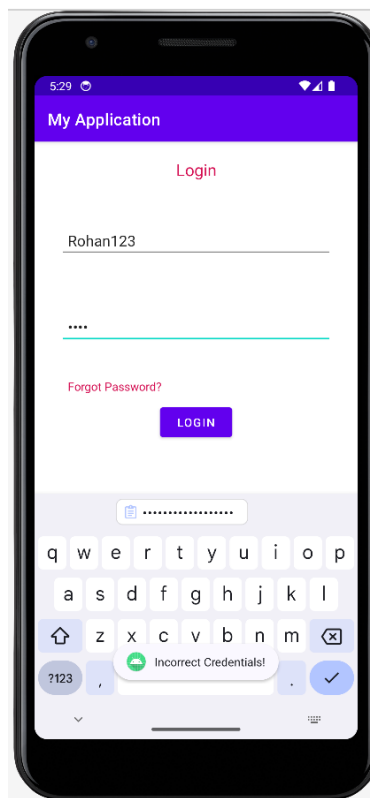
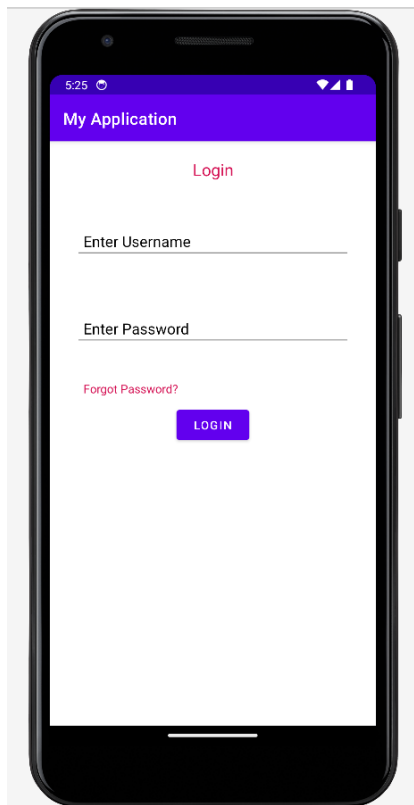
```

        Successful!", Toast.LENGTH_SHORT).show();
    }
    else{
        Toast.makeText(MainActivity.this, "Login
UnSuccessful!", Toast.LENGTH_SHORT).show();
    }
}
});
forgotpassword.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

    }
});
}
}

```

Output:



Practical 9

Aim: Implement the use of toast and snackbar

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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"
    android:gravity="center"
    android:padding="16dp"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/toast_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Toast" />

    <Button
        android:id="@+id/snackbar_button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:text="Show Snackbar" />

</LinearLayout>
```

MainActivity.java

```
package com.example.practical9;

import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import com.google.android.material.snackbar.Snackbar;

public class MainActivity extends AppCompatActivity {

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

        Button toastButton = findViewById(R.id.toast_button);
        Button snackbarButton = findViewById(R.id.snackbar_button);

        toastButton.setOnClickListener(new View.OnClickListener() {
            @Override
```

```

        public void onClick(View v) {
            showToast();
        }
    });

