Atma Ram Sanatan Dharma college

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ANDROID PROGRAMMING
Practical file

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Serial No.	Practical
1.	Create "Hello World" application that will display "Hello World" in the middle of the screen in the emulator. Also display "Hello World" in the middle of the screen in the android phone.
2 .	Create an application to display various android activity lifecycle phases.
3 .	Create an application with first activity with an editText and send button. On click of send button, make use of explicit intent to send text to second activity and display there in text view.
4 .	Create an application with first activity with an editText and send button. On click of send button, make use of implicit intent that uses a SEND ACTION and let user select app from app chooser and navigate to that application.
5 .	Create spinner with strings taken from resource folder (res >> value folder) and on changing the spinner value, Image will change.
6 .	Create a menu with 5 options and selected option should appear in text box in upper case.
7.	Create a radio button group with radio button of all courses in your college and on selecting a particular course, teacher-in- charge of that course should appear at the bottom of the screen.
8.	Create a list of all courses in your college and on selecting a particular course parent department and the teacher-in-charge of that department should appear at the bottom of the screen.

9.	a) Create an application with three buttons (with different color names) vertically aligned, on selecting a button color of the screen will change. b) Create an application with three buttons horizontally aligned, on selecting a button color of the screen will
	change.
10.	Create a Login application (check username and password). On successful login, pop up the message. ("Welcome username")
11.	Create a login application as above, on successful login redirect to another activity with logout button. On click of logout button a dialog appears with OK and CANCEL button. On OK button click go to login activity and on CANCEL stay at same activity.
12.	Create an application to Create, Insert, update and Delete operation on the database

Objective 1. Create "Hello World" application that will display "Hello World" in the middle of the screen in the emulator. Also display "Hello World" in the middle of the screen in the android phone.

Code:

MainActivity.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"  tools:context=".MainActivity">

 <TextView android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:rotationX="7" android:text="Hello World!"

android:textColor="@color/teal_200"

android:textSize="50sp"

android:textStyle="bold|italic"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintLeft_toLeftOf="parent"

app:layout_constraintRight_toRightOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"
```

app:layout_constraintVertical_bias="0.484" />

</androidx.constraintlayout.widget.ConstraintLayout

>

MainActivity.java

package com.example.myapplication; import

androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; public class MainActivity extends

AppCompatActivity {

 @Override protected void onCreate(Bundle

savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

 }

}

 Output:

Objective 2. Create an application to display various android activity lifecycle phases.

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="wrap_content"

android:layout_height="wrap_content" tools:context=".MainActivity">

 <TextView

android:id="@+id/Display"

android:layout_width="0dp"

android:layout_height="wrap_conten

t"

android:layout_marginLeft="100dp"

android:layout_marginBottom="250d

p" android:fontFamily="sans-serif-

black"

android:text="@string/activity_life_cy

cle"

android:textAppearance="@style/Tex

tAppearance.AppCompat.Large"

android:textColor="@color/purple_50

0"

android:textColorHighlight="@color/b

lack" android:textSize="50sp"

android:textStyle="bold|italic"

android:typeface="monospace"

app:layout_constraintBottom_toBott
```

omOf="parent"

app:layout_constraintEnd_toEndOf="

parent"

app:layout_constraintLeft_toLeftOf="

parent"

app:layout_constraintRight_toRightOf

="parent"

app:layout_constraintTop_toTopOf="

parent"

app:layout_constraintVertical_bias="1

.0" />

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

```java
package com.example.lifecycle; import

androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

 @Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);

Toast t = Toast.makeText(getApplicationContext(), "Activity Created",

Toast.LENGTH_SHORT);

 t.show();

 }
```

```java
@Override protected void

onResume() {

super.onResume();

Toast t = Toast.makeText(getApplicationContext(), "Activity Resumed",

Toast.LENGTH_SHORT);

t.show();

}

@Override protected

void onPause() {

super.onPause();

Toast t = Toast.makeText(getApplicationContext(), "Activity Paused",

Toast.LENGTH_SHORT);

t.show();

}

@Override protected

void onStart() {

super.onStart();

Toast t = Toast.makeText(getApplicationContext(), "Activity Started",

Toast.LENGTH_SHORT);

t.show();

}

@Override protected

void onStop() {

super.onStop();

Toast t = Toast.makeText(getApplicationContext(), "Activity Stopped",

Toast.LENGTH_SHORT);

t.show();
```

```
 }

 @Override protected void

onDestroy() {

super.onDestroy();

 Toast t = Toast.makeText(getApplicationContext(), "Activity Destroyed",

Toast.LENGTH_SHORT);

 t.show();

 }

}
```

 Output:

Objective 3. Create an application with first activity with an editText and send button. On click of send button, make use of explicit intent to send text to second activity and display there in text view.

activity_main.xml

```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" android:padding="20sp">

 <EditText android:layout_width="match_parent"

android:layout_height="wrap_content"

android:hint="Type Something"

android:id="@+id/edittext"

 />

 <Button

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:text="Submit"

android:textSize="20sp"

android:layout_below="@+id/edittext"

android:id="@+id/button"/>

</RelativeLayout>
```

MainActivity.java

```java
package com.example.twoactivity; import

androidx.appcompat.app.AppCompatActivity; import
```

```java
android.content.Intent; import android.os.Bundle;

import android.view.View; import

android.widget.Button; import

android.widget.EditText; public class MainActivity

extends AppCompatActivity {

Button btn;

EditText et;

String st;

 @Override protected void onCreate(Bundle

savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

btn=findViewById(R.id.button);

et=findViewById(R.id.edittext);

btn.setOnClickListener(new View.OnClickListener(){

@Override public void

onClick(View v){

 Intent i=new Intent(MainActivity.this,SecondActivity.class);

st=et.getText().toString();

i.putExtra("Value",st);

startActivity(i); finish();

}

});

} }
```

activity_second.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
```

```xml
<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=".SecondActivity">

 <TextView android:id="@+id/textView"

android:layout_width="match_parent"

android:layout_height="match_parent"

android:gravity="center"

android:text="Value"

android:textColor="@color/purple_200"

android:textSize="50sp"

android:textStyle="bold" />

</RelativeLayout>
```

SecondActivity.java

```java
package com.example.twoactivity; import

androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; import android.widget.TextView;

public class SecondActivity extends AppCompatActivity {

TextView tv;

 String st;

