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PART – A

- 1. Create an application to design a Visiting Card. The Visiting card should have a company logo at the top right corner. The company name should be displayed in Capital letters, aligned to the center. Information like the name of the employee, job title, phone number, address, email, fax and the website address is to be displayed. Insert a horizontal line between the job title and the phone number.**

XML Code - activity_visiting_card.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:background="@color/black"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <ImageView
        android:id="@+id/imageView"
        android:layout_width="130dp"
        android:layout_height="147dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="20dp"
        android:layout_marginBottom="550dp"
        app:srcCompat="@android:drawable/btn_star_big_on" />

    <TextView
        android:id="@+id/textCompany"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="158dp"
```

```

        android:layout_marginBottom="541dp"
        android:text="RR Enterprises"
        android:textColor="@color/white"
        android:textSize="34sp" />
<TextView
    android:id="@+id/textName"
    android:layout_width="234dp"
    android:layout_height="47dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="149dp"
    android:layout_marginBottom="470dp"
    android:text="Name:Abhishek U S"
    android:textColor="@color/white"
    android:textSize="20sp" />
<TextView
    android:id="@+id/textRole"
    android:layout_width="251dp"
    android:layout_height="65dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="131dp"
    android:layout_marginBottom="400dp"
    android:text="Role:Software Engineer"
    android:textColor="@color/white"
    android:textSize="20sp" />
<TextView
    android:id="@+id/textLine"
    android:layout_width="294dp"
    android:layout_height="0dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"

```

```

        android:layout_marginEnd="92dp"
        android:layout_marginBottom="429dp"
        android:background="@color/black"
        android:gravity="center_horizontal"
        android:textColor="@color/white" />
<TextView
    android:id="@+id/textMobile"
    android:layout_width="257dp"
    android:layout_height="45dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="122dp"
    android:layout_marginBottom="366dp"
    android:text="9353241492"
    android:textColor="@color/white"
    android:textSize="20sp" />
<TextView
    android:id="@+id/textView"
    android:layout_width="370dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="9dp"
    android:layout_marginBottom="306dp"
    android:text="Address:Udaya Nagara Upper Pet Koppa 577126"
    android:textColor="@color/white"
    android:textSize="20sp" />
<TextView
    android:id="@+id/textEmail"
    android:layout_width="378dp"
    android:layout_height="46dp"
    android:layout_alignParentEnd="true"

```

```

        android:layout_alignParentBottom="true"
        android:layout_marginEnd="-2dp"
        android:layout_marginBottom="235dp"
        android:text="Email-id:abhishekus073@gmail.com"
        android:textColor="@color/white"
        android:textSize="20sp" />
<TextView
    android:id="@+id/textFax"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentBottom="true"
    android:layout_marginLeft="50sp"
    android:layout_marginTop="535sp"
    android:layout_marginBottom="126dp"
    android:text="Fax:0880-8759455845"
    android:textColor="@color/white"
    android:textSize="20sp" />
<TextView
    android:id="@+id/textView2"
    android:layout_width="308dp"
    android:layout_height="48dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="67dp"
    android:layout_marginBottom="170dp"
    android:text="Website:www.rr.com"
    android:textColor="@color/white"
    android:textSize="20sp" />
</RelativeLayout>

```

Java Code – Visiting_card.java

```
package com.example.practice;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class visiting_card extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_visiting_card);
    }
}
```

OUTPUT:



2. Develop an Android application using controls like Button, Textview, and EditText for designing a calculator having basic functionality like Addition, Subtraction, Multiplication, and Division.

XML Code – activity_calculator.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=".calculator">

<TextView
    android:id="@+id/textView7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="164dp"
    android:fontFamily="cursive"
    android:text="CALCULATOR"
    android:textAlignment="center"
    android:textColor="#673AB7"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/et1"
    android:layout_width="214dp"
    android:layout_height="44dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text=""
    android:hint="Enter the First Number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.338" />

<EditText
    android:id="@+id/et2"
    android:layout_width="225dp"
    android:layout_height="43dp"
    android:ems="10"
```

```

android:inputType="textPersonName"
android:text=""
android:hint="Enter the Second Number"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.441" />

```

<Button

```

android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="52dp"
android:layout_marginBottom="260dp"
android:text="+"
android:onClick="doAdd"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintStart_toStartOf="parent" />

```

<Button

```

android:id="@+id/button2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginEnd="52dp"
android:layout_marginBottom="260dp"
android:text="-"
android:onClick="doSub"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent" />

```

<Button

```

android:id="@+id/button3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="52dp"
android:layout_marginBottom="160dp"
android:text="*"
android:onClick="doMul"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintStart_toStartOf="parent" />

```

<Button

```

android:id="@+id/button4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginEnd="52dp"
android:layout_marginBottom="160dp"
android:text="/"

```

```

        android:onClick="doDiv"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

<TextView
    android:id="@+id/tv2"
    android:layout_width="250sp"
    android:layout_height="wrap_content"
    android:text="0"
    android:textAlignment="center"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.422"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.519" />

<TextView
    android:id="@+id/textView9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Answer:"
    android:textSize="20sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.047"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.515" />

<Button
    android:id="@+id/button5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="clear"
    android:onClick="doClear"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.903" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code – Calculator.java

```
package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
public class calculator extends AppCompatActivity {
    EditText e1,e2;
    TextView t2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_calculator);
        e1=(EditText)findViewById(R.id.et1);
        e2=(EditText)findViewById(R.id.et2);
        t2=(TextView)findViewById(R.id.tv2);
    }
    public void doAdd(View V)
    {
        int a1=Integer.parseInt(e1.getText().toString());
        int a2=Integer.parseInt(e2.getText().toString());
        int result=a1+a2;
        t2.setText(""+result);
    }
    public void doSub(View V)
    {
        int a1=Integer.parseInt(e1.getText().toString());
        int a2=Integer.parseInt(e2.getText().toString());
        int result=a1-a2;
        t2.setText(""+result);
    }
    public void doMul(View V)
    {
        int a1=Integer.parseInt(e1.getText().toString());
        int a2=Integer.parseInt(e2.getText().toString());
        int result=a1*a2;
        t2.setText(""+result);
    }
    public void doDiv(View V)
    {
        int a1=Integer.parseInt(e1.getText().toString());
        int a2=Integer.parseInt(e2.getText().toString());
        float result=a1/a2;
        t2.setText(""+result);
    }
}
```

```
public void doClear(View V)
{
    e1.setText(null);
    e2.setText(null);
    t2.setText("");
}
}
```

OUTPUT:

program1

Calculator

Enter the First Number

25

Enter the Second Number

25

50

ADD

MUL

SUB

DIV

ADD

MUL

SUB

DIV

- 3. Create a SIGN UP activity with Username and Password. Validation of password should happen based on the following rules:**
- Password should contain uppercase and lowercase letters.
 - Password should contain letters and numbers.
 - Password should contain special characters.
 - Minimum length of the password (the default value is 8).
- On successful SIGN UP proceed to the next Login activity. Here the user should SIGN IN using the Username and Password created during signup activity. If the Username and Password are matched then navigate to the next activity which displays a message saying “Successful Login” or else display a toast message saying “Login Failed”. The user is given only two attempts and after that display a toast message saying “Failed Login Attempts” and disable the SIGN IN button. Use Bundle to transfer information from one activity to another.**

XML Code – activity_signup.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=".Signup">

    <TextView
        android:id="@+id/textView8"
        android:layout_width="81dp"
        android:layout_height="28dp"
        android:shadowColor="@color/purple_500"
        android:shadowDx="0"
        android:shadowDy="0"
        android:shadowRadius="5"
        android:text="SignUp"
        android:textAlignment="center"
        android:textColor="#9C27B0"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.484"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.224" />
```

```

<EditText
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter Email"
    android:inputType="textEmailAddress"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView8"
    app:layout_constraintVertical_bias="0.126" />

```

```

<EditText
    android:id="@+id/pass"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/email"
    app:layout_constraintVertical_bias="0.086" />

```

```

<Button
    android:id="@+id/signupb"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SIGNUP"
    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/pass"
    app:layout_constraintVertical_bias="0.161" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>

```

activity_signin.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=".Signin">

```

```

<TextView
    android:id="@+id/textView8"
    android:layout_width="81dp"
    android:layout_height="28dp"
    android:shadowColor="@color/purple_500"
    android:shadowDx="0"
    android:shadowDy="0"
    android:shadowRadius="5"
    android:text="Signin"
    android:textAlignment="center"
    android:textColor="#9C27B0"
    android:textSize="20sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.484"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.224" />

```

```

<EditText
    android:id="@+id/email"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter Email"
    android:inputType="textEmailAddress"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView8"
    app:layout_constraintVertical_bias="0.126" />

```

```

<EditText
    android:id="@+id/pass"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter Password"

```

```

        android:inputType="textPassword"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/email"
        app:layout_constraintVertical_bias="0.086" />

<Button
    android:id="@+id/signinb"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SIGNIN"
    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/pass"
    app:layout_constraintVertical_bias="0.161" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

activity_signinsuccess.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=".signinsuccess">

    <TextView
        android:id="@+id/textView10"
        android:layout_width="342dp"
        android:layout_height="45dp"
        android:text="Login Successful"
        android:textAlignment="center"
        android:textSize="34sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.492"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.594" />

```

```

<TextView
    android:id="@+id/textView11"
    android:layout_width="260dp"
    android:layout_height="58dp"
    android:text="WELCOME"
    android:textAlignment="center"
    android:textColor="#009688"
    android:textSize="34sp"
    android:textStyle="bold|italic"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.313" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code – Sign_up.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.util.regex.Pattern;
public class Signup extends AppCompatActivity {
    EditText email,pass;
    Button signupb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_signup);
        email=(EditText) findViewById(R.id.email);
        pass=(EditText) findViewById(R.id.pass);
        signupb =(Button) findViewById(R.id.signupb);
        signupb.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String emailid=email.getText().toString();
                String password=pass.getText().toString();
                if(!isValidPassword(password)){
                    Toast.makeText(Signup.this, "Password Does Not Match",

```

```

Toast.LENGTH_LONG).show();
        return;
    }
    Intent intent = new Intent(Signup.this, Signin.class);
    intent.putExtra("emailid", emailid);
    intent.putExtra("password", password);
    startActivity(intent);
}
});
}
Pattern lowercase = Pattern.compile("^[a-z].*$");
Pattern uppercase = Pattern.compile("^[A-Z].*$");
Pattern number = Pattern.compile("^[0-9].*$");
Pattern specialCharacter = Pattern.compile("^[^a-zA-Z0-9].*$");
private boolean isValidPassword(String password){
    if(password.length() < 8){
        return false;
    }
    if(!lowercase.matcher(password).matches()){
        return false;
    }
    if(!uppercase.matcher(password).matches()){
        return false;
    }
    if(!number.matcher(password).matches()){
        return false;
    }
    if(!specialCharacter.matcher(password).matches()){
        return false;
    }
    return true;
}
}
}

```

Signin.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class Signin extends AppCompatActivity {
    EditText email, pass;

```

```

Button signinb;
int counter = 2;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_signin);
    email=(EditText) findViewById(R.id.email);
    pass=(EditText) findViewById(R.id.pass);
    signinb=(Button) findViewById(R.id.signinb);
    String registeredEmail = getIntent().getStringExtra("emailid");
    String registeredPassword = getIntent().getStringExtra("password");
    signinb.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String emailid = email.getText().toString();
            String password = pass.getText().toString();

            if(registeredEmail.equals(emailid) && registeredPassword.equals(password)){
                Intent intent = new Intent(Signin.this,signinsuccess.class);
                startActivity(intent);
            }
            else{
                Toast.makeText(Signin.this, "Invalid Credentials",
Toast.LENGTH_LONG).show();
            }
            counter--;
            if (counter==0){
                Toast.makeText(getApplicationContext(), "FAILED LOGIN ATTEMPTS",
Toast.LENGTH_LONG).show();
                signinb.setEnabled(false);
            }
        }
    });
}
}

```

signinsuccess.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class signinsuccess extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_signinsuccess);
    }
}

```

OUTPUT:

program1

Signup

Enter Email

Enter your Password

SIGNUP

program1

Signup

abhishek@gmail.com

SIGNUP

program1

Signin

Enter Email

Enter your Password

SIGNIN

program1

Signin

abhishek@gmail.com

SIGNIN

program1

Login Successful



4. Develop an application to set an image as wallpaper. On click of a button, the wallpaper image should start to change randomly every 30 seconds.

XML Code – activity_wallpaper.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=".wallpaper">

<Button
    android:id="@+id/button6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="CLICK HERE TO CHANGE WALLPAPER"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/textView12"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Wallpaper changer"
    android:textColor="#050505"
    android:textSize="34sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.289" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code – wallpaper.java

```
package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.app.WallpaperManager;
import android.graphics.Bitmap;
import android.graphics.drawable.BitmapDrawable;
```

```

import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import java.io.IOException;
import java.util.BitSet;
import java.util.Timer;
import java.util.TimerTask;
public class wallpaper extends AppCompatActivity {
    Button changewallpaper;
    Timer mytimer;
    Drawable drawable;
    WallpaperManager wpm;
    int prev=1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_wallpaper);
        mytimer = new Timer();
        wpm = WallpaperManager.getInstance(this);
        changewallpaper = findViewById(R.id.button6);
        changewallpaper.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view){
                setWallpaper();
            }
        });
    }
    private void setWallpaper(){
        mytimer.schedule(new TimerTask() {
            @Override
            public void run() {
                if (prev==1){
                    drawable=getResources().getDrawable(R.drawable.c);prev=2;
                }else if(prev==2){
                    drawable=getResources().getDrawable(R.drawable.cpp);prev=3;
                }
                else if(prev==3){
                    drawable=getResources().getDrawable(R.drawable.python);prev=4;
                }
                else if(prev==4){
                    drawable=getResources().getDrawable(R.drawable.java);prev=5;
                }
                else if(prev==5){

```



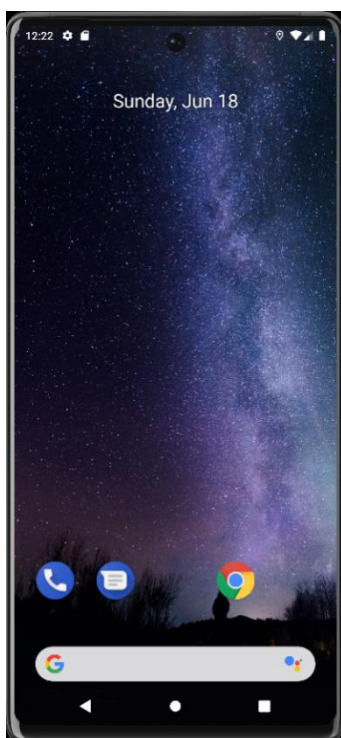
```

        drawable=getResources().getDrawable(R.drawable.html);prev=1;