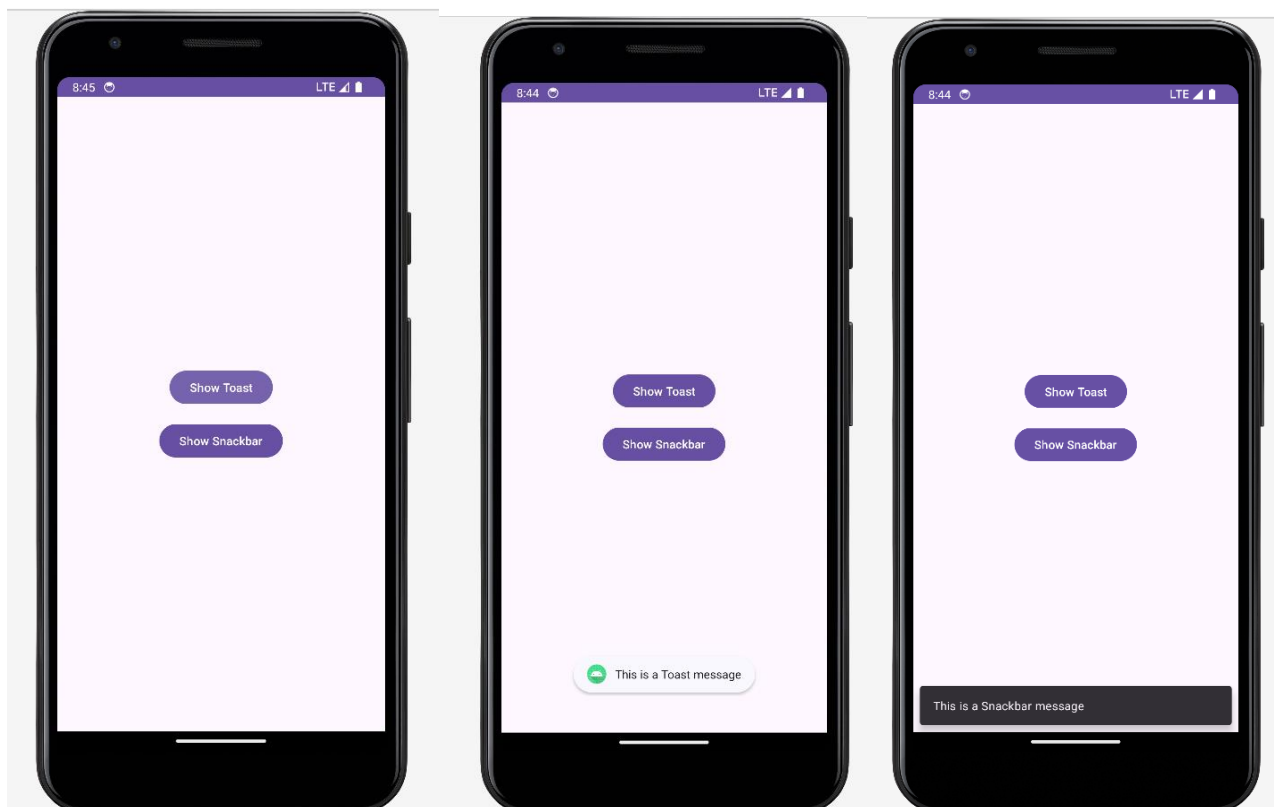
    snackbarButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            showSnackbar();
        }
    });
}

private void showToast() {
    Toast.makeText(getApplicationContext(), "This is a Toast message",
    Toast.LENGTH_SHORT).show();
}

private void showSnackbar() {
    Snackbar.make(findViewById(android.R.id.content), "This is a Snackbar
message", Snackbar.LENGTH_SHORT).show();
}
}

```

Output:



Practical 10

Aim: Create a CRUD operation using SQLite API.

activity_main.xml

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

        <!-- Header TextView -->
        <TextView
            android:id="@+id/regist"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="30dp"
            android:gravity="center_horizontal"
            android:padding="5dp"
            android:text="Register Form"
            android:textAlignment="center"
            android:textColor="@color/purple_700"
            android:textSize="30sp" />

        <!-- EditText for Username -->
        <EditText
            android:id="@+id/usernameEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/regist"
            android:layout_marginStart="10dp"
            android:layout_marginTop="50dp"
            android:layout_marginEnd="10dp"
            android:hint="Enter UserName"
            android:inputType="text" />

        <EditText
            android:id="@+id/nameEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Enter Full Name"
            android:layout_below="@id/usernameEditText"
            android:layout_marginStart="10dp"
            android:layout_marginTop="20dp"
            android:layout_marginEnd="10dp"
            />

        <!-- EditText for Password -->
        <EditText
            android:id="@+id/emailEditText"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@id/nameEditText"
            android:layout_marginStart="10dp"
            android:layout_marginTop="20dp"
            android:layout_marginEnd="10dp"
            android:hint="Enter Email"
            android:inputType="textEmailAddress" />

        <EditText
            android:id="@+id/phoneNumberEditText"
            android:layout_width="match_parent"
```

```

        android:layout_height="wrap_content"
        android:layout_below="@id/emailEditText"
        android:layout_marginStart="10dp"
        android:layout_marginTop="20dp"
        android:layout_marginEnd="10dp"
        android:hint="Enter Phone number"
        android:inputType="text|phone" />

<EditText
    android:id="@+id/passwordEditText"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/phoneNumberEditText"
    android:layout_marginStart="10dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="10dp"
    android:hint="Enter Password"
    android:inputType="textPassword" />

<Button
    android:id="@+id/registerButton"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/passwordEditText"
    android:layout_marginStart="10dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="10dp"
    android:text="Register" />
</RelativeLayout>