 @Override protected void onCreate(Bundle

savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_second);

tv=findViewById(R.id.textView);
```
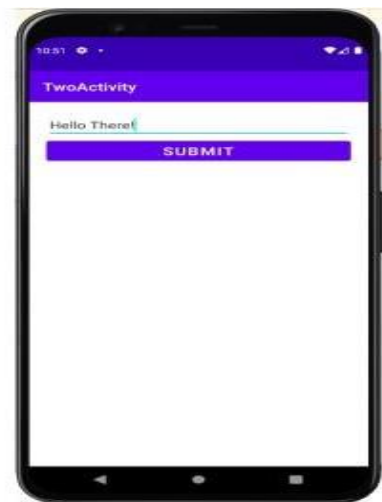
st=getIntent().getExtras().getString("Value");

tv.setText(st);

}

}

 Output:

Objective 4. Create an application with first activity with an editText and send button. On click of send button, make use of implicit intent that uses a SEND ACTION and let user select app from app chooser and navigate to that application.

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"  tools:context=".MainActivity">

 <Button android:id="@+id/btnShare"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="Share Text"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintLeft_toLeftOf="parent"

app:layout_constraintRight_toRightOf="parent"

app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```
package com.example.implicitintent; import

androidx.appcompat.app.AppCompatActivity; import

android.content.Intent; import android.os.Bundle;
```

```java
import android.view.View; import
android.widget.Button; public class MainActivity
extends AppCompatActivity {
 @Override protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main); Button
btnShare=findViewById(R.id.btnShare);
btnShare.setOnClickListener(new View.OnClickListener() {
@Override public void
onClick(View v) {
 Intent intent=new Intent(Intent.ACTION_SEND);
intent.setType("text/plain"); intent.putExtra(Intent.EXTRA_TEXT,"Hello
There");  startActivity(intent.createChooser(intent,"Share"));
 }
 });
 }
}
```
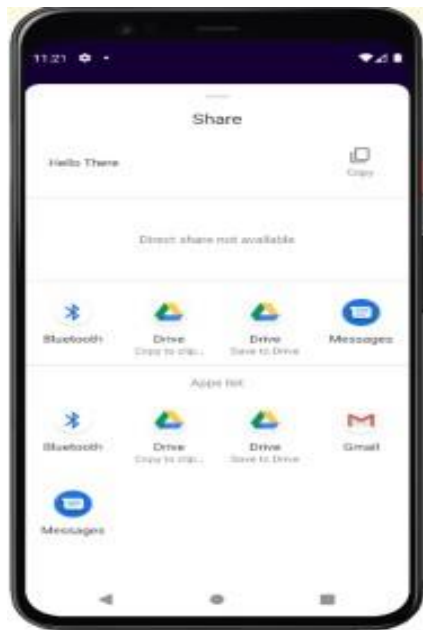
Output:

Q5.Objective of Practical 5: Create spinner with strings taken from resource folder (res >> value folder) and on changing the spinner value, Image will change.

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent" android:layout_height="match_parent"

tools:context=".MainActivity">

 <Spinner android:id="@+id/spinner"

android:layout_width="0dp"

android:layout_height="wrap_content"

android:layout_marginStart="8dp"

android:layout_marginLeft="8dp"

android:layout_marginTop="16dp"

android:layout_marginEnd="8dp"

android:layout_marginRight="8dp"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

/>

 <ImageView android:id="@+id/image"

android:layout_width="332dp"

android:layout_height="323dp"

app:layout_constraintBottom_toBottomOf="parent"
```

```
app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="@+id/spinner"

app:layout_constraintVertical_bias="0.479" />

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

MainActivity.java

```java
package com.example.spinner; import

androidx.appcompat.app.AppCompatActivity; import

android.os.Bundle; import android.view.View; import

android.widget.AdapterView; import

android.widget.ArrayAdapter; import

android.widget.ImageView; import

android.widget.Spinner; public class MainActivity

extends AppCompatActivity { private Spinner spinner;

private ImageView image;

 @Override protected void onCreate(Bundle

savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

spinner=findViewById(R.id.spinner);

image=findViewById(R.id.image);

 String [] birds={"Select One","Flamingo","Macaw","Kingfisher","Toucan"};

ArrayAdapter<String>adapter=new

ArrayAdapter<String>(this,android.R.layout.simple_spinner_dropdown_item,birds);

spinner.setAdapter(adapter); spinner.setOnItemSelectedListener(new

AdapterView.OnItemSelectedListener()

{
```

```java
@Override
public void onItemSelected(AdapterView<?> parent, View view, int
position, long id) { switch (position){ case 1:
image.setImageResource(R.drawable.flamingo);
break; case 2:
image.setImageResource(R.drawable.macaw);
break; case 3:
image.setImageResource(R.drawable.kingfisher);
break; case 4:
image.setImageResource(R.drawable.toucan);
break;
}
}
@Override public void
onNothingSelected(AdapterView<?> parent) {
}
});
}
}
```
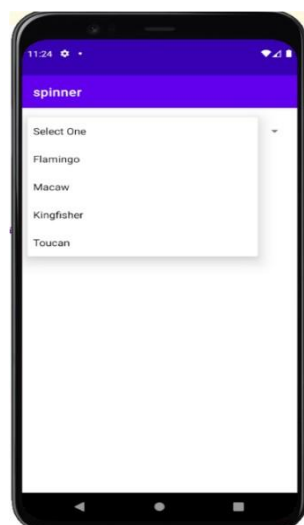
Output:

Objective 6. Create spinner with strings taken from resource folder (res >> value folder) and on changing the spinner value, Image will change.

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent"

android:layout_height="match_parent"  tools:context=".MainActivity">

 <RelativeLayout

android:layout_width="match_parent"

android:layout_height="match_parent"

android:layout_margin="80dp"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintLeft_toLeftOf="parent"

app:layout_constraintRight_toRightOf="parent"

app:layout_constraintTop_toTopOf="parent">

 <EditText

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:id="@+id/etMenuItem"

android:layout_centerInParent="true"

android:hint="Select an Option from the Menu"
```

android:textAlignment="center"

android:gravity="center_horizontal" />

 </RelativeLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

MainActivity.java

```java
package com.example.menuwithoptions; import

androidx.appcompat.app.AppCompatActivity; import

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

import android.view.MenuInflater; import

android.view.MenuItem; import

android.widget.EditText; public class MainActivity

extends AppCompatActivity { private EditText

etMenuItem;

 @Override protected void onCreate(Bundle

savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

etMenuItem=(EditText) findViewById(R.id.etMenuItem);

}

 @Override public boolean

onCreateOptionsMenu(Menu menu){ MenuInflater

inflater=getMenuInflater();

inflater.inflate(R.menu.main_menu,menu); return

true;

}

 @Override public boolean

onOptionsItemSelected(MenuItem item){
```

etMenuItem.setText(item.getTitle().toString().toUpperCa

se()); return super.onOptionsItemSelected(item);

}}

main_menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>

<menu xmlns:android="http://schemas.android.com/apk/res/android">

 <item

android:id="@+id/miSettings"

android:title="@string/settings" />

 <item

android:id="@+id/miBackup"

android:title="@string/backup" />

 <item

android:id="@+id/miReset"

android:title="@string/reset" />

 <item

android:id="@+id/miAbout"

android:title="@string/about" />

 <item

android:id="@+id/miHelp"

android:title="@string/help" />

</menu>
```
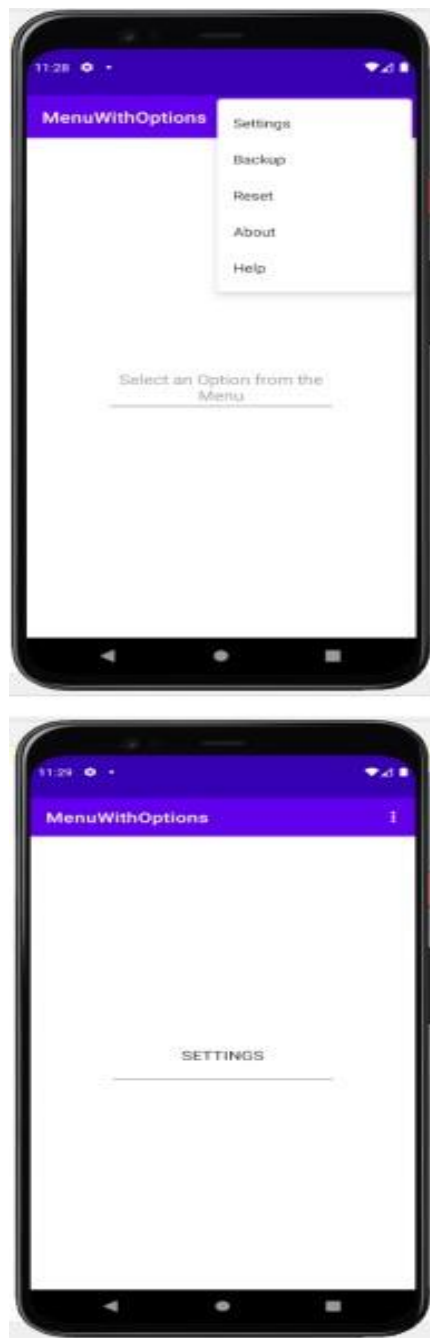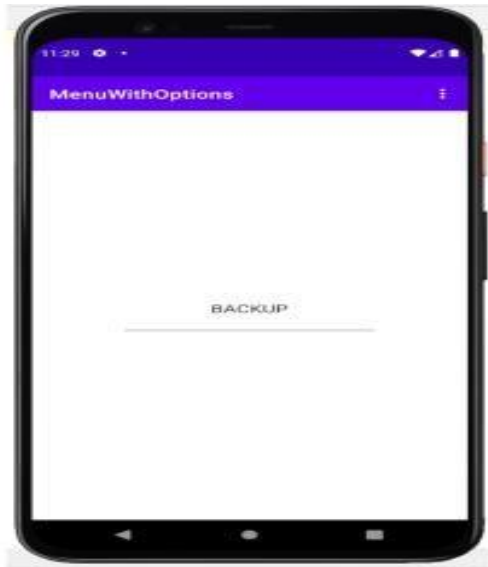
Objective 7 : Create a radio button group with radio button of all courses in your college and on selecting a particular course, teacher-in- charge of that course should appear at the bottom of the screen.

activity_main.xml

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

<RelativeLayout android:layout_width="match_parent"
android:layout_height="match_parent"
android:layout_margin="75dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" >

<RadioGroup android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rgCourses"
android:layout_centerInParent="true">

</RadioGroup>

</RelativeLayout>

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

MainActivity.java

```
package com.example.courses;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle; import

android.provider.MediaStore; import

android.widget.RadioGroup; import

android.widget.RadioButton;

import com.google.android.material.snackbar.Snackbar;

import java.util.HashMap;

public class MainActivity extends AppCompatActivity { private

RadioGroup rgCourses;

private HashMap<String, String> coursesMap;

@Override
```

```java
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
initCourses();
}
private void initCourses(){
rgCourses=(RadioGroup)findViewById(R.id.rgCourses);
if        (coursesMap==null){        coursesMap=new
HashMap<>();
coursesMap.put("BSc(H) Computer Science"," Dr.V.S.Dixit");
coursesMap.put("BCom(H)"," Dr.Manika Jain");
coursesMap.put("BA(H) Sociology"," Dr. Apra Sinha"); for
(String course : coursesMap.keySet()){
RadioButton rButton=new RadioButton(MainActivity.this);
rButton.setText(course);
rgCourses.addView(rButton);
}
rgCourses.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
@Override public void onCheckedChanged(RadioGroup group, int
checkedId) { int
checkedRadioButtonId=rgCourses.getCheckedRadioButtonId();
RadioButton rButton=(RadioButton)
findViewById(checkedRadioButtonId);
Snackbar.make(rgCourses,coursesMap.get(rButton.getText()),Snackbar.LENGTH_SHORT)
.show();
}
});
}
}
}
```

Output:

Q8) Create a list of all courses in your college and on selecting a particular course parent department and the teacher-in-charge of that department should appear at the bottom of the screen. activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
<RelativeLayout android:layout_width="match_parent"
android:layout_height="match_parent"
android:layout_margin="75dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" >
<RadioGroup android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/rgCourses"
android:layout_centerInParent="true">
</RadioGroup>
</RelativeLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```java
package com.example.incharge;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle; import

android.provider.MediaStore; import

android.widget.RadioGroup; import

android.widget.RadioButton;

import com.google.android.material.snackbar.Snackbar;

import java.util.HashMap;

public class MainActivity extends AppCompatActivity { private

RadioGroup rgCourses;

private HashMap<String, String> coursesMap;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

initCourses();

}
```

```java
private void initCourses(){
rgCourses=(RadioGroup)findViewById(R.id.rgCourses);
if        (coursesMap==null){        coursesMap=new
HashMap<>();
coursesMap.put("BSc(H) Computer Science","Deptt of Computer Sc - Dr.V.S.Dixit");
coursesMap.put("BCom(H)","Deptt of Commerce - Dr.Manika Jain");
coursesMap.put("BA(H) Sociology"," Deptt of Economics - Dr. Apra Sinha"); for
(String course : coursesMap.keySet()){
RadioButton rButton=new RadioButton(MainActivity.this);

rButton.setText(course);

rgCourses.addView(rButton);

}

rgCourses.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
@Override public void onCheckedChanged(RadioGroup group, int
checkedId)                                {                                int
checkedRadioButtonId=rgCourses.getCheckedRadioButtonId();
RadioButton rButton=(RadioButton) findViewById(checkedRadioButtonId);
Snackbar.make(rgCourses,coursesMap.get(rButton.getText()),Snackbar.LENGTH_SHORT)

.show();

}

});

}

}

}
```

 Output:

Objective of Practical 9(a):

Create an application with three buttons (with different color names) vertically aligned, on selecting a button color of the screen will change.

Code: activity_main.xml

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

<LinearLayout

android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="vertical"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent">

<Button

android:layout_width="150dp"
android:layout_height="wrap_content"
android:id="@+id/btnRed" android:layout_gravity="center"
android:backgroundTint="@android:color/holo_red_dark"
android:text="RED"/>

<Button

android:layout_width="150dp"
android:layout_height="wrap_content"
android:id="@+id/btnBlue" android:layout_gravity="center"
android:backgroundTint="@android:color/holo_blue_light"
android:text="BLUE"/>

<Button

android:layout_width="150dp"
android:layout_height="wrap_content"
android:id="@+id/btnGreen" android:gravity="center"
android:backgroundTint="@android:color/holo_green_dark"
android:text="GREEN"/>

<Button

android:layout_width="150dp"
android:layout_height="wrap_content"
android:id="@+id/btnReset"
android:gravity="center" android:text="Reset"/>

</LinearLayout>

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

MainActivity.java

```java
package com.example.colorchangevertical; import
androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.view.View; import
android.widget.Button;
import androidx.constraintlayout.widget.ConstraintLayout;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity implements View.OnClickListener {
private Button btnRed; private Button btnBlue; private Button btnGreen; private Button
btnReset;
private ConstraintLayout layoutSuperParent;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
layoutSuperParent=(ConstraintLayout)findViewById(R.id.layoutSuperParent);
btnRed=(Button)findViewById(R.id.btnRed);
btnBlue=(Button)findViewById(R.id.btnBlue);
btnGreen=(Button)findViewById(R.id.btnGreen);
btnReset=(Button)findViewById(R.id.btnReset);
btnRed.setOnClickListener(this); btnBlue.setOnClickListener(this);
btnGreen.setOnClickListener(this);
btnReset.setOnClickListener(this);
}
@Override
public void onClick(View v){
switch (v.getId()){ case R.id.btnRed:
layoutSuperParent.setBackgroundColor(Color.RED);
break; case R.id.btnBlue:
layoutSuperParent.setBackgroundColor(Color.BLUE);
break; case R.id.btnGreen:
layoutSuperParent.setBackgroundColor(Color.GREEN);
break; case R.id.btnReset:
layoutSuperParent.setBackgroundColor(Color.TRANSPARENT);
break; default: break;
}
}
}
```

Objective 9b)Create an application with three buttons horizontally aligned, on selecting a button color of the screen will change.

Objective of Practical 9(b):

Create an application with three buttons horizontally aligned, on

selecting a button color of the screen will change.
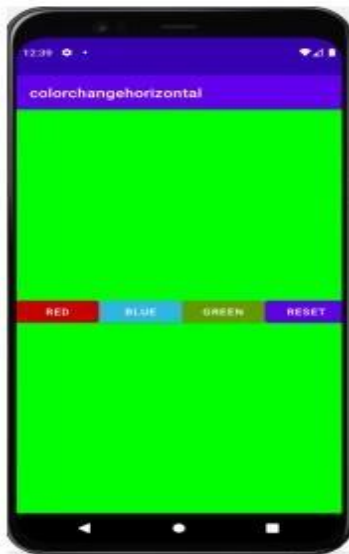
Code: activity_main.xml

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

<LinearLayout android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="horizontal"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout_constraintTop_toTopOf="parent">

<Button
android:layout_width="100dp"
android:layout_height="wrap_content"
android:id="@+id/btnRed" android:layout_gravity="center"
android:backgroundTint="@android:color/holo_red_dark"
android:text="RED"/>

<Button
android:layout_width="100dp"
android:layout_height="wrap_content"
android:id="@+id/btnBlue" android:layout_gravity="center"
android:backgroundTint="@android:color/holo_blue_light"
android:text="BLUE"/>

<Button
android:layout_width="100dp"
android:layout_height="wrap_content"
android:id="@+id/btnGreen" android:gravity="center"
android:backgroundTint="@android:color/holo_green_dark"
android:text="GREEN"/>

<Button
android:layout_width="100dp"
android:layout_height="wrap_content"
android:id="@+id/btnReset"
android:gravity="center" android:text="Reset"/>

</LinearLayout>

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

MainActivity.java

```java
package com.example.colorchangehorizontal; import
androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.view.View; import
android.widget.Button;
import androidx.constraintlayout.widget.ConstraintLayout;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity implements View.OnClickListener {
private Button btnRed; private Button btnBlue; private Button btnGreen; private Button
btnReset;
private ConstraintLayout layoutSuperParent;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
layoutSuperParent=(ConstraintLayout)findViewById(R.id.layoutSuperParent);
btnRed=(Button)findViewById(R.id.btnRed);
btnBlue=(Button)findViewById(R.id.btnBlue);
btnGreen=(Button)findViewById(R.id.btnGreen);
btnReset=(Button)findViewById(R.id.btnReset);
btnRed.setOnClickListener(this); btnBlue.setOnClickListener(this);
btnGreen.setOnClickListener(this);
btnReset.setOnClickListener(this);
}
@Override
public void onClick(View v){
switch (v.getId()){ case R.id.btnRed:
layoutSuperParent.setBackgroundColor(Color.RED);
break; case R.id.btnBlue:
layoutSuperParent.setBackgroundColor(Color.BLUE
); break; case R.id.btnGreen:
layoutSuperParent.setBackgroundColor(Color.GRE
EN); break; case R.id.btnReset:
layoutSuperParent.setBackgroundColor(Color.TRANSPARENT);
break; default: break;
}
}
}
```

Objective 10) Create a Login application (check username and password). On successful login, pop up the message. ("Welcome username")

Create a Login application (check username and password). On successful login, pop up the message. ("Welcome username") Code:

app/src/main/res/layout/activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schem
as.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent" tools:context=".MainActivity">
<EditText
android:id="@+id/etEmail"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="240dp"
android:autofillHints="false"
android:ems="10"
android:hint="@string/e_mail_id"
android:inputType="textEmailAddress"
app:layout_constraintBottom_toTopOf="@id/etPassword"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<EditText
android:id="@+id/etPassword" android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="10dp" android:autofillHints="false"
android:ems="10" android:hint="@string/password"
android:inputType="textPassword"
app:layout_constraintBottom_toTopOf="@id/btnLogin"
app:layout_constraintEnd_toEndOf="parent"
```

```xml
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@id/etEmail" />
<Button
android:id="@+id/btnLogin"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="30dp" android:text="@string/login"
app:layout_constraintBottom_toTopOf="@id/btnRegister"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@id/etPassword" />
<Button
android:id="@+id/btnRegister" android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginBottom="250dp"
android:text="@string/register"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@id/btnLogin" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

app/src/main/res/values/strings.xml

```xml
<resources>
<string name="app_name">LoginValidation</string>
<string name="welcome">Welcome</string>
<string name="log_out">Log Out</string>
<string name="password">Password</string>
<string name="e_mail_id">E-mail ID</string>
<string name="login">Login</string>
<string name="register">Register</string>
<string name="cancel">Cancel</string>
<string name="ok">Ok</string>
</resources>
```

app/src/main/java/com/example/loginvalidation/MainActivity.java

```java
package com.example.loginvalidation;
import android.database.sqlite.SQLiteConstraintException;
import android.os.Bundle; import android.util.Log; import
```

```java
android.widget.Button; import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import com.example.loginvalidation.models.User; import
com.example.loginvalidation.services.UserService; public
class MainActivity extends AppCompatActivity { private
EditText etEmail; private EditText etPassword; private
Button btnLogin;
private Button btnRegister; private
UserService userService;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main); userService =
UserService.getInstance();
UserService.initDatabase(this); etEmail = (EditText)
findViewById(R.id.etEmail); etPassword = (EditText)
findViewById(R.id.etPassword); btnLogin = (Button)
findViewById(R.id.btnLogin); btnRegister = (Button)
findViewById(R.id.btnRegister);
btnLogin.setOnClickListener(v -> { User
user = validateCredentials();
if (user != null) {
try {
userService.login(user);
Toast.makeText(this, "Welcome " + userService.getUser().em ail,
Toast.LENGTH_SHORT).show();
} catch (IllegalStateException illegalStateException) {
Toast.makeText(this, "Invalid Email/
Password", Toast.LENGTH_SHORT).show();
} catch (Exception e) {
Log.d("TAG", e.getMessage());
Toast.makeText(this, "Error", Toast.LENGTH_SHORT).show();
}
}
});
```

```java
btnRegister.setOnClickListener(v -> { User user
= validateCredentials(); if (user != null) { try {
userService.register(user);
Toast.makeText(this, "Registered", Toast.LENGTH_SHORT).show();
} catch (SQLiteConstraintException sqLiteConstraintException)
{
Toast.makeText(this, "Email
Already Used", Toast.LENGTH_SHORT).show();
} catch (Exception e) {
Toast.makeText(this, "Error", Toast.LENGTH_SHORT).show();
}
}
});
}
private User validateCredentials() {
String email = etEmail.getText().toString().trim(); String
password = etPassword.getText().toString().trim();
if (email.length() == 0) {
etEmail.setError("Enter your e-mail address");
return null;
}
if (password.length() == 0) { etPassword.setError("Enter
your password");
return null;
}
return new User(email, password);
}
}
```

app/src/main/java/com/example/loginvalidation/models/User.java

```java
package com.example.loginvalidation.models;
import androidx.annotation.NonNull; import
androidx.room.ColumnInfo; import
androidx.room.Entity; import
androidx.room.PrimaryKey;
@Entity public
class User {
@PrimaryKey
```

```java
    @NonNull
    @ColumnInfo(name = "email")
    public String email;
    @NonNull
    @ColumnInfo(name = "password") public
    String password;
    public User(@NonNull String email, @NonNull String password) { this.email
    = email;
    this.password = password;
    }
}
```

app/src/main/java/com/example/loginvalidation/data/UserDao.java

```java
package com.example.loginvalidation.data;
import androidx.room.Dao; import
androidx.room.Delete; import
androidx.room.Insert;
import androidx.room.Query; import
java.util.List;
import
com.example.loginvalidation.models.User;
@Dao
public interface UserDao {
@Query("SELECT * FROM user")
List<User> getAll();
@Query("SELECT * FROM user WHERE email LIKE :email LIMIT 1")
User findByEmail(String email);
@Insert
void insert(User user); @Delete
void delete(User user);
}
```

app/src/main/java/com/example/loginvalidation/data/UserDatabase.java

```java
package com.example.loginvalidation.data; import
androidx.room.RoomDatabase; import androidx.room.Database;
import com.example.loginvalidation.models.User;
@Database(entities = {User.class}, version = 1) public
abstract class UserDatabase extends RoomDatabase {
public abstract UserDao userDao();
```

```
}
```

app/src/main/java/com/example/loginvalidation/services/UserService.java

```java
package com.example.loginvalidation.services;
import          android.content.Context;          import
androidx.room.Room;
import com.example.loginvalidation.data.UserDatabase;
import com.example.loginvalidation.models.User; public
class UserService { private User user = null;
private static UserService instance = null; private static
UserDatabase database = null; public void login(User
user) throws IllegalStateException { User u =
database.userDao().findByEmail(user.email); if
(!u.password.equals(user.password))
throw new IllegalStateException("Password Mismatch"); this.user
= user;
}
public void register(User user) { database.userDao().insert(user);
this.user = user;
}
public void logout() {
this.user = null;
}
public User getUser() { return
user;
}
public static UserService getInstance() {
if (instance == null) { instance
= new UserService();
}
return instance;
}
public static void initDatabase(Context ctx) {
if (database == null) { database = Room
.databaseBuilder(ctx, UserDatabase.class, "login_module")
.allowMainThreadQueries()
.build();
}
}
```

}

Output:
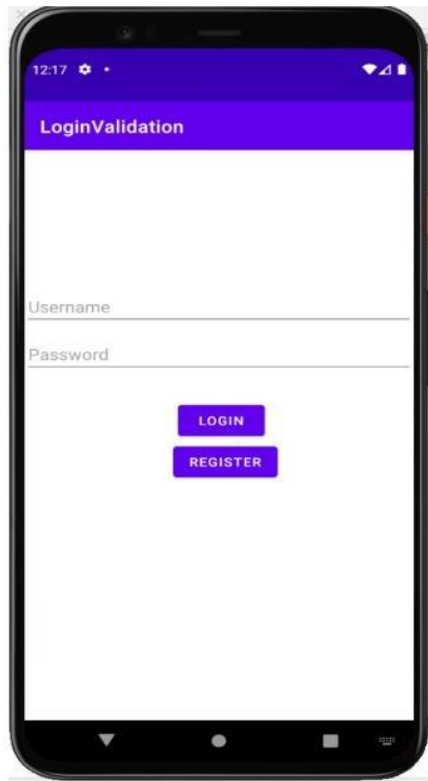
Objective 11) Create a login application as above, on successful login redirect to another activity with logout button. On click of logout button a dialog appears with OK and CANCEL button. On OK button click go to login activity and on CANCEL stay at same activity.

Code:

app/src/main/AndroidManifest.xml <?xml

version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

package="com.example.loginmodule">

<application android:allowBackup="true"

android:icon="@mipmap/ic_launcher"

android:label="@string/app_name"

android:roundIcon="@mipmap/ic_launcher_round

" android:supportsRtl="true"

android:theme="@style/Theme.LoginModule">

<activity

android:name=".MemberModule"></activity>

<activity android:name=".MainActivity">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

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

</intent-filter>

</activity>

</application> </manifest>

app/src/main/res/layout/activity_main.xml

<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schem

as.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">

```xml
<EditText android:id="@+id/etEmail"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="240dp"
android:autofillHints="false"
android:ems="10"
android:hint="@string/e_mail_id"
android:inputType="textEmailAddress
"
app:layout_constraintBottom_toTopOf="@id/etPassword"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<EditText
android:id="@+id/etPassword"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="10dp"
android:autofillHints="false"
android:ems="10"
android:hint="@string/password"
android:inputType="textPassword"
app:layout_constraintBottom_toTopOf="@id/btnLogin"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@id/etEmail" />
<Button
android:id="@+id/btnLogin"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="30dp" android:text="@string/login"
app:layout_constraintBottom_toTopOf="@id/btnRegister"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@id/etPassword" />
<Button
android:id="@+id/btnRegister"
```

```
android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginBottom="250dp" android:text="@string/register"

app:layout_constraintBottom_toBottomOf="parent"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@id/btnLogin" />

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

app/src/main/res/layout/activity_member_module.xml

```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schem

as.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=".MemberModule">

<TextView

android:id="@+id/tvWelcome" android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="@string/welcome"

android:textAppearance="@style/TextAppearance.AppCompat.Display1"

app:layout_constraintBottom_toTopOf="@id/tvEmail"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent" />

<TextView android:id="@+id/tvEmail"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text=""

app:layout_constraintBottom_toTopOf="@id/btnLogout"

app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@id/tvWelcome" />

<Button

android:id="@+id/btnLogout" android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="@string/log_out"
```

```xml
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/tvEmail" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

app/src/main/res/values/strings.xml

```xml
<resources>
<string name="app_name">LoginModule</string>
<string name="welcome">Welcome</string>
<string name="log_out">Log Out</string>
<string name="password">Password</string>
<string name="e_mail_id">E-mail ID</string>
<string name="login">Login</string>
<string name="register">Register</string>
<string name="cancel">Cancel</string>
<string name="ok">Ok</string>
</resources>
```

app/src/main/java/com/example/loginmodule/MainActivity.java

```java
package com.example.loginmodule; import
android.content.Intent;
import android.database.sqlite.SQLiteConstraintException;
import android.os.Bundle; import android.util.Log; import
android.widget.Button; import android.widget.EditText;
import android.widget.Toast; import
androidx.appcompat.app.AppCompatActivity; import
com.example.loginmodule.models.User; import
com.example.loginmodule.services.UserService; public
class MainActivity extends AppCompatActivity { private
EditText etEmail; private EditText etPassword; private
Button btnLogin; private Button btnRegister; private
UserService userService;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
```

```java
setContentView(R.layout.activity_main); userService =
UserService.getInstance();
UserService.initDatabase(this);
etEmail = (EditText) findViewById(R.id.etEmail); etPassword
= (EditText) findViewById(R.id.etPassword); btnLogin =
(Button) findViewById(R.id.btnLogin); btnRegister = (Button)
findViewById(R.id.btnRegister);
btnLogin.setOnClickListener(v -> { User
user = validateCredentials();
if (user != null){
try {
userService.login(user);
Toast.makeText(this, "Logged In", Toast.LENGTH_SHORT).show();
startActivity(new Intent(this, MemberModule.class));
} catch (IllegalStateException illegalStateException) { Toast.makeText(this,
"Invalid E- mail/Password", Toast.LENGTH_SHORT).show();
} catch (Exception e) {
Log.d("TAG", e.getMessage());
Toast.makeText(this, "Error", Toast.LENGTH_SHORT).show();}
}
}); btnRegister.setOnClickListener(v -> { User
user = validateCredentials(); if (user != null) {
try {
userService.register(user);
Toast.makeText(this, "Registered", Toast.LENGTH_SHORT).show();
startActivity(new    Intent(this,    MemberModule.class));    }    catch
(SQLiteConstraintException sqLiteConstraintException)
{
Toast.makeText(this, "E-mail Already Used",
Toast.LENGTH_SHORT).show();
} catch (Exception e) {
Toast.makeText(this, "Error", Toast.LENGTH_SHORT).show();
}
}
});
}
private User validateCredentials() {
```

```java
        String email = etEmail.getText().toString().trim(); String
        password = etPassword.getText().toString().trim();
        if (email.length() == 0) {
        etEmail.setError("Enter your e-mail address"); return
        null;
        }
        if (password.length() == 0) { etPassword.setError("Enter
        your password");
        return null;
        }
        return new User(email, password);
        }
        }
```

app/src/main/java/com/example/loginmodule/MemberModule.java