    }
    Bitmap wallpaper = ((BitmapDrawable)drawable).getBitmap();
    try{
        wpm.setBitmap(wallpaper);
    }catch(IOException e){
        e.printStackTrace();
    }
    }
    },0,3000);
}
}

```

OUTPUT:



- 5. Write a program to create an activity with two buttons START and STOP. On pressing of the START button, the activity must start the counter by displaying the numbers from one and the counter must keep on counting until the STOP button is pressed. Display the counter value in a TextView control.**

XML Code – activity_counter.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:background="#FFFFFF"
    tools:context=".counter">

    <TextView
        android:id="@+id/textView13"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="112dp"
        android:layout_marginBottom="606dp"
        android:text="Counter Application"
        android:textAlignment="center"
        android:textColor="#102695"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.181" />

    <TextView
        android:id="@+id/txtcounter"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="154dp"
        android:layout_marginBottom="477dp"
        android:text="Counter Value"
        android:textColor="#121010"
        android:textSize="20sp"
```

```

app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.397" />

```

<Button

```

    android:id="@+id/btnstart"
    android:layout_width="140dp"
    android:layout_height="63dp"
    android:layout_alignParentStart="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="108dp"
    android:layout_marginEnd="145dp"
    android:layout_marginBottom="367dp"
    android:text="Start"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.167"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.619" />

```

<Button

```

    android:id="@+id/btnstop"
    android:layout_width="170dp"
    android:layout_height="68dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="124dp"
    android:layout_marginBottom="273dp"
    android:text="Stop"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.845"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.619" />

```

</RelativeLayout>

Java Code – Counter.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;

```

```

import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class counter extends AppCompatActivity {
    Button btnstart, btnstop;
    TextView txtcounter;
    int i=1;
    Handler customHandler = new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_counter);
        btnstart=findViewById(R.id.btnstart);
        btnstop=findViewById(R.id.btnstop);
        txtcounter=findViewById(R.id.txtcounter);
        txtcounter.setText("0");
        btnstart.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                customHandler.postDelayed(updateTimerThread,0);
            }
        });
        btnstop.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                customHandler.removeCallbacks(updateTimerThread);
            }
        });
    }
    private final Runnable updateTimerThread=new Runnable(){
        @Override
        public void run(){
            txtcounter.setText(""+i);
            customHandler.postDelayed(this,1000);
            i++;
        }
    };
}

```

OUTPUT:

program1

Counter Application

Counter Value

START

STOP

program1

Counter Application

6

START

STOP

program1

Counter Application

15

START

STOP

6. Develop a simple application with one EditText so that the user can write some text in it. Create a button called “Convert Text to Speech” that converts the user input text into voice.

XML Code – activity_text_to_speech.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"
android:background="#EADDB7"
tools:context=".text_to_speech">

<TextView
    android:id="@+id/textView14"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="#EFEDEB"
    android:text="Text to Speech"
    android:textAppearance="@style/TextAppearance.AppCompat.Body1"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.147" />

<EditText
    android:id="@+id/textforspeech"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter the text here"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.31" />

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

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Covert and Speak"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.553"
        android:onClick="convert"/>
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code – text_to_speech.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.text.Editable;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
import org.w3c.dom.Text;
import java.util.Locale;
public class text_to_speech extends AppCompatActivity {
    TextToSpeech t1;
    EditText e1;
    Editable voiceOut;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_text_to_speech);
        e1=findViewById(R.id.textforspeech);
        t1=new TextToSpeech(getApplicationContext(),
            new TextToSpeech.OnInitListener() {
                @Override
                public void onInit(int status) {
                    if (status!= TextToSpeech.ERROR){
                        t1.setLanguage(Locale.UK);
                    }
                }
            });

    }

    public void convert(View view){
        voiceOut = e1.getText();
    }
}

```



```

String toSpeak = e1.getText().toString();
Toast.makeText(text_to_speech.this, voiceOut, Toast.LENGTH_LONG).show();
t1.speak(String.valueOf(voiceOut), TextToSpeech.QUEUE_FLUSH, null);
    }
}

```

OUTPUT:



Text To Speech App

Enter the text to be convert

CONVERT TEXT TO SPEECH

Text To Speech App

SOFTWARE AND application

CONVERT TEXT TO SPEECH

- 7. Create an activity like a phone dialer with CALL and SAVE buttons. On pressing the CALL button, it must call the phone number and on pressing the SAVE button it must save the number to the phone contacts.**

XML Code – activity_call.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:orientation="vertical"
    tools:context=".call">

    <TextView
        android:layout_width="405dp"
        android:layout_height="50dp"
        android:layout_alignParentTop="true"
        android:layout_alignParentBottom="true"
        android:layout_marginTop="90dp"
        android:layout_marginBottom="711dp"
        android:text="Call Application"
        android:textAlignment="center"
        android:textSize="24sp" />

    <EditText
        android:id="@+id/phoneNumberEditText"
        android:layout_width="276dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginTop="196dp"
        android:layout_marginEnd="106dp"
        android:layout_marginBottom="541dp"
        android:ems="10"
        android:inputType="phone" />

    <Button
        android:id="@+id/clearBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="10dp"
        android:layout_marginBottom="542dp"
```

```
android:text="Clear" />
```

```
<Button
```

```
    android:id="@+id/button2"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="279dp"
    android:layout_marginBottom="437dp"
    android:onClick="inputNumber"
    android:text="1"
    android:textAlignment="center"
    android:textSize="20sp" />
```

```
<Button
```

```
    android:id="@+id/button3"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="169dp"
    android:layout_marginBottom="437dp"
    android:onClick="inputNumber"
    android:text="2" />
```

```
<Button
```

```
    android:id="@+id/button4"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="48dp"
    android:layout_marginBottom="435dp"
    android:onClick="inputNumber"
    android:text="3" />
```

```
<Button
```

```
    android:id="@+id/button5"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="281dp"
    android:layout_marginBottom="370dp"
    android:onClick="inputNumber"
```

```
android:text="4" />
```

```
<Button
```

```
    android:id="@+id/button6"  
    android:layout_width="76dp"  
    android:layout_height="wrap_content"  
    android:layout_alignParentEnd="true"  
    android:layout_alignParentBottom="true"  
    android:layout_marginEnd="167dp"  
    android:layout_marginBottom="378dp"  
    android:onClick="inputNumber"  
    android:text="5" />
```

```
<Button
```

```
    android:id="@+id/button7"  
    android:layout_width="76dp"  
    android:layout_height="wrap_content"  
    android:layout_alignParentEnd="true"  
    android:layout_alignParentBottom="true"  
    android:layout_marginEnd="45dp"  
    android:layout_marginBottom="380dp"  
    android:onClick="inputNumber"  
    android:text="6" />
```

```
<Button
```

```
    android:id="@+id/button8"  
    android:layout_width="76dp"  
    android:layout_height="wrap_content"  
    android:layout_alignParentEnd="true"  
    android:layout_alignParentBottom="true"  
    android:layout_marginEnd="278dp"  
    android:layout_marginBottom="299dp"  
    android:onClick="inputNumber"  
    android:text="7" />
```

```
<Button
```

```
    android:id="@+id/button9"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_alignParentEnd="true"  
    android:layout_alignParentBottom="true"  
    android:layout_marginTop="512dp"  
    android:layout_marginEnd="162dp"  
    android:layout_marginBottom="303dp"  
    android:onClick="inputNumber"  
    android:text="8" />
```

```
<Button
    android:id="@+id/button10"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="44dp"
    android:layout_marginBottom="305dp"
    android:onClick="inputNumber"
    android:text="9" />
```

```
<Button
    android:id="@+id/button11"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="279dp"
    android:layout_marginBottom="224dp"
    android:onClick="inputNumber"
    android:text="#" />
```