```

MainActivity.java

```

package com.example.registration;

import android.database.Cursor;
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 {

    DBHelper dbHelper;

    EditText usernameEditText, phoneNumberEditText, nameEditText, emailEditText,
    passwordEditText;
    Button registerButton;

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

        usernameEditText = findViewById(R.id.usernameEditText);
        phoneNumberEditText = findViewById(R.id.phoneNumberEditText);
        nameEditText = findViewById(R.id.nameEditText);
        emailEditText = findViewById(R.id.emailEditText);
        passwordEditText = findViewById(R.id.passwordEditText);
    }
}

```



```

        registerButton = findViewById(R.id.registerButton);

        dbHelper = new DBHelper(MainActivity.this);

        registerButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                String username = usernameEditText.getText().toString().trim();
                String phoneNumber =
phoneNumberEditText.getText().toString().trim();
                String name = nameEditText.getText().toString().trim();
                String email = emailEditText.getText().toString().trim();
                String password = passwordEditText.getText().toString().trim();

                if (username.isEmpty() || phoneNumber.isEmpty() ||
name.isEmpty() || email.isEmpty() || password.isEmpty()) {
                    Toast.makeText(MainActivity.this, "Please fill in all
fields", Toast.LENGTH_SHORT).show();
                } else {

                    Toast.makeText(MainActivity.this, "Registration successful",
Toast.LENGTH_SHORT).show();
                }

            }
        });

        private void validateuser(String username, String email, String name, String
password, String phoneNumber) {
            Cursor c = dbHelper.checkUser(email);

            if(c.getCount() == 1) {
                while(c.moveToNext()) {
                    String passwd = c.getString(2);
                    /*
                    if(password.equals(passwd)){

                    } else {

                    }*/
                    Boolean result = dbHelper.insertData(username, phoneNumber,
name, email, password);
                    if(result) {

                    } else {

                    }

                } else {

                }

            }
        }

```

```
}
```

DBHelper.java

```
package com.example.registration;

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 static final String dbname="college.db";
    public static final String tablename="students";
    public DBHelper(@Nullable Context context) {
        super(context, dbname, null,1);
    }

    @Override
    public void onCreate(SQLiteDatabase sqLiteDatabase) {
        sqLiteDatabase.execSQL("create table "+tablename+"(id int PRIMARY KEY
        AUTOINCREMENT,username TEXT,phonenumber TEXT,name TEXT,email TEXT,password
        TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase sqLiteDatabase, int i, int il) {

        sqLiteDatabase.execSQL("drop table if exists "+tablename);
    }

    public Boolean insertData(String username,String phonenumber,String
    name,String email,String password)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues contentValues=new ContentValues();
        contentValues.put("username",username);
        contentValues.put("phonenumber",phonenumber);
        contentValues.put("email",email);
        contentValues.put("name",name);
        contentValues.put("password",password);

        long result = db.insert(tablename,null,contentValues);
        if(result==-1){
            return false;
        }
        else {
            return true;
        }
    }

    public boolean deleteData(int id){
        SQLiteDatabase db=this.getWritableDatabase();
        db.execSQL("delete from "+ tablename+" where id="+id );
        return true;
    }

    public boolean deleteAllData(){
```

```

        SQLiteDatabase db=this.getWritableDatabase();
        db.execSQL("delete from "+ tabelname );
        return true;
    }
    public Cursor readData(){
        SQLiteDatabase db=this.getWritableDatabase();
        Cursor cursor=db.rawQuery("select*from "+tabelname,null);
        return cursor;
    }

    public Cursor readSingleData(int id){
        SQLiteDatabase db=this.getWritableDatabase();
        Cursor cursor=db.rawQuery("select*from "+tabelname +"where
id="+id,null);
        return cursor;
    }

    public Cursor checkUser(String email){
        SQLiteDatabase db=this.getWritableDatabase();
        Cursor cursor=db.rawQuery("select * from "+tabelname+" where
email='"+email+"'",null);
        return cursor;
    }
}

```

Ouput:

