ANDRIOD APP DEVELOPMENT

Lab Programs – there you goooo

ABSTRACT

This experiments are completely done by ethifying from the websites, that I know You know. The main objective of this pdf : to sadhivify when you are on the bed, being sleepy & tired and cant able to open the record at the night on the day before exam. I hope you will study through this material.

Author

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Experiment 2 (Hello World)

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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        android:textSize="50sp"
        android:textColor="@color/black"
        android:textStyle="bold"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```java
package com.example.exp2;

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);
    }
}
```

EXPERIMENT 3 (Display Name)

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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wraaap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="80dp"
        android:text="Enter your name"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="40dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="60dp"
        android:text="OKAY"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
/>

    <TextView
        android:id="@+id/greeting_text_view"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="40dp"
        android:text=""
        android:textStyle="italic"
        android:textColor="@color/black"
        android:textSize="40sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button" />
```

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

MainActivity.java

```java
package com.example.exp3;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint;
import android.widget.*;
import android.view.View;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    private EditText editText;
    private Button button;
    private TextView greet;
    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        editText = findViewById(R.id.editTextTextPersonName);
        button = findViewById(R.id.button);
        greet = findViewById(R.id.greeting_text_view);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                greet.setText("Hello, "
+editText.getText().toString()+"...!");
            }
        });

    }
}
```
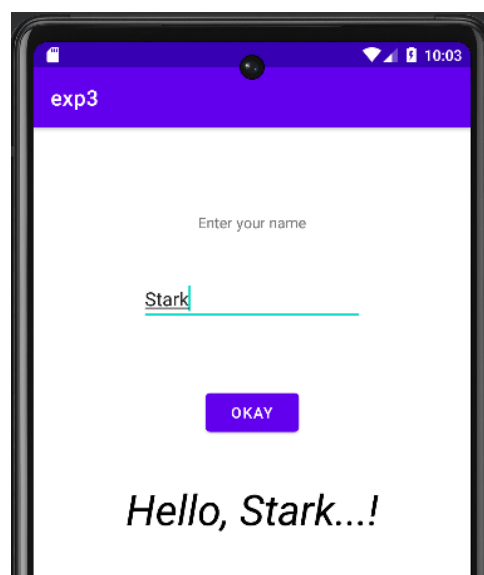
EXPERIMENT 4

User name and password showing screen

activity_main.xml

```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"
    android:layout_margin="5dp">
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#A4C639" />
    <!-- User name-->
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_alignParentLeft="true"
        android:layout_marginTop="23dp"
        android:text="User Name"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#0099FF" />

    <!--password-->
    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView2"
        android:layout_marginLeft="51dp"
        android:layout_marginBottom="1dp"
        android:layout_toRightOf="@+id/textView2"
        android:background="#CCCCCC"
        android:ems="10"
        android:inputType="textPersonName">

        <requestFocus />
    </EditText>

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView2"
        android:layout_alignParentLeft="true"
        android:layout_marginTop="23dp"
        android:text="Password"
        android:textAppearance="?android:attr/textAppearanceLarge"
```

```xml
                android:textColor="#0099FF" />

    <!--address-->
    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView3"
        android:layout_marginLeft="63dp"
        android:layout_marginBottom="4dp"
        android:layout_toRightOf="@+id/textView3"
        android:background="#CCCCCC"
        android:ems="10"
        android:inputType="textPassword">

        <requestFocus />
    </EditText>

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView3"
        android:layout_alignParentLeft="true"

        android:layout_marginTop="23dp"
        android:text="Address"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#0099FF" />

    <!--Gender-->
    <EditText
        android:id="@+id/editText3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView4"
        android:layout_marginLeft="74dp"
        android:layout_marginBottom="1dp"
        android:layout_toRightOf="@+id/textView4"
        android:background="#CCCCCC"
        android:ems="10"
        android:inputType="textPersonName">

        <requestFocus />
    </EditText>

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView4"
        android:layout_alignParentLeft="true"
        android:layout_marginTop="23dp"
        android:text="Gender"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#0099FF" />

    <RadioGroup
        android:id="@+id/r"
        android:layout_width="196dp"
        android:layout_height="wrap_content"
```

```xml
            android:layout_alignBottom="@+id/textView5"
            android:layout_marginLeft="88dp"
            android:layout_marginBottom="0dp"
            android:layout_toRightOf="@+id/textView5"
            android:orientation="horizontal">

        <RadioButton
            android:id="@+id/radioButton1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBottom="@+id/textView5"
            android:layout_toRightOf="@+id/textView4"
            android:text="Male" />

        <RadioButton
            android:id="@+id/radioButton2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBottom="@+id/radioButton1"
            android:layout_toRightOf="@+id/radioButton1"
            android:text="Female" />
    </RadioGroup>
    <!--Date of birth-->
    <TextView
        android:id="@+id/textView6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView5"
        android:layout_alignParentLeft="true"
        android:layout_marginTop="23dp"
        android:text="Date of Birth "
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#0099FF" />

    <!-- Age-->
    <EditText
        android:id="@+id/editTextDate2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView6"
        android:layout_marginLeft="32dp"
        android:layout_marginBottom="0dp"
        android:layout_toRightOf="@+id/textView6"
        android:ems="10"
        android:inputType="date" />

    <TextView
        android:id="@+id/textView7"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView6"
        android:layout_alignParentLeft="true"
        android:layout_marginTop="23dp"
        android:text="Age "
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#0099FF" />

    <EditText
        android:id="@+id/editText4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```xml
        android:layout_alignBottom="@+id/textView7"
        android:layout_marginLeft="112dp"
        android:layout_marginBottom="0dp"
        android:layout_toRightOf="@+id/textView7"
        android:background="#CCCCCC"
        android:ems="10"
        android:inputType="number" />

    <requestFocus />
    <!-- State-->
    <TextView
        android:id="@+id/textView8"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView7"
        android:layout_alignParentLeft="true"
        android:layout_marginTop="23dp"
        android:text="State "
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#0099FF" />
    <Spinner
        android:id="@+id/spinner"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView8"
        android:layout_toRightOf="@+id/textView8"
        />
    <!--Submit button-->
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView4"
        android:layout_alignParentLeft="true"
        android:layout_marginLeft="175dp"
        android:layout_marginTop="368dp"
        android:background="#0099FF"
        android:text="Submit"
        android:textColor="#FFFFFF" />

</RelativeLayout>
```

MainActivity.java

```java
package com.example.exp4;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Spinner;
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener{
```

```java
    Button mButton;
    EditText mEdit;
    TextView mText;
    Spinner sp;
    RadioGroup rb;
    String[] country = { "Andhra Pradesh","Telangana","Madhya
Pradesh","Gujarat","Goa","TamilNadu","Karnataka","Delhi" };
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Spinner spin = (Spinner) findViewById(R.id.spinner);
        spin.setOnItemSelectedListener(this);
        ArrayAdapter aa = new
ArrayAdapter(this,android.R.layout.simple_spinner_item,country);

aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        spin.setAdapter(aa);
        mButton = (Button) findViewById(R.id.button1);
        mButton.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view){
                String s="";
                mEdit = (EditText) findViewById(R.id.editText1);
                s+="Hello " + mEdit.getText().toString() + "!\n";
                mEdit = (EditText) findViewById(R.id.editText3);
                s+="Address "+mEdit.getText().toString()+"\n";
                rb = (RadioGroup) findViewById(R.id.r);
                int d = rb.getCheckedRadioButtonId();
                RadioButton x;
                x = (RadioButton)findViewById(d);
                s+="Gender "+x.getText().toString()+"\n";
                mEdit = (EditText) findViewById(R.id.editTextDate2);
                s+="Date of birth "+mEdit.getText().toString()+"\n";
                mEdit = (EditText) findViewById(R.id.editText4);
                s+="Age "+mEdit.getText().toString()+"\n";
                sp = (Spinner) findViewById(R.id.spinner);
                s+="State "+sp.getSelectedItem().toString()+"\n";
                mText = (TextView) findViewById(R.id.textView1);
                mText.setText(s);
            }
        });

    }
    @Override
    public void onItemSelected(AdapterView<?> arg0, View arg1, int
position, long id) {
        Toast.makeText(getApplicationContext(), country[position],
Toast.LENGTH_LONG).show();
    }

    @Override
    public void onNothingSelected(AdapterView<?> arg0) {
// TODO Auto-generated method stub
    }
}
```

EXPERIMENT 5

Pass value from one activity to another activity

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">

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginBottom="308dp"
        android:text="send"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editText2"
        app:layout_constraintVertical_bias="1.0" />

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignRight="@+id/button1"
        android:layout_alignParentTop="false"
        android:layout_marginTop="128dp"
        android:ems="10"
        android:hint="Enter name"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="MissingConstraints">

        <requestFocus />
    </EditText>

    <EditText
        android:id="@+id/editText2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText1"
        android:layout_alignRight="@+id/button1"
        android:layout_marginTop="30dp"
        android:ems="10"
        android:hint="Enter password"
        android:inputType="textPassword"
```

```
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editText1" />

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

MainActivity.java

```java
package com.example.exp5;

import static com.example.exp5.R.id;
import static com.example.exp5.R.layout;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends Activity
{
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(layout.activity_main);
        final EditText et=(EditText)findViewById(id.editText1);
        final EditText et1=(EditText)findViewById(id.editText2);
        Button send=(Button)findViewById(id.button1);
        send.setOnClickListener(new OnClickListener()
        {
            @Override
            public void onClick(View arg0)
            {
                String s=et.getText().toString();
                String s1=et1.getText().toString();
                Intent it=new
Intent(MainActivity.this,SecondActivity.class);
                it.putExtra("uname", s);
                it.putExtra("pwd", s1);
                startActivity(it);
            }
        });
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu)
    {
        getMenuInflater().inflate(R.menu.menu_main, menu);
        return true;
    }
}
```

Activity_second.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"
```

```xml
    android:layout_height="match_parent"
    tools:context=".SecondActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:textColor="@color/black"
        android:textSize="30sp"
        android:textStyle="italic"
        app:layout_constraintBottom_toTopOf="@+id/textView2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.834"
        tools:ignore="RtlHardcoded" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textView1"
        android:layout_alignStart="@+id/textView1"
        android:layout_marginBottom="416dp"
        android:textColor="@color/black"
        android:textSize="30sp"
        android:textStyle="italic"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

**SecondActivity.java**
```java
package com.example.exp5;

import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.widget.TextView;
public class SecondActivity extends Activity
{
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        TextView tv=(TextView)findViewById(R.id.textView1);
        TextView tv1=(TextView)findViewById(R.id.textView2);
        tv.setText("User Name :
"+getIntent().getExtras().getString("uname"));
        tv1.setText("Password :
"+getIntent().getExtras().getString("pwd"));
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu)
    {
```

```
        getMenuInflater().inflate(R.menu.menu_main , menu);
        return true;
    }
}
```
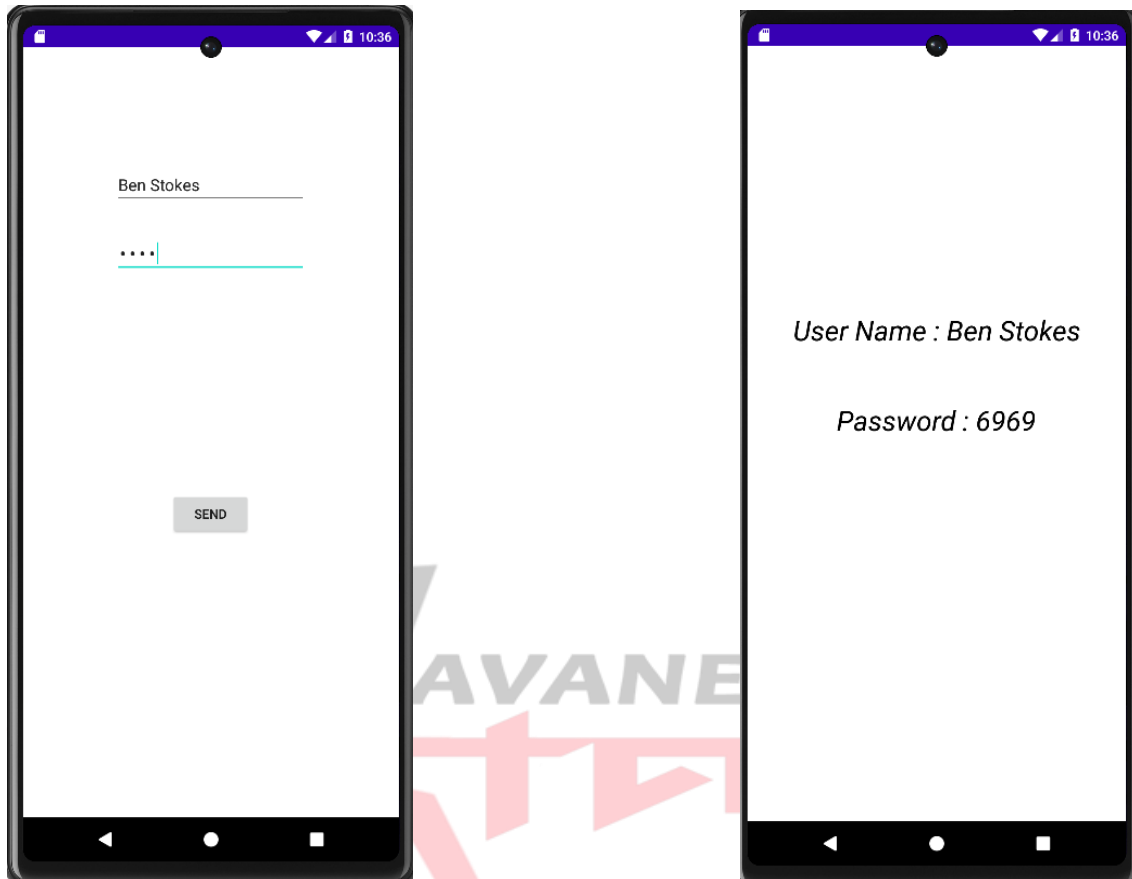

EXPERIMENT 6

Send sms using intent

activity_main.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:layout_gravity="center"
    android:gravity="center"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```xml
            android:layout_gravity="center"
            android:text="Send SMS" />
</LinearLayout>
```

MainActivity.java
```java
package com.example.exp6;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import java.util.Scanner;
public class MainActivity extends AppCompatActivity {
    Button sendsms;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        sendsms = findViewById(R.id.button);
        sendsms.setOnClickListener(new View.OnClickListener() {
            @Override

            public void onClick(View view) {

                Intent it = new Intent(Intent.ACTION_VIEW,
                        Uri.fromParts("sms","0123456789",null));
                it.putExtra("Message","Hello..!, How are you ?");
                startActivity(it);
            }
        });
    }
}
```
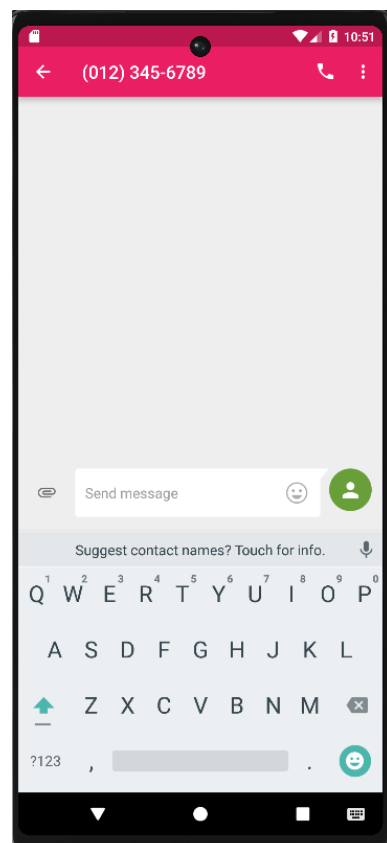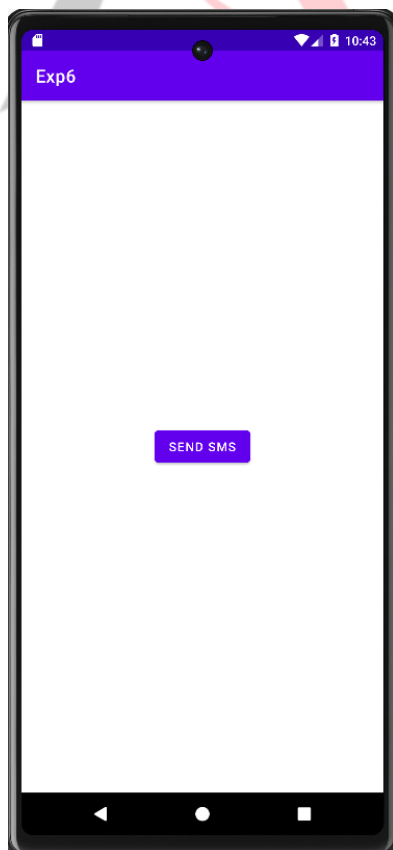
EXPERIMENT 7

Application using Fragments

activity_main.xml

```xml
<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:padding="30dp"
    tools:context=".MainActivity">
    <!-- display two Button's and a FrameLayout to replace the Fragment's
-->
    <Button
        android:id="@+id/firstFragment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="First Fragment"
        android:textSize="20sp" />

    <Button
        android:id="@+id/secondFragment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="Second Fragment"
        android:textSize="20sp" />

    <FrameLayout
        android:id="@+id/frameLayout"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="10dp"
        />
</LinearLayout>
```

MainActivity.java

```java
package com.example.exp7;

import android.app.Fragment;
import android.app.FragmentManager;
import android.app.FragmentTransaction;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    Button firstFragment, secondFragment;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
// get the reference of Button's
```

```java
        firstFragment = (Button) findViewById(R.id.firstFragment);
        secondFragment = (Button) findViewById(R.id.secondFragment);

// perform setOnClickListener event on First Button
        firstFragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
// load First Fragment
                loadFragment(new FirstFragment());
            }
        });
// perform setOnClickListener event on Second Button
        secondFragment.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
// load Second Fragment
                loadFragment(new SecondFragment());
            }
        });
    }
    private void loadFragment(Fragment fragment) {
// create a FragmentManager
        FragmentManager fm = getFragmentManager();
// create a FragmentTransaction to begin the transaction and replace the
Fragment
        FragmentTransaction fragmentTransaction = fm.beginTransaction();
// replace the FrameLayout with new Fragment
        fragmentTransaction.replace(R.id.frameLayout, fragment);
        fragmentTransaction.commit(); // save the changes
    }
}
```

fragment_first.xml

```xml
<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="com.example.exp7.FirstFragment">

    <!--TextView and Button displayed in First Fragment -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="This is First Fragment"

        android:textSize="25sp" />

    <Button
        android:id="@+id/firstButton"
        android:layout_width="373dp"
        android:layout_height="72dp"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"

        android:text="First Fragment"

        android:textSize="20sp"
```

```xml
                android:textStyle="bold" />
</RelativeLayout>
```

**FirstFragment.java**

```java
package com.example.exp7;
import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;

public class FirstFragment extends Fragment {


    View view;
    Button firstButton;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
// Inflate the layout for this fragment
        view = inflater.inflate(R.layout.fragment_first, container, false);
// get the reference of Button
        firstButton = (Button) view.findViewById(R.id.firstButton);
// perform setOnClickListener on first Button
        firstButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
// display a message by using a Toast
                Toast.makeText(getActivity(), "First Fragment",
Toast.LENGTH_LONG).show();
            }
        });
        return view;
    }
}
```

fragment_second.xml
```xml
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_height="match_parent"
    tools:context="com.example.exp7.SecondFragment"
android:layout_width="wrap_content">

    <!--TextView and Button displayed in Second Fragment -->
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:text="This is Second Fragment"

        android:textSize="25sp" />

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

```xml
        android:layout_width="371dp"
        android:layout_height="74dp"
        android:layout_centerInParent="true"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"

        android:text="Second Fragment"

        android:textSize="20sp"
        android:textStyle="bold" />

</RelativeLayout>
```

SecondFragment.java
```java
package com.example.exp7;

import android.app.Fragment;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.Toast;


public class SecondFragment extends Fragment {

    View view;
    Button secondButton;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
// Inflate the layout for this fragment
        view = inflater.inflate(R.layout.fragment_second, container,
false);
// get the reference of Button
        secondButton = (Button) view.findViewById(R.id.secondButton);
// perform setOnClickListener on second Button
        secondButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
// display a message by using a Toast
                Toast.makeText(getActivity(), "Second Fragment",
Toast.LENGTH_LONG).show();
            }
        });
        return view;
    }
}
```
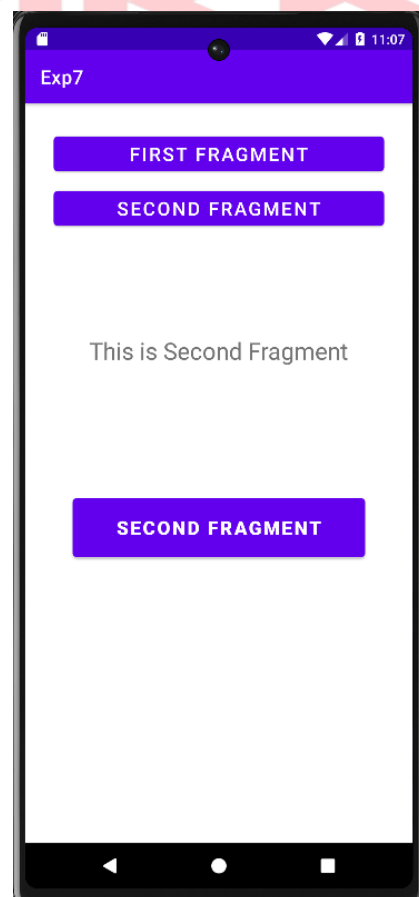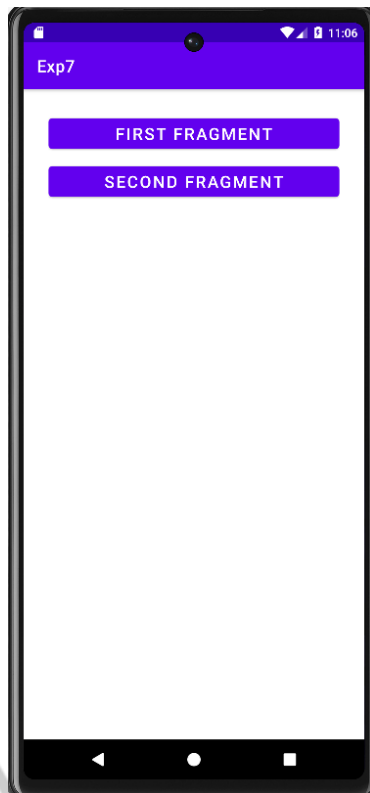
EXPERIMENT 8

Application using Radio Buttons

activity_main.xml

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

    <RadioGroup
        android:id="@+id/radioGroup"
        android:layout_width="230dp"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="40dp"
        android:orientation="vertical">

        <RadioButton
            android:id="@+id/radio_button_1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Male"
            android:textSize="20sp" />

        <RadioButton
            android:id="@+id/radio_button_2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Female"
            android:textSize="20sp" />
    </RadioGroup>

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="16dp"
        android:text="Show Selection" />
</LinearLayout>
```

MainActivity.java

```java
package com.example.exp8;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.view.View;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    private RadioGroup radioGroup;
    private RadioButton radioButton;
    private Button button;
```

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

    radioGroup = findViewById(R.id.radioGroup);
    button = findViewById(R.id.button);
    button.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            int selectedId = radioGroup.getCheckedRadioButtonId();
            radioButton = findViewById(selectedId);
            String text = radioButton.getText().toString();
            Toast.makeText(getApplicationContext(), "Selected option: "
+ text, Toast.LENGTH_SHORT).show();
        }
    });
}
}
```

EXPERIMENT 9

Application for Menu

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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:text="Menu Experiment ra mowa"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</android.support.constraint.ConstraintLayout>
```

MainActivity.java

```java
package com.example.e9;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.e9_menu, menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case R.id.item1:
                Toast.makeText(this, "Menu selected",
Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item2:
                Toast.makeText(this, "Print selected",
Toast.LENGTH_SHORT).show();
                return true;
            case R.id.item3:
                Toast.makeText(this, "Settings selected",
```

```java
Toast.LENGTH_SHORT).show();
                return true;
            case R.id.subitem1:
                Toast.makeText(this, "Zoom In selected",
Toast.LENGTH_SHORT).show();
                return true;
            case R.id.subitem2:
                Toast.makeText(this, "Zoom Out selected",
Toast.LENGTH_SHORT).show();
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }
}
```
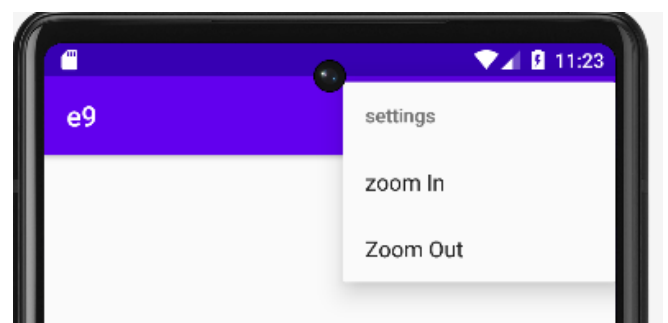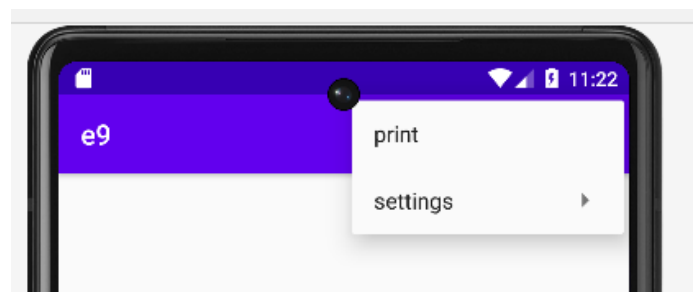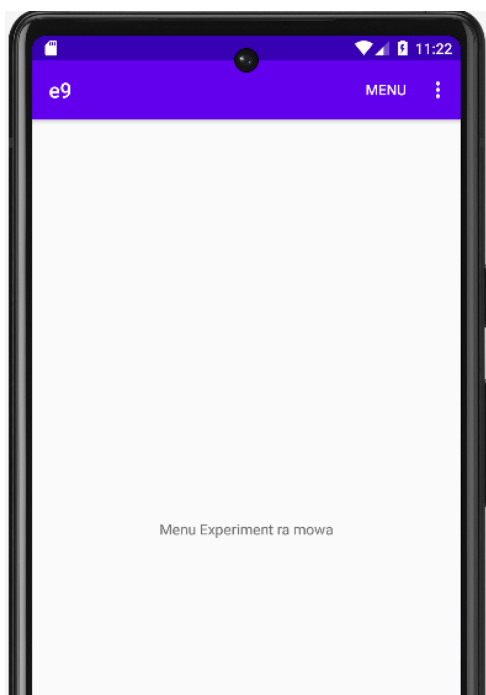
e9_menu.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
    <item
        android:id="@+id/item1"
        android:title="menu"
        app:showAsAction="ifRoom" />
    <item
        android:id="@+id/item2"
        android:title="print"
        app:showAsAction="never" />
    <item
        android:id="@+id/item3"
        android:title="settings"
        app:showAsAction="never">
        <menu>
            <item
                android:id="@+id/subitem1"
                android:title="zoom In" />
            <item
                android:id="@+id/subitem2"
                android:title="Zoom Out" />
        </menu>
    </item>
</menu>
```

EXPERIMENT 10

Application that stores user details in the data base table

activity_main.xml

```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"
    android:padding="16dp"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/etName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:inputType="text" />

    <EditText
        android:id="@+id/etNum"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/etName"
        android:hint="Number"
        android:inputType="text" />

    <EditText
        android:id="@+id/etEmail"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/etNum"
        android:hint="Email"
        android:inputType="textEmailAddress" />

    <Button
        android:id="@+id/btnRegister"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/etEmail"
        android:text="Register" />

    <Button
        android:id="@+id/btnShow"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnRegister"
        android:text="Show" />

    <TextView
        android:id="@+id/tvResult"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnShow"
        android:layout_marginTop="16dp" />

</RelativeLayout>
```

MainActivity.java

```java
package com.example.exp10;

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


public class MainActivity extends AppCompatActivity {
    private EditText etName, etNum, etEmail;
    private Button btnRegister, btnShow;
    private TextView tvResult;
    private DatabaseHelper databaseHelper;

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

        etName = findViewById(R.id.etName);
        etNum = findViewById(R.id.etNum);
        etEmail = findViewById(R.id.etEmail);
        btnRegister = findViewById(R.id.btnRegister);
        btnShow = findViewById(R.id.btnShow);
        tvResult = findViewById(R.id.tvResult);

        databaseHelper = new DatabaseHelper(this);

        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name = etName.getText().toString();
                String number = etNum.getText().toString();
                String email = etEmail.getText().toString();

                // Insert data into the database
                databaseHelper.insertData(name,number, email);

                etName.setText("");
                etNum.setText("");
                etEmail.setText("");
            }
        });

        btnShow.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                // Retrieve data from the database and display in TextView
                String data = databaseHelper.getData();
                tvResult.setText(data);
            }
        });
    }
}
```

DatabaseHelper.java

```java
package com.example.exp10;

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

public class DatabaseHelper extends SQLiteOpenHelper {
    private static final String DATABASE_NAME = "registration1.db";
    private static final int DATABASE_VERSION = 1;
    private static final String TABLE_NAME = "users";
    private static final String COLUMN_ID = "id";
    private static final String COLUMN_NAME = "name";
    private static final String COLUMN_NUMBER = "number";
    private static final String COLUMN_EMAIL = "email";

    public DatabaseHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        String createTableQuery = "CREATE TABLE " + TABLE_NAME + " (" +
                COLUMN_ID + " INTEGER PRIMARY KEY AUTOINCREMENT, " +
                COLUMN_NAME + " TEXT, " + COLUMN_NUMBER + " TEXT, " +
                COLUMN_EMAIL + " TEXT);";
        db.execSQL(createTableQuery);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        String dropTableQuery = "DROP TABLE IF EXISTS " + TABLE_NAME;
        db.execSQL(dropTableQuery);
        onCreate(db);
    }

    // Insert data into the database
    public void insertData(String name,String number, String email) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues values = new ContentValues();
        values.put(COLUMN_NAME, name);
        values.put(COLUMN_NUMBER, number);
        values.put(COLUMN_EMAIL, email);
        db.insert(TABLE_NAME, null, values);
        db.close();
    }

    // Retrieve data from the database
    public String getData() {
        SQLiteDatabase db = this.getReadableDatabase();
        Cursor cursor = db.rawQuery("SELECT * FROM " + TABLE_NAME, null);
        StringBuilder stringBuilder = new StringBuilder();
        if (cursor.moveToFirst()) {
            do {
                @SuppressLint("Range") int id =
cursor.getInt(cursor.getColumnIndex(COLUMN_ID));
```

```java
            @SuppressLint("Range") String name =
cursor.getString(cursor.getColumnIndex(COLUMN_NAME));
            @SuppressLint("Range") String number =
cursor.getString(cursor.getColumnIndex(COLUMN_NUMBER));

            @SuppressLint("Range") String email =
cursor.getString(cursor.getColumnIndex(COLUMN_EMAIL));
            stringBuilder.append("ID: ").append(id).append(", Name:
").append(name).append(", Number: ").append(number).append(", Email:
").append(email).append("\n");
        } while (cursor.moveToNext());
    }
    cursor.close();
    db.close();
    return stringBuilder.toString();
    }
}
```
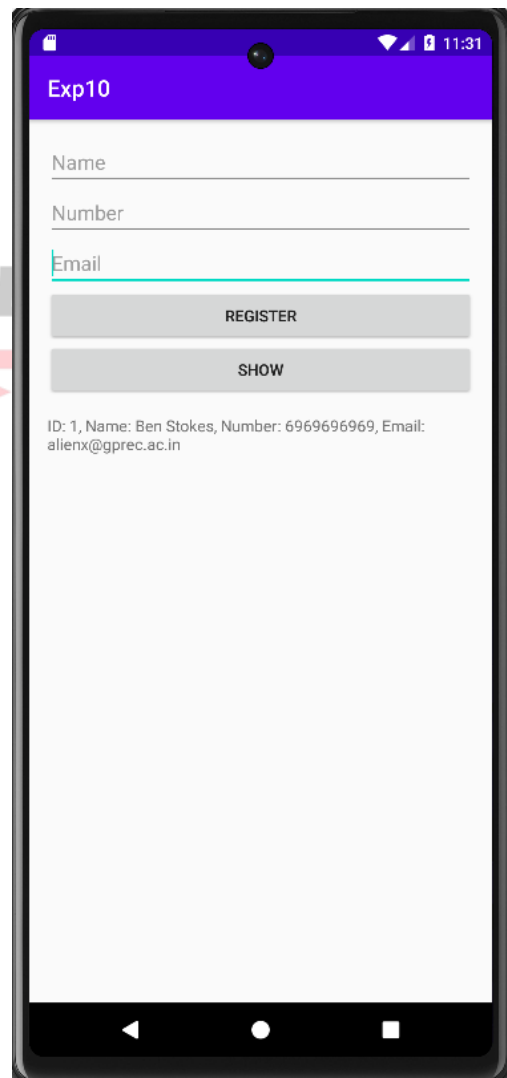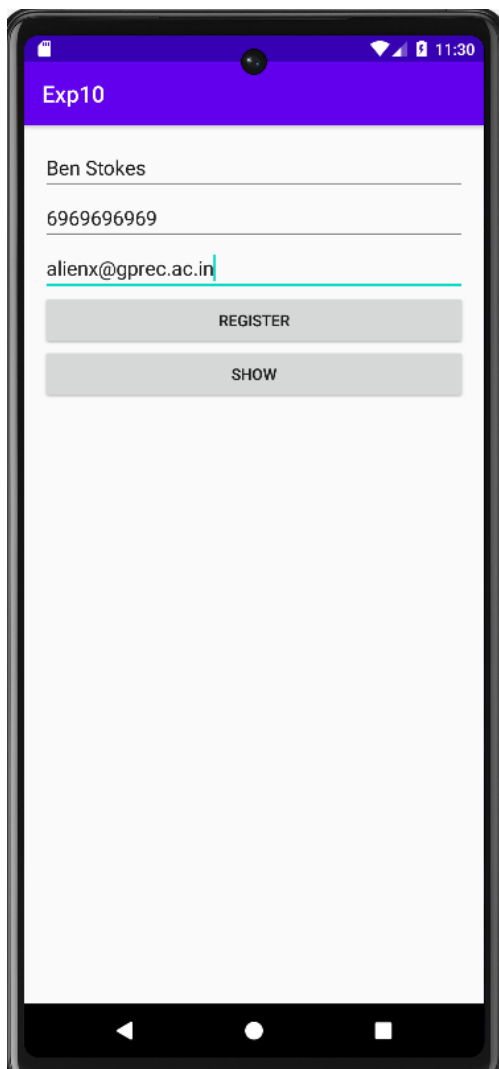
EXPERIMENT NO.1

INSTALLING AND RUNNING APPLICATIONS ON ANDROID STUDIO

Step 1 - System Requirements
The required tools to develop Android applications are open source and can be downloaded from the Web. Following is the list of software's you will need before you start your Android application programming.
Java JDK5 or later version
Java Runtime Environment (JRE) 6
Android Studio

Step 2 - Setup Android Studio

Android Studio is the official IDE for android application development.It works based on IntelliJ IDEA, You can download the latest version of android studio from Android Studio 2.2 Download, If you are new to installing Android Studio on windows,you will find a file, which is named as android-studio-bundle-143.3101438-windows.exe.So just download and run on windows machine according to android studio wizard guideline.

If you are installing Android Studio on Mac or Linux, You can download the latest version from Android Studio Mac Download,or Android Studio Linux Download, check the instructions provided along with the downloaded file for Mac OS and Linux. This tutorial will consider that you are going to setup your environment on Windows machine having Windows 8.1 operating system.
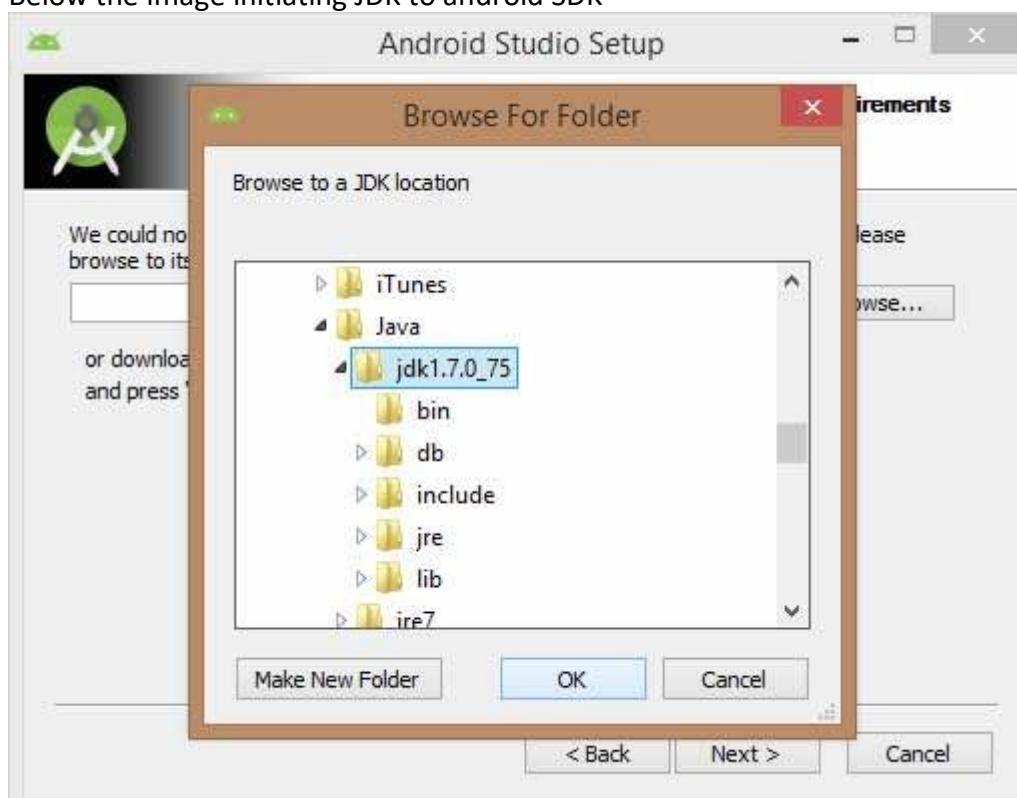Installation
So let's launch Android Studio.exe,Make sure before launch Android Studio, Our Machine should required installed Java JDK. To install Java JDK,take a references of Android environment setup
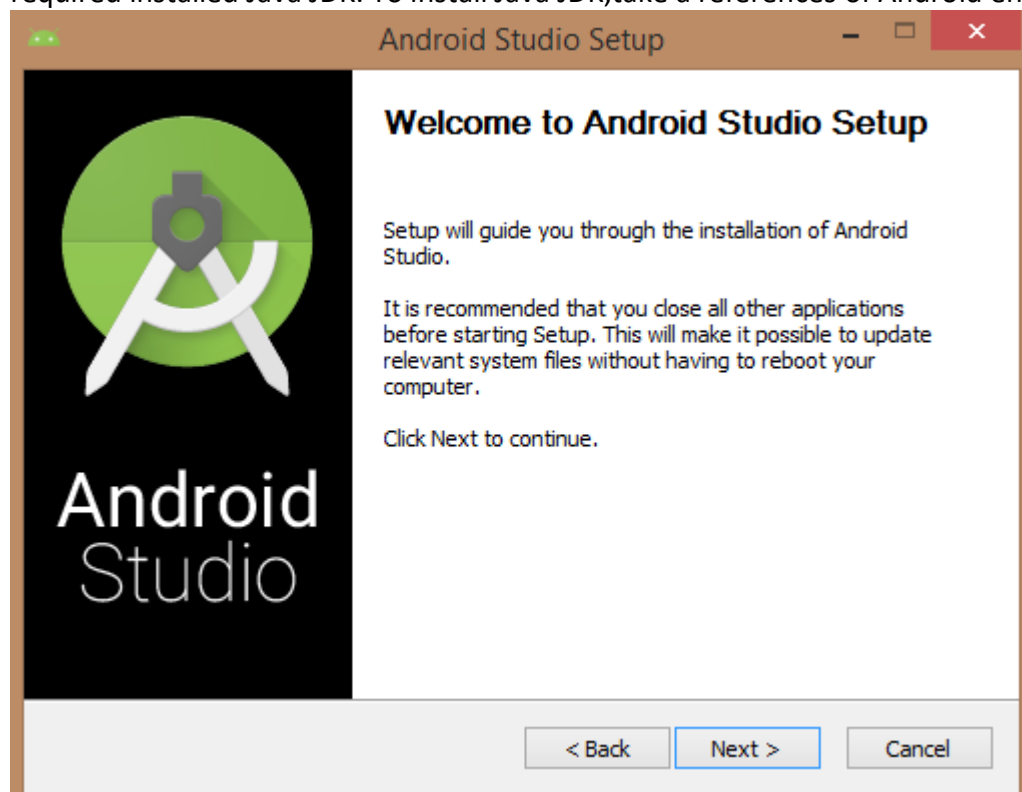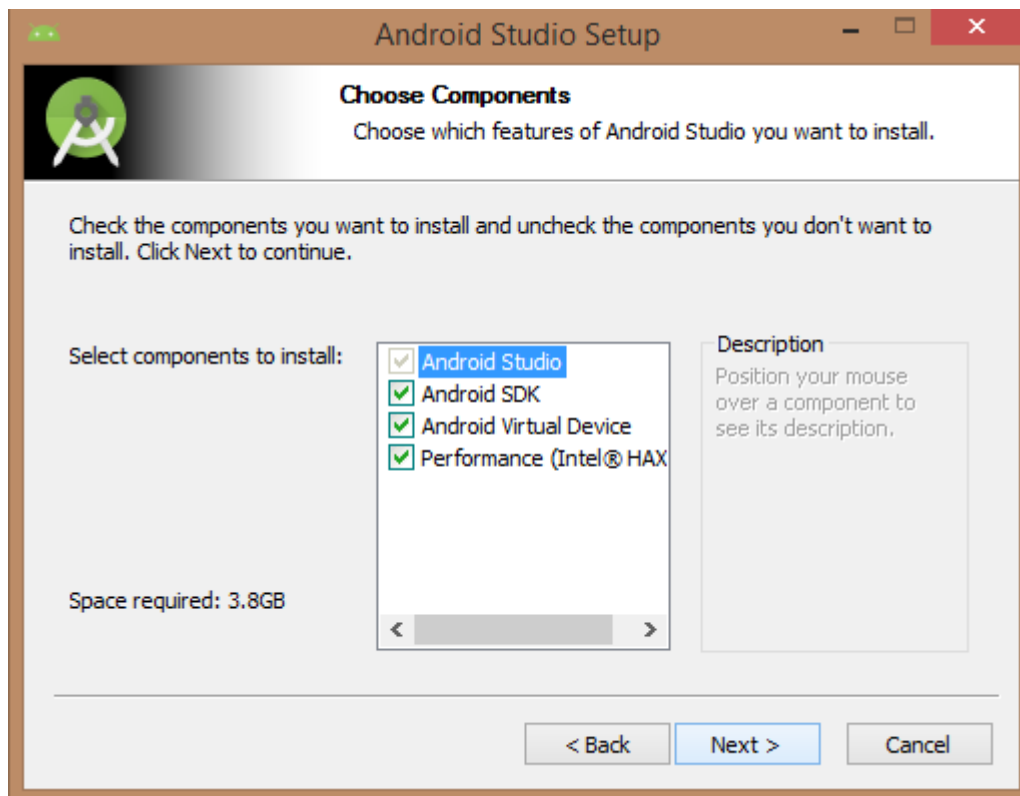

Once you launched Android Studio, its time to mention JDK7 path or later version in android studio installer.
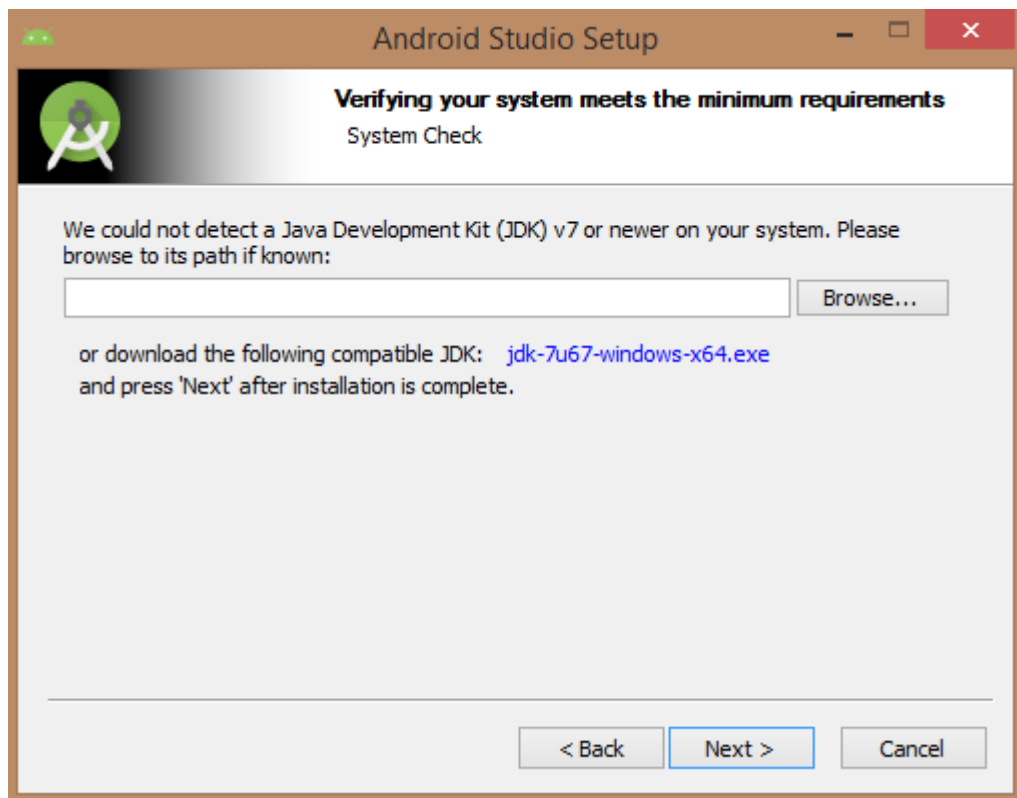
Below the image initiating JDK to android SDK

Need to check the components, which are required to create applications, below the image has selected Android Studio, Android SDK, Android Virtual Machine and performance(Intel chip).