```java
package com.example.loginmodule;
import android.app.AlertDialog;
import android.os.Bundle; import
android.widget.TextView; import
android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import com.example.loginmodule.models.User; import
com.example.loginmodule.services.UserService; public
class MemberModule extends AppCompatActivity {
private User user; private UserService userService;
private TextView tvEmail; private TextView btnLogout;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_member_module);
userService = UserService.getInstance(); user =
userService.getUser();
tvEmail = (TextView) findViewById(R.id.tvEmail);
btnLogout = (TextView)
findViewById(R.id.btnLogout); if (user == null) {
super.finish(); } else {
tvEmail.setText(user.email);
}
```

```java
btnLogout.setOnClickListener(v -> { new
AlertDialog.Builder(this)
.setTitle("Logout")
.setMessage("Are you sure you want to log out?")
.setPositiveButton(android.R.string.ok, (dialog, which) - >
logoutUser())
.setNegativeButton(android.R.string.cancel, null)
.setIcon(android.R.drawable.ic_dialog_alert)
.show();
});
}
private void logoutUser() { userService.logout();
Toast.makeText(this, "Logged Out", Toast.LENGTH_SHORT).show();
super.finish();
}
}
```

app/src/main/java/com/example/loginmodule/models/User.java

```java
package com.example.loginmodule.models;
import androidx.annotation.NonNull; import
androidx.room.ColumnInfo; import
androidx.room.Entity; import
androidx.room.PrimaryKey;
@Entity public
class User {
@PrimaryKey
@NonNull
@ColumnInfo(name = "email")
public String email;
@NonNull
@ColumnInfo(name = "password") public
String password;
public User(@NonNull String email, @NonNull String password) {
this.email = email; this.password = password;
}
}
```

app/src/main/java/com/example/loginmodule/data/UserDao.java

```java
package com.example.loginmodule.data;

import androidx.room.Dao; import
androidx.room.Delete; import
androidx.room.Insert;
import androidx.room.Query; import
java.util.List;
import com.example.loginmodule.models.User;
@Dao
public interface UserDao {
@Query("SELECT * FROM user")
List<User> getAll();
@Query("SELECT * FROM user WHERE email LIKE :email LIMIT 1")
User findByEmail(String email);
@Insert
void insert(User user); @Delete
void delete(User user);
}
```

app/src/main/java/com/example/loginmodule/data/UserDatabase.java

```java
package com.example.loginmodule.data; import
androidx.room.RoomDatabase; import
androidx.room.Database; import
com.example.loginmodule.models.User; @Database(entities
= {User.class}, version = 1) public abstract class
UserDatabase extends RoomDatabase { public abstract
UserDao userDao();
}
```

app/src/main/java/com/example/loginmodule/services/UserService.java
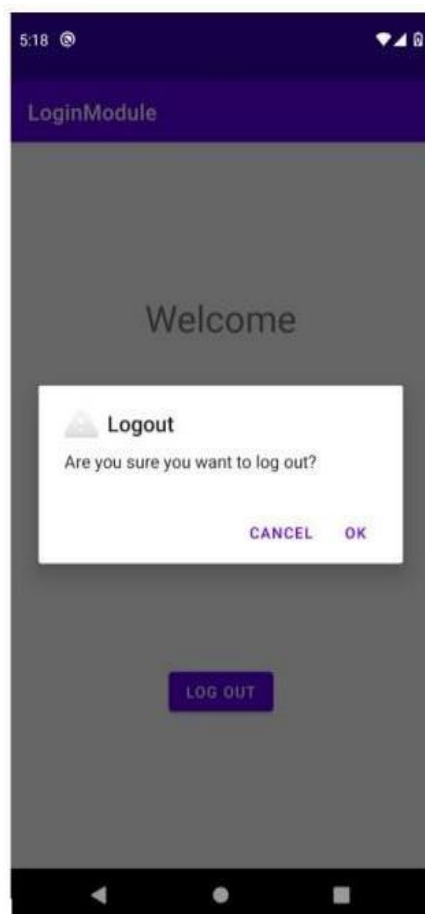
```java
package com.example.loginmodule.services;

import android.content.Context; import
androidx.room.Room;
import com.example.loginmodule.data.UserDatabase; import
com.example.loginmodule.models.User;
public class UserService { private
User user = null;
private static UserService instance = null; private static
UserDatabase database = null; public void login(User
```

```java
user) throws IllegalStateException { User u =
database.userDao().findByEmail(user.email); if
(!u.password.equals(user.password)) throw new
IllegalStateException("Password Mismatch"); this.user =
user;
}
public void register(User user) { database.userDao().insert(user);
this.user = user;
}
public void logout() {
this.user = null;
}
public User getUser() { return
user;
}
public static UserService getInstance() {
if (instance == null) {
instance = new UserService();
}
return instance;
}
public static void initDatabase(Context ctx) {
if (database == null) { database = Room
.databaseBuilder(ctx, UserDatabase.class, "login_module")
.allowMainThreadQueries()
.build();
}
}
}
```

Q12) Create an application to Create, Insert, update and Delete operation on the database.

activity_main.xml

```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"     android:padding="10dp"

tools:context=".MainActivity">


    <TextView        android:id="@+id/textTitle"

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:text="Enter Your Application Form Details"

android:textSize="24sp"

android:layout_marginTop="20dp"

tools:ignore="HardcodedText" />


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

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:hint="Enter Your Name:"

android:textSize="24sp"
```

```xml
android:layout_below="@+id/textTitle"

android:inputType="textPersonName"

android:autofillHints="" />


    <EditText

        android:id="@+id/age"

android:layout_width="match_parent"

android:layout_height="match_parent"

android:layout_below="@+id/name"

android:autofillHints=""        android:hint="Enter

Your Age:"        android:inputType="number"

android:textSize="24sp" />


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

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:padding="10dp"

android:hint="Enter Your Mobile Number:"

android:textSize="24sp"

android:layout_below="@+id/age"

android:inputType="number"

android:autofillHints="" />


    <Button

android:id="@+id/buttonInsert"

android:layout_width="match_parent"

android:layout_height="wrap_content"
```

```xml
        android:textSize="24sp"

        android:text="Insert New Data"

        android:layout_marginTop="24dp"

        android:layout_below="@id/mobile" />


    <Button        android:id="@+id/buttonUpdate"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:textSize="24sp"

        android:text="Update Your Data"

        android:layout_marginTop="24sp"

        android:layout_below="@id/buttonInsert" />

    <Button        android:id="@+id/buttonDelete"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:textSize="24sp"        android:text="Delete