```
<Button
    android:id="@+id/button12"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="163dp"
    android:layout_marginBottom="222dp"
    android:onClick="inputNumber"
    android:text="0" />
```

```
<Button
    android:id="@+id/button13"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="33dp"
    android:layout_marginBottom="224dp"
    android:onClick="inputNumber"
    android:text="*" />
```

```
<Button
```

```

        android:id="@+id/callBtn"
        android:layout_width="76dp"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="80dp"
        android:layout_marginBottom="113dp"
        android:text="Call" />

<Button
    android:id="@+id/saveBtn"
    android:layout_width="76dp"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="238dp"
    android:layout_marginBottom="117dp"
    android:text="Save" />
</RelativeLayout>

```

Java Code – call.java

```

package com.example.visiting;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.os.Bundle;

public class call extends AppCompatActivity {
    EditText phoneNumberEditText; Button
        clearBtn,callBtn,saveBtn;
    @Override protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_call);
        phoneNumberEditText=findViewById(R.id.phoneNumberEditText);
        callBtn=findViewById(R.id.callBtn);
        saveBtn=findViewById(R.id.saveBtn);
        clearBtn=findViewById(R.id.clearBtn);
        clearBtn.setOnClickListener(new View.OnClickListener() {
            @Override public void onClick(View v)
            {

```

```

        phoneNumberEditText.setText("");
    }
}); callBtn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
    String phoneNumber=phoneNumberEditText.getText().toString();
    Intent intent=new Intent(Intent.ACTION_DIAL);
    intent.setData(Uri.parse("tel:"+phoneNumber));
    startActivity(intent); }
}); saveBtn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
    String phoneNumber=phoneNumberEditText.getText().toString();
    Intent intent=new Intent(Intent.ACTION_INSERT);
    intent.setType(ContactsContract.Contacts.CONTENT_TYPE);
    intent.putExtra(ContactsContract.Intents.Insert.PHONE,phoneNumber);
    startActivity(intent);
}
});
}
public void inputNumber(View V){
    Button btn=(Button)V;
    String digit=btn.getText().toString();
    String phoneNumber=phoneNumberEditText.getText().toString();
    phoneNumberEditText.setText(phoneNumber +digit);
} }

```

OUTPUT:

9945997217

CLEAR

1

2

3

4

5

6

7

8

9

#

0

*

SAVE

CALL

New Contact

Add to Existing Contact

Send message

Video call

99459 97217

1

2

3

4

5

6

7

8

9

*

0

#

SIM 1

SIM 2

Cancel

New contact

Done

Name

Name

Phone

994 599 7217

Home

Phone

Company

Company

Title

Title

Pers...

Email

Groups

Not in groups

Save loc...

Phone

211301

38

PART – B

- 8. Write a program to enter Medicine Name, Date and Time of the Day as input from the user and store it in the SQLite database. Input for Time of the Day should be either Morning or Afternoon or Evening or Night.**

XML Code – activity_medicine_simple.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:orientation="vertical"
    tools:context=".medicine_simple">

    <TextView
        android:id="@+id/textView29"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Medicine DB"
        android:gravity="center"/>

    <EditText
        android:id="@+id/editTextText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="text"
        android:hint="Medicine Name" />

    <EditText
        android:id="@+id/editTextDate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="date"
        android:hint="Date" />

    <EditText
        android:id="@+id/editTextTime"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Time" />
```

```

<Button
    android:id="@+id/button19"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="save"
    android:onClick="save_m"/>
<Button
    android:id="@+id/button20"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="show"
    android:onClick="show_m"/>

<TextView
    android:id="@+id/textView30"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    />
</LinearLayout>

```

Java Code – medicine_simple.java

```

package com.example.day_3;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class medicine_simple extends AppCompatActivity {

    EditText name,date,time;
    Button save,show;
    TextView tv;
    med_data md;
    String mname,mdate,mtime;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_medicine_simple);
        name=findViewById(R.id.editTextText);
        date=findViewById(R.id.editTextDate);
        time=findViewById(R.id.editTextTime);
    }
}

```

```

        save=findViewById(R.id.button19);
        show=findViewById(R.id.button20);
        tv=findViewById(R.id.textView30);
        md=new med_data(medicine_simple.this);
    }

    public void save_m(View view) {
        mname=name.getText().toString();
        mdate=date.getText().toString();
        mtime=time.getText().toString();
        md.save(mname,mdate,mtime);
    }

    public void show_m(View view) {
        String s2 = md.show();
        tv.setText(s2);
    }
}

```

Java DB Code – med_data.java

```

package com.example.day_3;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import androidx.annotation.Nullable;

public class med_data extends SQLiteOpenHelper {
    SQLiteDatabase sq;

    public med_data(@Nullable Context context) {
        super(context, "med.db", null, 1);
        sq = getReadableDatabase();
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table medicine (Name text, MDate text, Time text)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

    }
}

```

```

public void save(String mname, String mdate, String mtime) {
    ContentValues cv = new ContentValues();
    cv.put("Name", mname);
    cv.put("MDate", mdate);
    cv.put("Time", mtime);
    sq.insert("medicine", null, cv);
}

public String show() {
    Cursor c;
    c = sq.query("medicine", new String[] {"Name", "MDate", "Time"}, null, null, null, null,
null);
    c.moveToFirst();
    if (c.getCount() < 1) {
        return "No Details";
    }
    String name = c.getString(c.getColumnIndex("Name"));
    String date = c.getString(c.getColumnIndex("MDate")); // Corrected column name
    String time = c.getString(c.getColumnIndex("Time"));
    String data1 = name + "\t\t" + date + "\t\t" + time + "\n";
    c.close(); // Close the Cursor after use
    return data1;
}
}

```

OUTPUT:

Medicine DB

Medicine Name

Date

Time

SAVE

SHOW

Medicine DB

dolo 650

25/02/2023

Morning

SAVE

SHOW

Medicine DB

dolo 650

25/02/2023

Morning

SAVE

SHOW

Dolo 650 25/2/2023 Morning

- 9. Develop a content provider application with an activity called “Meeting Schedule” which takes Date, Time and Meeting Agenda as input from the user and store this information into the SQLite database. Create another application with an activity called “Meeting Info” having Date Picker control, which on the selection of a date should display the Meeting Agenda information for that particular date, else it should display a toast message saying “No Meeting on this Date”.**

XML Code – activity_meeting_schedule.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=".meeting_schedule">

    <TextView
        android:id="@+id/textView23"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="cursive"
        android:text="Schedule Meeting"
        android:textColor="#050505"
        android:textSize="24sp" />

    <EditText
        android:id="@+id/schedule_date"
        android:layout_width="272dp"
        android:layout_height="53dp"
        android:ems="10"
        android:inputType="date" />

    <TextView
        android:id="@+id/textView24"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="cursive"
        android:text="Date"
        android:textColor="#0E0C0C"
        android:textSize="20sp" />
```

```
<TextView
    android:id="@+id/textView25"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:fontFamily="cursive"
    android:text="Time"
    android:textColor="#100C0C"
    android:textSize="20dp" />
```

```
<EditText
    android:id="@+id/schedule_time"
    android:layout_width="281dp"
    android:layout_height="53dp"
    android:ems="10"
    android:inputType="time"/>
```

```
<TextView
    android:id="@+id/textView26"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:fontFamily="cursive"
    android:text="Agenda"
    android:textColor="#0E0B0B"
    android:textSize="20dp"/>
```

```
<EditText
    android:id="@+id/schedule_ag"
    android:layout_width="294dp"
    android:layout_height="49dp"
    android:ems="10"/>
```

```
<Button
    android:id="@+id/schedule_save"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:fontFamily="cursive"
    android:text="Save"
    android:textSize="16sp" />
```

```
<Button
    android:id="@+id/schedule_view"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:fontFamily="cursive"
```

```

        android:text="View"
        android:textSize="16sp"
        app:layout_constraintEnd_toEndOf="parent"/>

<CalendarView
    android:id="@+id/calendarViewschedule"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

XML Code – activity_meeting_info.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=".Meeting_info">

    <TextView
        android:id="@+id/zx"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="cursive"
        android:text="Meeting Info"
        android:textSize="24sp"/>

    <TextView
        android:id="@+id/abcd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="cursive"
        android:text="Date"
        android:textColor="#0E0C0C"
        android:textSize="34sp" />

    <EditText
        android:id="@+id/info_date"
        android:layout_width="272dp"
        android:layout_height="53dp"
        android:ems="10"
        android:inputType="date" />

```



```

<Button
    android:id="@+id/info_show"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:fontFamily="cursive"
    android:text="Search for Meeting Details"
    android:textSize="16sp"/>

<CalendarView
    android:id="@+id/calendarViewinfo"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code – meeting_schedule.java

```

package com.example.visiting;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.view.inputmethod.InputMethodManager;
import android.widget.Button;
import android.widget.CalendarView;
import android.widget.EditText;
import android.widget.Toast;
public class meeting_schedule extends AppCompatActivity {
    EditText date,time,agenda;
    Database1 dbc;
    CalendarView c_view;
    Button save,a_view;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_meeting_schedule);
        date=(EditText) findViewById(R.id.schedule_date);
        time=(EditText) findViewById(R.id.schedule_time);
        agenda=(EditText) findViewById(R.id.schedule_ag);
        save=(Button) findViewById(R.id.schedule_save);
        a_view=(Button) findViewById(R.id.schedule_view);
        c_view=findViewById(R.id.calendarViewschedule);
        dbc=new Database1(getApplicationContext());
    }
}

```

```

c_view.setVisibility(View.INVISIBLE);
date.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        closeKeyBoard();
        c_view.setVisibility(View.VISIBLE);
        c_view.setOnDateChangeListener(new CalendarView.OnDateChangeListener() {
            @Override
            public void onSelectedDayChange(@NonNull CalendarView view, int year, int
month, int dayOfMonth) {
                String d=dayOfMonth+"/"+(month+1)+"/"+year;
                date.setText(d);
                c_view.setVisibility(View.INVISIBLE);
            }
        });
    });
});

save.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String mdate,mtime,magenda;
        mdate=date.getText().toString();
        mtime=time.getText().toString();
        magenda=agenda.getText().toString();
        Boolean insert=dbc.insertvalues(mdate,mtime,magenda);
        if(insert==true){
            Toast.makeText(getApplicationContext(), "Data Inserted",
Toast.LENGTH_LONG).show();
        }
        else{
            Toast.makeText(getApplicationContext(), "Data Not Inserted",
Toast.LENGTH_LONG).show();
        }
    }
});
a_view.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Intent intent = new Intent(meeting_schedule.this,Meeting_info.class);
        startActivity(intent);
    }
});
}

private void closeKeyBoard(){
    View view = this.getCurrentFocus();
    if(view!=null){

```

```

        InputMethodManager imm=(InputMethodManager)
this.getSystemService(Context.INPUT_METHOD_SERVICE);
        imm.hideSoftInputFromWindow(view.getWindowToken(),0)

    }
}
}

```

Java Code – meeting_info.java

```

package com.example.visiting;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CalendarView;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class Meeting_info extends AppCompatActivity {
    EditText date;
    CalendarView c_view;
    Button s_date;
    Database1 dbc;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_meeting_info);
        date=(EditText) findViewById(R.id.info_date);
        c_view=findViewById(R.id.calendarViewinfo);
        s_date=(Button) findViewById(R.id.info_show);
        dbc=new Database1(getApplicationContext());
        c_view.setOnDateChangeListener(new CalendarView.OnDateChangeListener() {
            @Override
            public void onSelectedDayChange(@NonNull CalendarView view, int year, int
month, int dayOfMonth) {
                String d=dayOfMonth+"/"+(month+1)+"/"+year;
                date.setText(d);
            }
        });
        s_date.setOnClickListener(new View.OnClickListener() {
            @SuppressLint("Range")
            @Override

```

```

public void onClick(View v) {
    String d1=date.getText().toString();
    StringBuffer res=new StringBuffer();
    Cursor c=dbc.fetch(d1);
    int count=c.getCount();
    c.moveToNext();
    if(count>0) {
        do {
            res.append(c.getString(c.getColumnIndex("agenda")) + "\t" + "at" + "\t" +
c.getString(c.getColumnIndex("time")));
            res.append("\n");
        } while (c.moveToNext());
        Toast.makeText(getApplicationContext(), res, Toast.LENGTH_LONG).show();
    }
    else{
        Toast.makeText(getApplicationContext(), "NO meeting on this day....",
Toast.LENGTH_LONG).show();
    }
    }
    });
}
}

```

OUTPUT:

Schedule Meeting

Date

Time

Agenda

SAVE

VIEW

Schedule Meeting

Date

19/6/2023

Time

09:25

Agenda

college

SAVE

VIEW

Schedule Meeting

Date

19/6/2023

Time

09:25

Agenda

college

SAVE

VIEW

Meeting Info

Date

19/6/2023

SEARCH FOR MEETING DETAILS

college at 09:25

college at 09:25

10. Create an application to receive an incoming SMS, which is notified to the user. On clicking this SMS notification, the message content and the number should be displayed on the screen. Use appropriate emulator control to send the SMS message to your application.

XML Code – activity_sms.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"
android:background="@drawable/muddu"
tools:context=".SMS">

    <TextView
        android:id="@+id/textView20"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:text="SMS Sender"
        android:textColor="#9C27B0"
        android:textSize="20sp"/>

    <EditText
        android:id="@+id/phone"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="122dp"
        android:ems="10"
        android:hint="Enter Phone No. Here"
        android:inputType="phone" />

    <TextView
        android:id="@+id/textView21"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Phone No:"
        android:textSize="20sp"/>

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

```

        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Enter Your Message Here"
        android:inputType="textPersonName"/>

<TextView
    android:id="@+id/textView22"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Message:"
    android:textSize="20sp" />

<Button
    android:id="@+id/button14"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Send SMS"/>
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code – SMS.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class SMS extends AppCompatActivity {
    EditText phone,message;
    Button send;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_sms);
        phone=findViewById(R.id.phone);
        message=findViewById(R.id.message);
        send=findViewById(R.id.button14);
        send.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String ph = phone.getText().toString();
                String mes = message.getText().toString();
                SmsManager sms = SmsManager.getDefault();
                sms.sendTextMessage(ph,null,mes,null,null);
            }
        });
    }
}

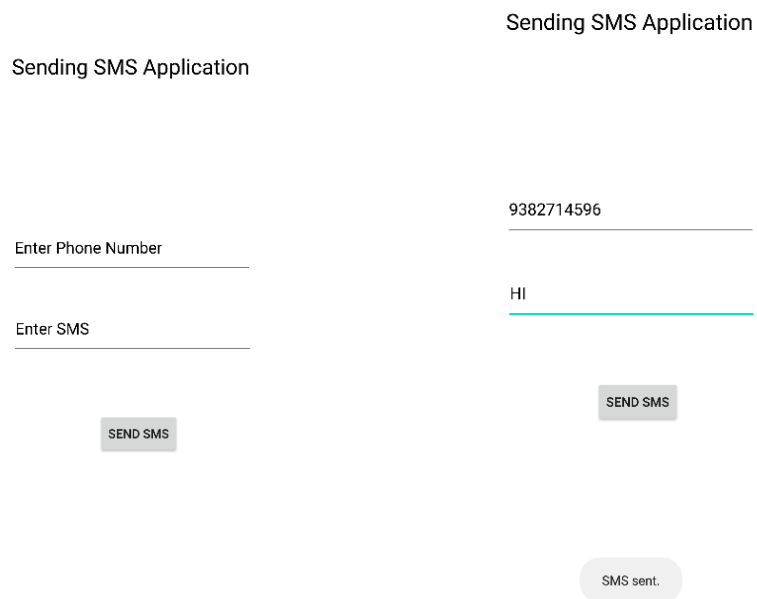
```

```

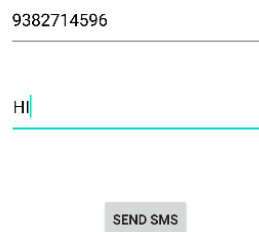
        Toast.makeText(SMS.this, "Sent Successfully!", Toast.LENGTH_SHORT).show();
    }
    });
}
}

```

OUTPUT:



Sending SMS Application



- 11. Write a program to create an activity having a Text box, and also Save, Open and Create buttons. The user has to write some text in the Text box. On pressing the Create button the text should be saved as a text file in SDcard. On subsequent changes to the text, the Save button should be pressed to store the latest content to the same file. On pressing the Open button, it should display the contents from the previously stored files in the Text box. If the user tries to save the contents in the Textbox to a file without creating it, then a toast message has to be displayed saying “First Create a File”.**

XML Code – activity_text_save.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=".text_save">

    <TextView
        android:id="@+id/textView27"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Text Box"
        android:textSize="36dp"
        android:textStyle="bold"/>

    <Button
        android:id="@+id/create_txt"
        android:layout_width="250dp"
        android:layout_height="75dp"
        android:text="CREATE"
        android:textSize="36dp"/>

    <EditText
        android:id="@+id/text_field"
        android:layout_width="250dp"
        android:layout_height="90dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text=""/>
```

```

<Button
    android:id="@+id/save_txt"
    android:layout_width="150dp"
    android:layout_height="81dp"
    android:text="SAVE"
    android:textSize="36dp"/>

<Button
    android:id="@+id/open_txt"
    android:layout_width="150dp"
    android:layout_height="81dp"
    android:text="OPEN"
    android:textSize="36dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Java Code – text_save.java

```

package com.example.visiting;
import androidx.appcompat.app.AppCompatActivity;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class text_save extends AppCompatActivity implements View.OnClickListener {

    EditText text_field;
    Button create,open,save;
    SharedPreferences spref;
    final String SAVED_TEXT = "saved text";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_text_save);
        text_field=(EditText) findViewById(R.id.text_field);
        create=(Button) findViewById(R.id.create_txt);
        save=(Button) findViewById(R.id.save_txt);
        open=(Button) findViewById(R.id.open_txt);
        create.setOnClickListener(this);
        save.setOnClickListener(this);
        open.setOnClickListener(this);
        loadtext();
    }
}

```

```

@Override
public void onClick(View v) {
    switch (v.getId()){
        case R.id.save_txt:
            savetext();
            break;
        case R.id.create_txt:
            createtext();
            break;
        case R.id.open_txt:
            loadtext();
            break;
    }
}

void createtext(){
    spref=getPreferences(MODE_PRIVATE);
    SharedPreferences.Editor ed =spref.edit();
    ed.putString(SAVED_TEXT, text_field.getText().toString());
    ed.commit();
    Toast.makeText(this, "Text Created", Toast.LENGTH_SHORT).show();
}

void savetext(){
    if(text_field!=null){
        spref=getPreferences(MODE_PRIVATE);
        SharedPreferences.Editor ed =spref.edit();
        ed.putString(SAVED_TEXT, text_field.getText().toString());
        ed.commit();
        Toast.makeText(this, "Text Created", Toast.LENGTH_SHORT).show();
    }
    else{
        Toast.makeText(this, "no file exist! create the file", Toast.LENGTH_SHORT).show();
    }
}

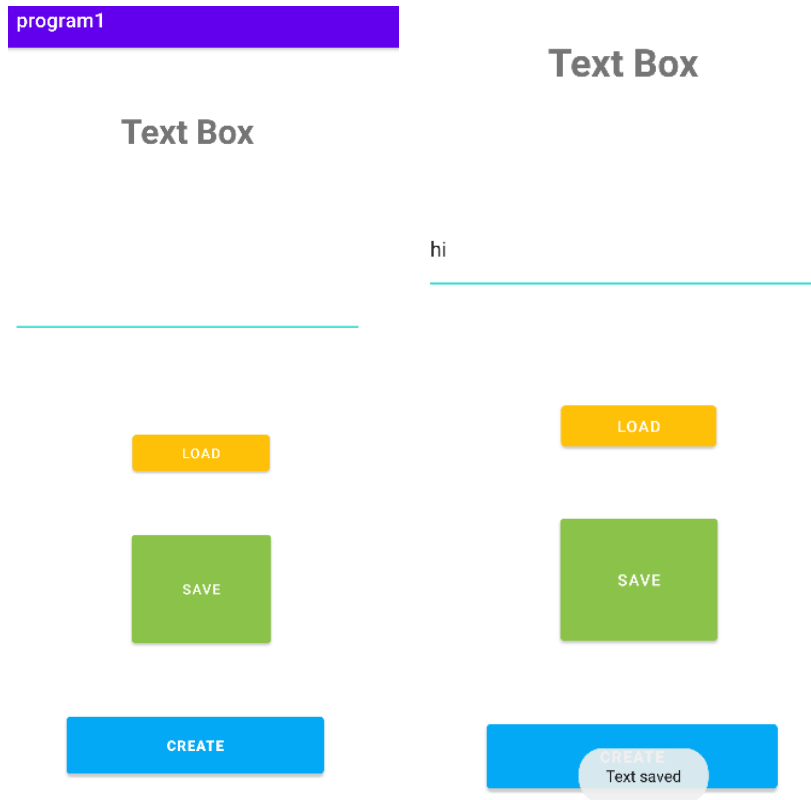
void loadtext() {
    spref = getPreferences(MODE_PRIVATE);
    String savedText = spref.getString(SAVED_TEXT, "");
    text_field.setText(savedText);
    Toast.makeText(this, "Text Opened", Toast.LENGTH_SHORT).show();
}

@Override
protected void onDestroy() {
    super.onDestroy();
}

```

```
    savetext();  
  }  
}
```

OUTPUT:



12. Create an application to demonstrate a basic media player that allows the user to Forward, Backward, Play and Pause an audio. Also, make use of the indicator in the seek bar to move the audio forward or backward as required.

XML Code – activity_music_player.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=".music_player">

    <TextView
        android:id="@+id/textview"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Music Palyer"
        android:textColor="@color/black"
        android:textSize="35dp" />

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
        android:layout_height="140dp"
        android:src="@drawable/muddu" />

    <Button
        android:id="@+id/button"
        android:layout_width="136dp"
        android:layout_height="wrap_content"
        android:text="forward" />

    <Button
        android:id="@+id/button2"
        android:layout_width="143dp"
        android:layout_height="wrap_content"
        android:text="pause" />

    <Button
        android:id="@+id/button3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```

        android:text="back" />

<Button
    android:id="@+id/button4"
    android:layout_width="110dp"
    android:layout_height="wrap_content"
    android:layout_alignParentStart="true"
    android:text="rewind" />

<SeekBar
    android:id="@+id/seekBar"
    android:layout_width="300dp"
    android:layout_height="33dp"/>

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

    android:text="Small Text"
    android:textAppearance="?android:attr/textAppearanceSmall" />

<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_above="@+id/seekBar"
    android:text="Small Text"
    android:textAppearance="?android:attr/textAppearanceSmall" />

<TextView
    android:id="@+id/textView4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Medium Text"
    android:textAppearance="?android:attr/textAppearanceMedium" />
</RelativeLayout>

```

Java Code – music_player.java

```

package com.example.visiting;
import android.app.Activity;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;

```

```

import android.widget.Button;
import android.widget.ImageView;
import android.widget.SeekBar;
import android.widget.TextView;
import android.widget.Toast;
import java.util.concurrent.TimeUnit;
public class music_player extends Activity {
    private Button b1,b2,b3,b4;
    private ImageView iv;
    private MediaPlayer mediaPlayer;
    private double startTime = 0;
    private double finalTime = 0;
    private Handler myHandler = new Handler();
    private int forwardTime = 5000;
    private int backwardTime = 5000;
    private SeekBar seekbar;
    private TextView tx1,tx2,tx3;
    public static int oneTimeOnly = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_music_player);
        b1 = (Button) findViewById(R.id.button);
        b2 = (Button) findViewById(R.id.button2);
        b3 = (Button) findViewById(R.id.button3);
        b4 = (Button) findViewById(R.id.button4);
        iv = (ImageView) findViewById(R.id.imageView);
        tx1 = (TextView) findViewById(R.id.textView2);
        tx2 = (TextView) findViewById(R.id.textView3);
        tx3 = (TextView) findViewById(R.id.textView4);
        tx3.setText("jai.mp3");
        mediaPlayer = MediaPlayer.create(this, R.raw.jai);
        seekbar = (SeekBar) findViewById(R.id.seekBar);
        seekbar.setClickable(false);
        b2.setEnabled(false);
        b3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(), "Playing
sound", Toast.LENGTH_SHORT).show();
                mediaPlayer.start();
                finalTime = mediaPlayer.getDuration();
                startTime = mediaPlayer.getCurrentPosition();
                if (oneTimeOnly == 0) {
                    seekbar.setMax((int) finalTime);
                    oneTimeOnly = 1;

```

```

    }
    tx2.setText(String.format("%d min, %d sec",
        TimeUnit.MILLISECONDS.toMinutes((long) finalTime),
        TimeUnit.MILLISECONDS.toSeconds((long) finalTime) -
            TimeUnit.MINUTES.toSeconds(TimeUnit.MILLISECONDS.toMinutes((long)
                finalTime))))
    );
    tx1.setText(String.format("%d min, %d sec",
        TimeUnit.MILLISECONDS.toMinutes((long) startTime),
        TimeUnit.MILLISECONDS.toSeconds((long) startTime) -
            TimeUnit.MINUTES.toSeconds(TimeUnit.MILLISECONDS.toMinutes((long)
                startTime))))
    );
    seekbar.setProgress((int)startTime);
    myHandler.postDelayed(UpdateSongTime,100);
    b2.setEnabled(true);
    b3.setEnabled(false);
}
});
b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Toast.makeText(getApplicationContext(), "Pausing
sound",Toast.LENGTH_SHORT).show();
        mediaPlayer.pause();
        b2.setEnabled(false);
        b3.setEnabled(true);
    }
});
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int temp = (int)startTime;
        if((temp+forwardTime)<=finalTime){
            startTime = startTime + forwardTime;
            mediaPlayer.seekTo((int) startTime);
            Toast.makeText(getApplicationContext(),"You have Jumped forward 5
seconds",Toast.LENGTH_SHORT).show();
        }else{
            Toast.makeText(getApplicationContext(),"Cannot jump forward 5
seconds",Toast.LENGTH_SHORT).show();
        }
    }
});

```



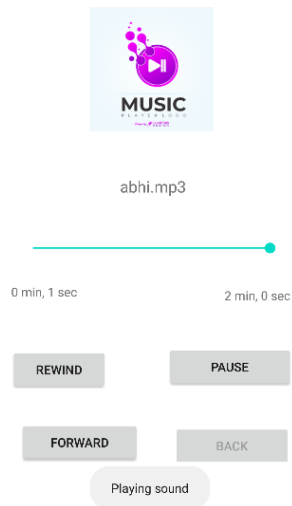
```

b4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int temp = (int)startTime;
        if((temp-backwardTime)>0){
            startTime = startTime - backwardTime;
            mediaPlayer.seekTo((int) startTime);
            Toast.makeText(getApplicationContext(),"You have Jumped backward 5
seconds",Toast.LENGTH_SHORT).show();
        }else{
            Toast.makeText(getApplicationContext(),"Cannot jump backward 5
seconds",Toast.LENGTH_SHORT).show();
        }
    }
});
}
private Runnable UpdateSongTime = new Runnable() {
    public void run() {
        startTime = mediaPlayer.getCurrentPosition();
        tx1.setText(String.format("%d min, %d sec",
            TimeUnit.MILLISECONDS.toMinutes((long) startTime),
            TimeUnit.MILLISECONDS.toSeconds((long) startTime) -
                TimeUnit.MINUTES.toSeconds(TimeUnit.MILLISECONDS.
                    toMinutes((long) startTime)))
        );
        seekbar.setProgress((int)startTime);
        myHandler.postDelayed(this, 100);
    }
};
}

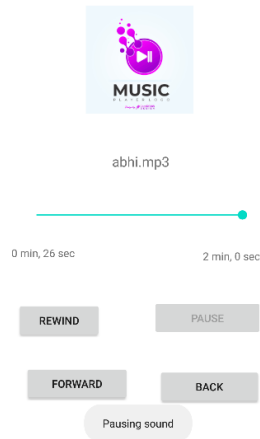
```

OUTPUT:

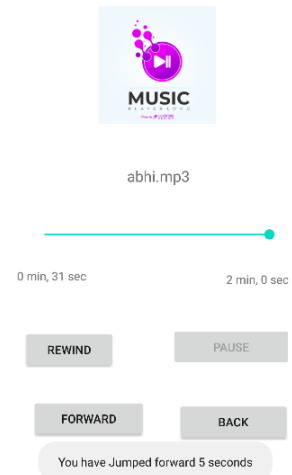
Music Palyer



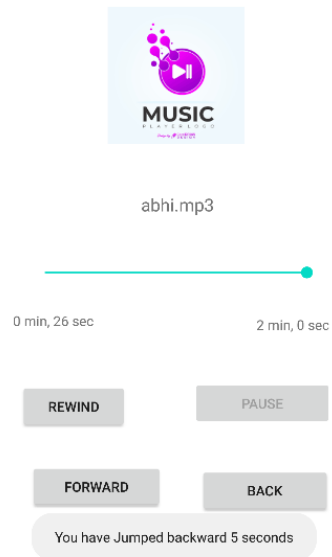
Music Palyer



Music Palyer



Music Palyer



13. Develop an application that makes use of the clipboard framework for copying and pasting of the text. The activity consists of two EditText controls and two Buttons to trigger the copy and paste functionality.

XML Code – activity_copy_paste.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=".Copy_Paste">

    <EditText
        android:id="@+id/copy"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"/>

    <EditText
        android:id="@+id/paste"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"/>

    <Button
        android:id="@+id/copybtn"
        style="@style/Widget.Material3.Button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="COPY"
        android:textSize="20sp"/>

    <Button
        android:id="@+id/pastebtn"
        style="@style/Widget.Material3.Button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PASTE"
        android:textSize="20sp"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Java Code – Copy_paste.java