Need to specify the location of local machine path for Android studio and Android SDK, below the image has taken default location of windows 8.1 x64 bit architecture.
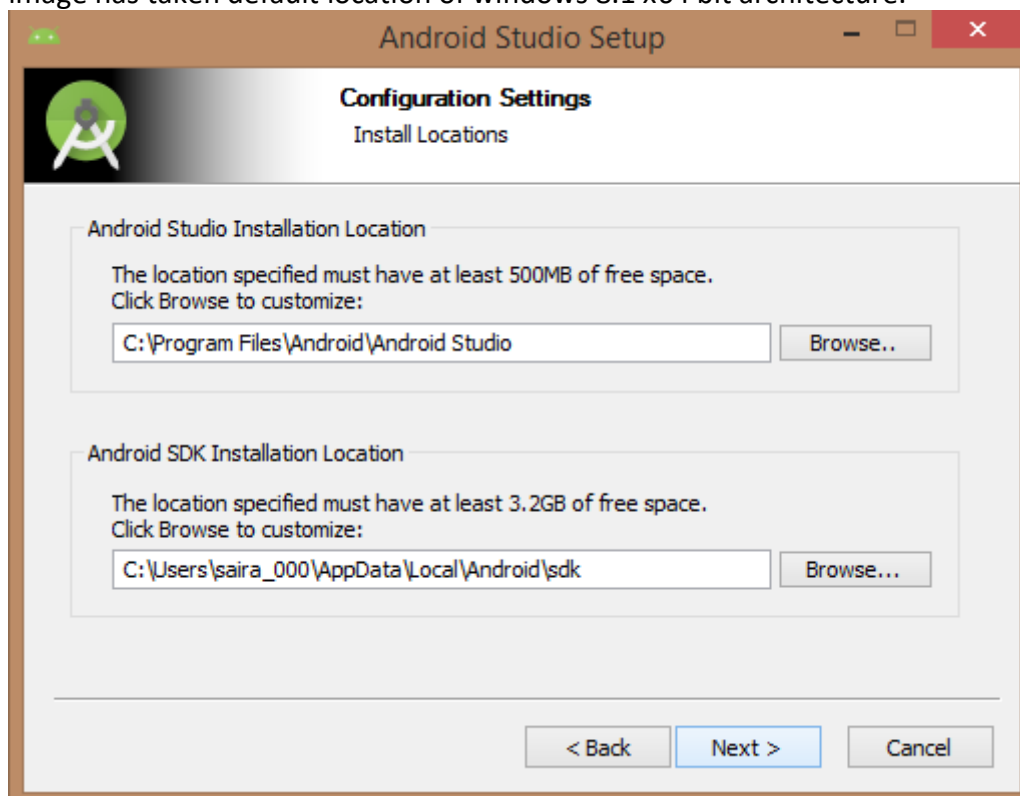
Need to specify the ram space for Android emulator by default it would take 512MB of local machine RAM.
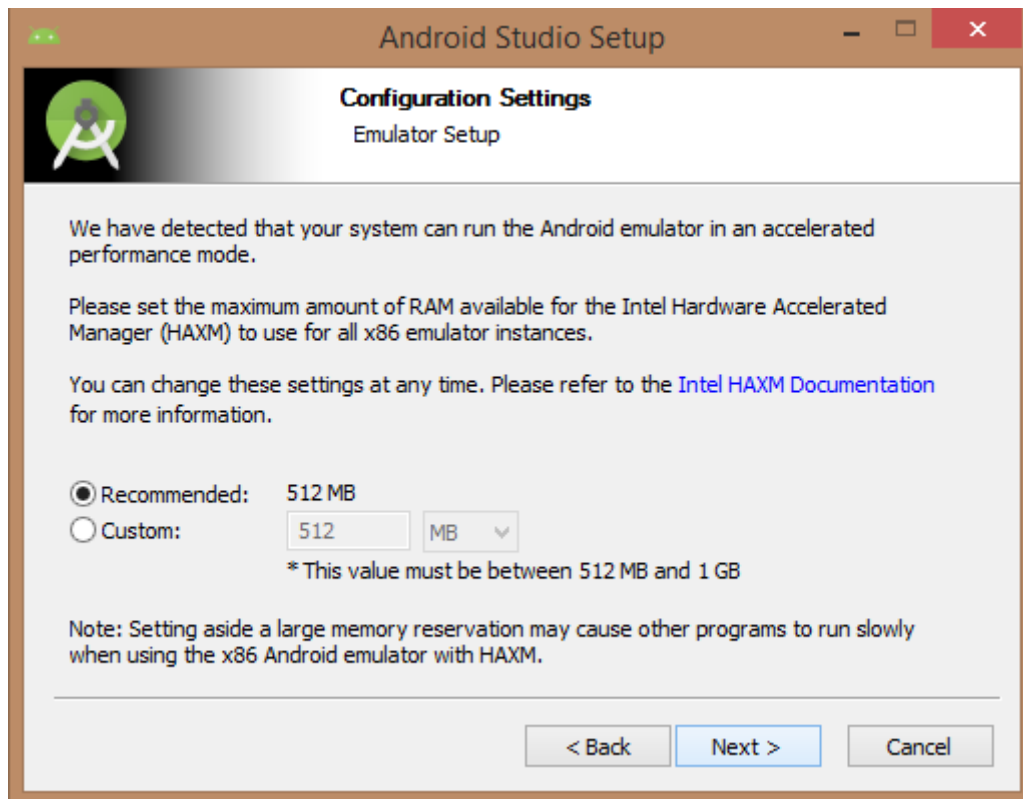
At final stage, it would extract SDK packages into our local machine, it would take a while time to finish the task and would take 2626MB of Hard disk space.
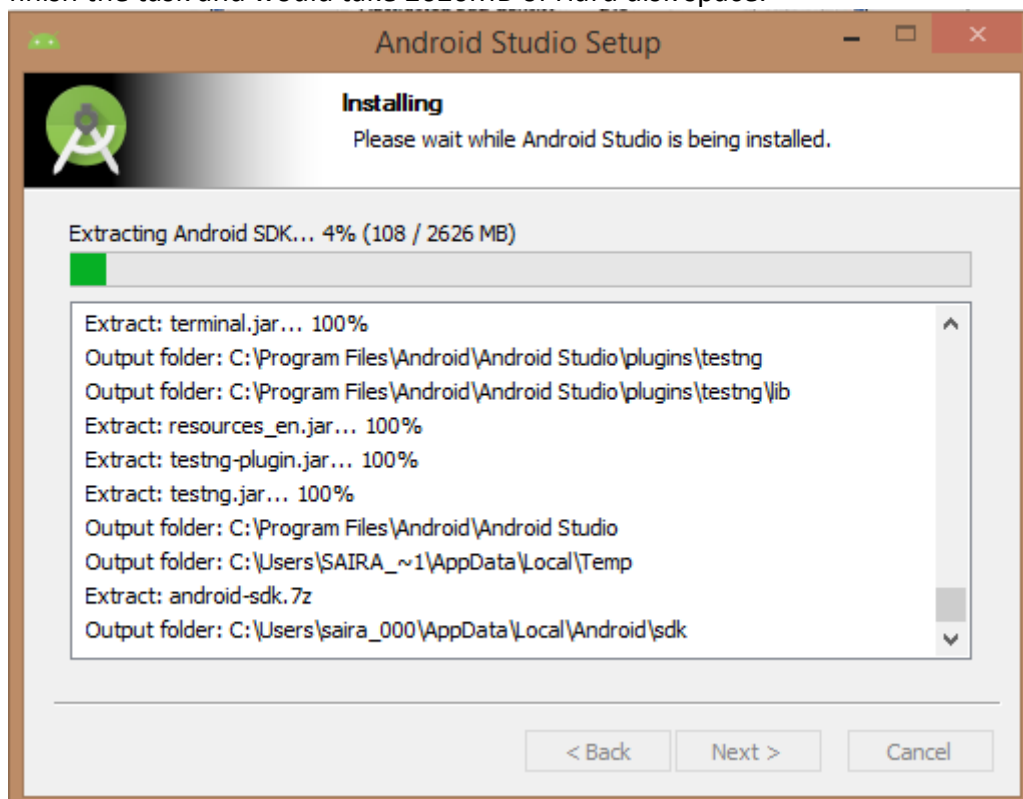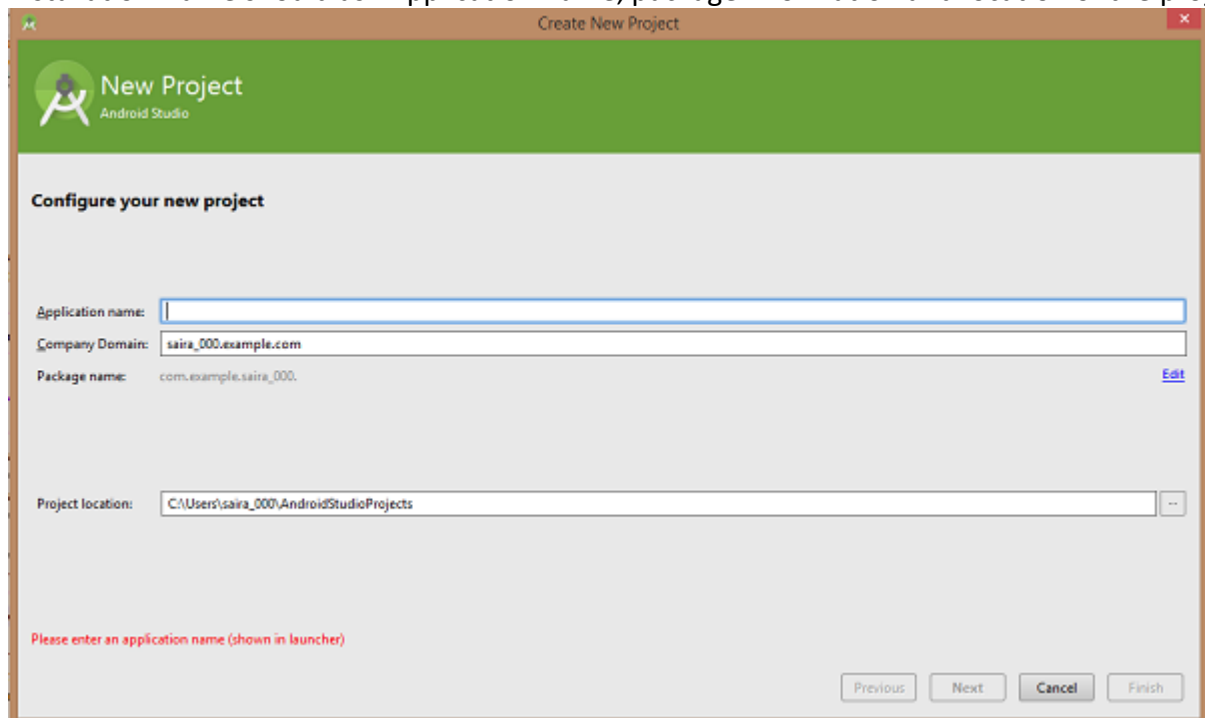