Your Record"

        android:layout_marginTop="24dp"

        android:layout_below="@id/buttonUpdate"/>

    <Button        android:id="@+id/buttonView"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:textSize="24sp"

        android:text="Display Your Record"

        android:layout_marginTop="24sp"

        android:layout_below="@id/buttonDelete"/>

</RelativeLayout>
```

MainActivity.java

```java
package com.example.lokdbapp;


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


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


public class MainActivity extends AppCompatActivity {
    EditText name, age, mobile;
    Button insert, update, delete, view;
    DBhelper db;


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

        name = findViewById(R.id.name);        age
= findViewById(R.id.age);        mobile =
```

```java
findViewById(R.id.mobile);        insert =

findViewById(R.id.buttonInsert);        update =

findViewById(R.id.buttonUpdate);        delete =

findViewById(R.id.buttonDelete);        view =

findViewById(R.id.buttonView);        db = new

DBhelper(this);


    insert.setOnClickListener(new View.OnClickListener() {

      @Override        public void

onClick(View view) {

        String nameTXT = name.getText().toString();

        String ageTXT = age.getText().toString();

        String mobileTXT = mobile.getText().toString();

        Boolean checkinsertdata = db.insertuserdata(nameTXT, ageTXT, mobileTXT);

if (checkinsertdata == true) {

          Toast.makeText(MainActivity.this, "New Record Inserted",
Toast.LENGTH_SHORT).show();

        } else {

          Toast.makeText(MainActivity.this, "New Record Not Inserted",
Toast.LENGTH_SHORT).show();

        }

      }

    });


    update.setOnClickListener(new View.OnClickListener() {

      @Override

      public void onClick(View view) {

        String nameTXT = name.getText().toString();
```

```java
        String ageTXT = age.getText().toString();

        String mobileTXT = mobile.getText().toString();

        Boolean checkupdatedata = db.updateuserdata(nameTXT, ageTXT, mobileTXT);
if (checkupdatedata == true)

            Toast.makeText(MainActivity.this, "Record Updated", Toast.LENGTH_SHORT).show();

        else

            Toast.makeText(MainActivity.this, "Record Not Updated",
Toast.LENGTH_SHORT).show();

        }

    });


    delete.setOnClickListener(new View.OnClickListener() {

        @Override        public void
onClick(View view) {

            String nameTXT = name.getText().toString();

            Boolean checkdeletedata = db.deletedata(nameTXT);
if (checkdeletedata == true)

                Toast.makeText(MainActivity.this, "Record Deleted", Toast.LENGTH_SHORT).show();

            else

                Toast.makeText(MainActivity.this, "Record  Not Deleted", Toast.LENGTH_SHORT).show();

        }

    });


    view.setOnClickListener(new View.OnClickListener() {
public void onClick(View view) {            Cursor res =
db.getdata();

            if (res.getCount() == 0) {
```

```java
                Toast.makeText(MainActivity.this, "Record Not Exists", Toast.LENGTH_SHORT).show();

                return;
            }

            StringBuffer buffer = new StringBuffer();

while (res.moveToNext()) {                buffer.append("sid:" +

res.getString(0) + "\n");               buffer.append("name:" +

res.getString(1) + "\n");               buffer.append("age:" +

res.getString(2) + "\n");               buffer.append("mobile:" +

res.getString(3) + "\n");

            }

            AlertDialog.Builder builder = new

AlertDialog.Builder(MainActivity.this);            builder.setCancelable(true);

builder.setTitle("Application Entries");

builder.setMessage(buffer.toString());          builder.show();

        }
    });
  }
}
```

DBhelper.java

```java
package com.example.lokdbapp;


import android.content.ContentValues; import

android.content.Context;
```

```java
import android.database.Cursor; import

android.database.sqlite.SQLiteDatabase; import

android.database.sqlite.SQLiteOpenHelper;


public class DBhelper extends SQLiteOpenHelper {

public DBhelper( Context context) {


    super(context, "userDB5.db", null, 1);

  }


  @Override    public void

onCreate(SQLiteDatabase db) {

    db.execSQL("create Table appform(_sid integer primary key autoincrement, name TEXT, age
TEXT, mobile TEXT)");

  }


  @Override    public void onUpgrade(SQLiteDatabase

db, int i, int i1) {db.execSQL("drop Table if exists

appform");

    }

  public Boolean insertuserdata(String name, String age, String mobile) {

    SQLiteDatabase db = this.getWritableDatabase();

ContentValues contentValues = new ContentValues();

contentValues.put("name", name);

contentValues.put("age", age);

contentValues.put("mobile", mobile);        long result =

db.insert("appform", null, contentValues);

    if (result == -1)
```

```java
                    {           return
false;
            }
else
        {
            return true;
        }
    }


    public Boolean updateuserdata(String name, String age, String mobile) {
        SQLiteDatabase db = this.getWritableDatabase();
ContentValues contentValues = new ContentValues();
contentValues.put("age", age);        contentValues.put("mobile",
mobile);
        Cursor cursor = db.rawQuery("Select * from appform where name = ?", new String[]{name});
if (cursor.getCount() > 0) {          long result = db.update("appform", contentValues, "name = ?",
new String[] {name});
            if (result == -1)
            {
                return false;
            }
else
        {
            return true;
        }
}
else {
```

```java
        return
false;
        }
    }
    public Boolean deletedata(String name)
    {
        SQLiteDatabase db = this.getWritableDatabase();
        Cursor cursor = db.rawQuery("Select * from appform where name = ?", new String[] {name});
if (cursor.getCount() > 0)
        {
            long result = db.delete("appform", "name=?", new String[]{name});
            if (result == -1)
            {
                return false;
            }
else
            {
                return true;
            }
}
else
        {
            return false;
        }
    }
    public Cursor getdata()
    {
```

```
    SQLiteDatabase db = this.getWritableDatabase();

Cursor cursor = db.rawQuery("Select * from appform",null);

return cursor;

  }

}
```

Output:

DatabaseCRUD

Attend Meeting
2021-04-19T09:49:30.065

MARK AS NOT DONE	DELETE

Todo State Toggled   ➕

◁ ○ ☐

DatabaseCRUD

Todo Deleted   ➕

◁ ○ ☐