```
package com.example.visiting;

import androidx.appcompat.app.AppCompatActivity;

import android.content.ClipData;
import android.content.ClipboardManager;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class Copy_Paste extends AppCompatActivity {

    EditText copy,paste;
    Button copybtn,pastebtn;
    private ClipboardManager myClipboard;
    private ClipData myClip;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_copy_paste);
        copy=(EditText) findViewById(R.id.copy);
        paste=(EditText) findViewById(R.id.paste);
        copybtn=(Button) findViewById(R.id.copybtn);
        pastebtn=(Button) findViewById(R.id.pastebtn);
        myClipboard=(ClipboardManager) getSystemService(CLIPBOARD_SERVICE);
        copybtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String text;
                text=copy.getText().toString();
                myClip=ClipData.newPlainText("text",text);
                myClipboard.setPrimaryClip(myClip);
                Toast.makeText(getApplicationContext(), "Text Copied",
Toast.LENGTH_LONG).show();
            }
        });
        pastebtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                ClipData abc=myClipboard.getPrimaryClip();
                ClipData.Item item=abc.getItemAt(0);
                String text=item.getText().toString();
                paste.setText(text);
            }
        });
    }
}
```

```
        Toast.makeText(getApplicationContext(), "Text Pasted",  
        Toast.LENGTH_SHORT).show();  
    }  
    });  
}  
}
```

OUTPUT:

COPY PASTE

COPY

PASTE

COPY PASTE

SDM Bvoc

COPY

PASTE

☒ Text Copied

COPY PASTE

SDM Bvoc

SDM Bvoc

COPY

PASTE

☒ Text Pasted

14. Create an AIDL service that calculates Car Loan EMI. The formula to calculate EMI is $E = P * (r(1+r)^n) / ((1+r)^n - 1)$ where E = The EMI payable on the car loan amount P = The Car loan Principal Amount r = The interest rate value computed on a monthly basis n = The loan tenure in the form of months The down payment amount has to be deducted from the principal amount paid towards buying the Car. Develop an application that makes use of this AIDL service to calculate the EMI. This application should have four EditText to read the Principal Amount, Down Payment, Interest Rate, Loan Term (in months) and a button named as “Calculate Monthly EMI”. On click of this button, the result should be shown in a TextView. Also, calculate the EMI by varying the Loan Term and Interest Rate values.

XML Code – activity_emi_calculator.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    tools:context=".EmiCalculator"
    android:layout_height="match_parent">
    <androidx.appcompat.widget.LinearLayoutCompat
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_behavior="@string/appbar_scrolling_view_behavior">
        <LinearLayout
            android:layout_width="fill_parent"
            android:layout_height="match_parent"
            android:layout_marginTop="?attr/actionBarSize"
            android:orientation="vertical"
            android:paddingLeft="20dp"
            android:paddingRight="20dp"
            android:paddingTop="10dp">
            <androidx.appcompat.widget.LinearLayoutCompat
                android:id="@+id/input_layout_principal"
                android:layout_width="match_parent"
                android:layout_height="wrap_content">
                <EditText
                    android:id="@+id/principal"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
                    android:singleLine="true"
                    android:inputType="number"
```

```

        android:digits="0123456789."
        android:hint="principal" />
</androidx.appcompat.widget.LinearLayoutCompat>
<androidx.appcompat.widget.LinearLayoutCompat
    android:id="@+id/input_layout_interest"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <EditText
        android:id="@+id/interest"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:singleLine="true"
        android:inputType="number"
        android:digits="0123456789."
        android:hint="interest" />
</androidx.appcompat.widget.LinearLayoutCompat>
<androidx.appcompat.widget.LinearLayoutCompat
    android:id="@+id/input_layout_tenure"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <EditText
        android:id="@+id/years"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="number"
        android:digits="0123456789."
        android:hint="years" />
</androidx.appcompat.widget.LinearLayoutCompat>
<Button android:id="@+id/btn_calculate2"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Calculate"
    android:layout_marginTop="40dp"
    android:textColor="@android:color/white"/>
<androidx.appcompat.widget.LinearLayoutCompat
    android:id="@+id/input_layout_emi"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp">
    <EditText
        android:id="@+id/emi"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:maxEms="0"
        android:inputType="number"
        android:hint="emi" />

```



```

</androidx.appcompat.widget.LinearLayoutCompat>
<androidx.appcompat.widget.LinearLayoutCompat
    android:id="@+id/input_layout_total_Interest"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp">
    <EditText
        android:id="@+id/interest_total"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:inputType="number"
        android:hint="interest_total" />
    </androidx.appcompat.widget.LinearLayoutCompat>
</LinearLayout>
</androidx.appcompat.widget.LinearLayoutCompat>
</RelativeLayout>

```

Java Code – EmiCalculator.java

```

package com.example.visiting;

import androidx.appcompat.app.AppCompatActivity;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.os.Bundle;
public class EmiCalculator extends AppCompatActivity {
    Button emiCalcBtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_emi_calculator);
        final EditText P = (EditText) findViewById(R.id.principal);
        final EditText I = (EditText) findViewById(R.id.interest);
        final EditText Y = (EditText) findViewById(R.id.years);
        final EditText TI = (EditText) findViewById(R.id.interest_total);
        final EditText result = (EditText) findViewById(R.id.emi);
        emiCalcBtn = (Button) findViewById(R.id.btn_calculate2);
        emiCalcBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String st1 = P.getText().toString();
                String st2 = I.getText().toString();
                String st3 = Y.getText().toString();
                if (TextUtils.isEmpty(st1)) {

```

```

        P.setError("Enter Prncipal Amount");
        P.requestFocus();
        return;
    }
    if (TextUtils.isEmpty(st2)) {
        I.setError("Enter Interest Rate");
        I.requestFocus();
        return;
    }
    if (TextUtils.isEmpty(st3)) {
        Y.setError("Enter Years");
        Y.requestFocus();
        return;
    }
    float p = Float.parseFloat(st1);
    float i = Float.parseFloat(st2);
    float y = Float.parseFloat(st3);
    float Principal = calPric(p);
    float Rate = calInt(i);
    float Months = calMonth(y);
    float Dvdnt = calDvdnt(Rate, Months);
    float FD = calFinalDvdnt(Principal, Rate, Dvdnt);
    float D = calDivider(Dvdnt);
    float emi = calEmi(FD, D);
    float TA = calTa(emi, Months);
    float ti = calTotalInt(TA, Principal);
    result.setText(String.valueOf(emi));
    TI.setText(String.valueOf(ti));
    }
    });
}

public float calPric(float p) {
    return (float)(p);
}

public float calInt(float i) {
    return (float)(i / 12 / 100);
}

public float calMonth(float y) {
    return (float)(y * 12);
}

public float calDvdnt(float Rate, float Months) {
    return (float)(Math.pow(1 + Rate, Months));
}

public float calFinalDvdnt(float Principal, float Rate, float Dvdnt) {
    return (float)(Principal * Rate * Dvdnt);
}
}

```

```

public float calDivider(float Dvdnt) {
    return (float)(Dvdnt - 1);
}
public float calEmi(float FD, Float D) {
    return (float)(FD / D);
}
public float calTa(float emi, Float Months) {
    return (float)(emi * Months);
}
public float calTotalInt(float TA, float Principal) {
    return (float)(TA - Principal);
}
}

```

OUTPUT:

principal

interest

years

CALCULATE

emi

interest_total

675186

3.5

3

CALCULATE

19784.184

37044.625