After done all above steps perfectly, you must get finish button and it gonna be open android studio project with Welcome to android studio message as shown below
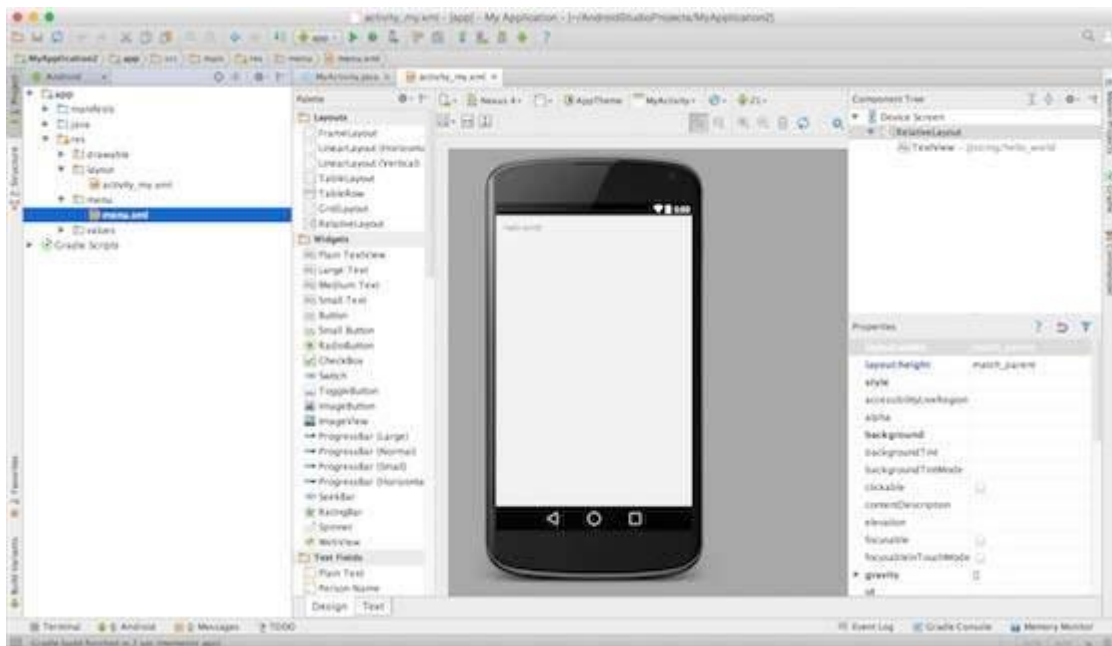
You can start your application development by calling start a new android studio project. in a new installation frame should ask Application name, package information and location of the project.


After entered application name, it going to be called select the form factors your application runs on, here need to specify Minimum SDK, in our tutorial, I have declared as API23: Android 6.0(Mashmallow)

The next level of installation should contain selecting the activity to mobile, it specifies the default layout for Applications

At the final stage it going to be open development tool to write the application code.

Step 3 - Create Android Virtual Device

To test your Android applications, you will need a virtual Android device. So before we start writing our code, let us create an Android virtual device. Launch Android AVD Manager Clicking AVD_Manager icon as shown below
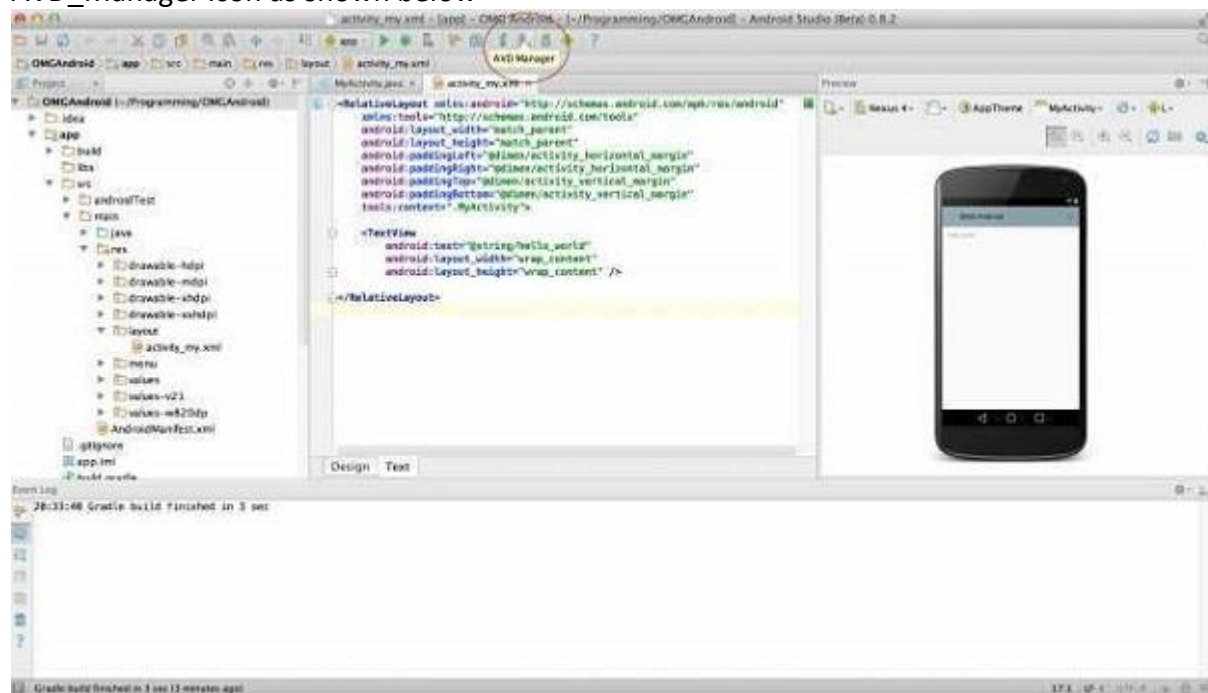
After Click on a virtual device icon, it going to be shown by default virtual devices which are present on your SDK, or else need to create a virtual device by clicking Create new Virtual device button
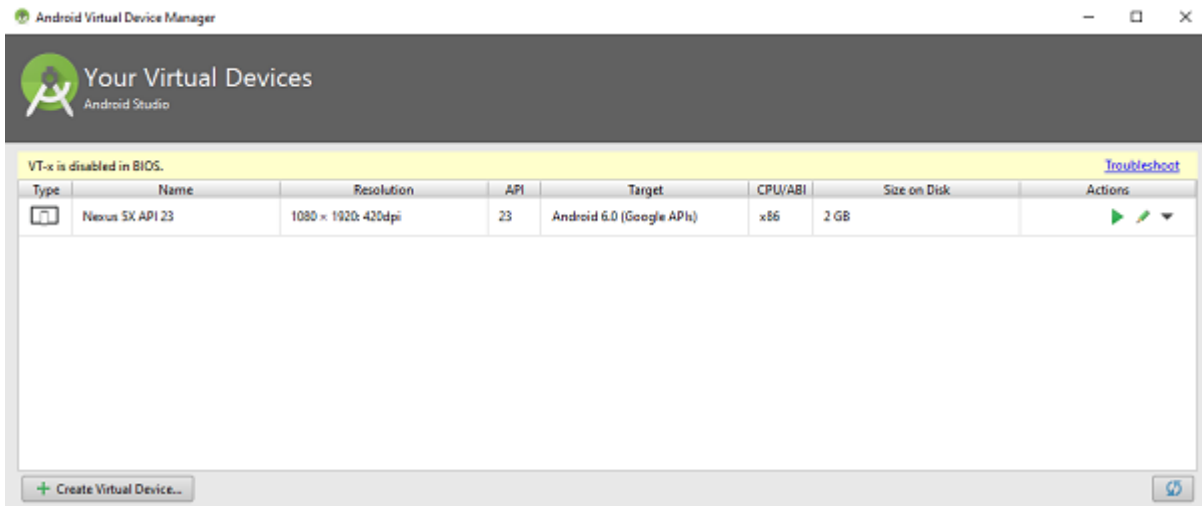
If your AVD is created successfully it means your environment is ready for Android application development. If you like, you can close this window using top-right cross button. Better you re-start your machine and once you are done with this last step, you are ready to proceed for your first Android example but before that we will see few more important concepts related to Android Application Development.

Exercise Program

Write the steps in installing Android Studio in Windows and Linux.