**PART – A**

**Experiment-No: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

**Components Used:**

* Buttons: To Change Wallpapper.

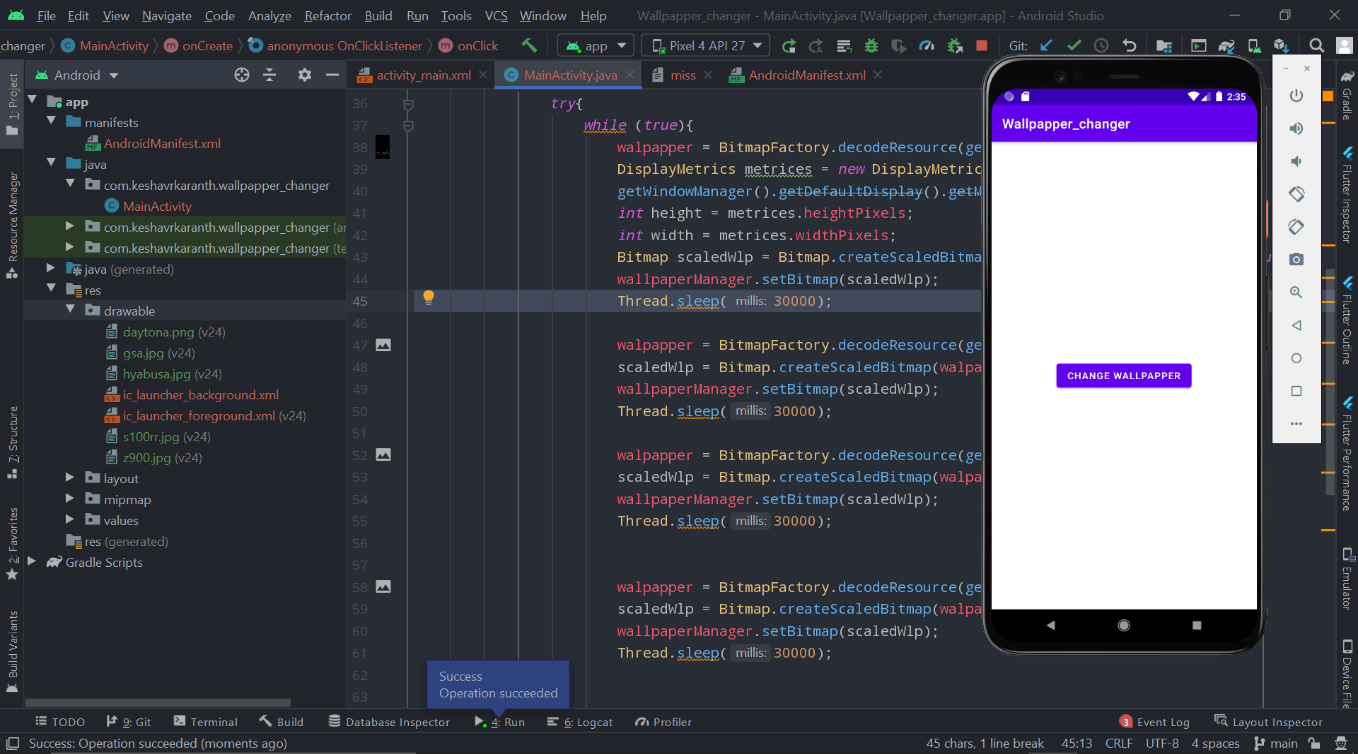
**XML Code:**

<?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/change\_wp"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Change Wallpapper"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>

**Java Code:**

*package* com.keshavrkaranth.wallpapper\_changer;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
  
*import* android.app.WallpaperManager;  
*import* android.content.res.Resources;  
*import* android.graphics.Bitmap;  
*import* android.graphics.BitmapFactory;  
*import* android.os.Bundle;  
*import* android.os.Handler;  
*import* android.util.DisplayMetrics;  
*import* android.view.View;  
*import* android.widget.Button;  
  
*import* java.io.IOException;  
*import* java.util.List;  
*import* java.util.Timer;  
*import* java.util.TimerTask;  
  
*public class* MainActivity *extends* AppCompatActivity {  
 Button wc;  
 Bitmap walpapper;  
 WallpaperManager wallpaperManager = *null*;  
  
 *@Override  
 protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
 wallpaperManager = WallpaperManager.getInstance(*this*);  
  
 wc = findViewById(R.id.change\_wp);  
  
 wc.setOnClickListener(*new* View.OnClickListener() {  
 *@Override  
 public void* onClick(View view) {  
 *try*{  
 *while* (*true*){  
 walpapper = BitmapFactory.decodeResource(getResources(),R.drawable.daytona);  
 DisplayMetrics metrices = *new* DisplayMetrics();  
 getWindowManager().getDefaultDisplay().getMetrics(metrices);  
 *int* height = metrices.heightPixels;  
 *int* width = metrices.widthPixels;  
 Bitmap scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, *true*);  
 wallpaperManager.setBitmap(scaledWlp);  
 Thread.sleep(30000);  
  
 walpapper = BitmapFactory.decodeResource(getResources(),R.drawable.hyabusa);  
 scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, *true*);  
 wallpaperManager.setBitmap(scaledWlp);  
 Thread.sleep(30000);  
  
 walpapper = BitmapFactory.decodeResource(getResources(),R.drawable.gsa);  
 scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, *true*);  
 wallpaperManager.setBitmap(scaledWlp);  
 Thread.sleep(30000);  
  
  
 walpapper = BitmapFactory.decodeResource(getResources(),R.drawable.s100rr);  
 scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, *true*);  
 wallpaperManager.setBitmap(scaledWlp);  
 Thread.sleep(30000);  
  
  
  
 walpapper = BitmapFactory.decodeResource(getResources(),R.drawable.z900);  
 scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, *true*);  
 wallpaperManager.setBitmap(scaledWlp);  
 Thread.sleep(30000);  
 }  
  
  
  
  
  
 }*catch* (Exception e){  
 e.printStackTrace();  
 }  
 }  
 });  
  
  
 }  
  
}

**Sample Output:**

**