

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 wallpaper;
    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){
                        wallpaper =
BitmapFactory.decodeResource(getResources(),R.drawable.daytona);
                        DisplayMetrics metrics = new DisplayMetrics();
                        getWindowManager().getDefaultDisplay().getMetrics(metrics);
                        int height = metrics.heightPixels;
                        int width = metrics.widthPixels;
                        Bitmap scaledWlp = Bitmap.createScaledBitmap(wallpaper,width,height,
true);

                        wallpaperManager.setBitmap(scaledWlp);
                        Thread.sleep(30000);

                        wallpaper =
BitmapFactory.decodeResource(getResources(),R.drawable.hyabusa);
                        scaledWlp = Bitmap.createScaledBitmap(wallpaper,width,height, true);
                        wallpaperManager.setBitmap(scaledWlp);
                        Thread.sleep(30000);
```

```
        walpapper =
BitmapFactory.decodeResource(getResources(),R.drawable.gsa);
        scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, true);
        wallpaperManager.setImageBitmap(scaledWlp);
        Thread.sleep(30000);

        walpapper =
BitmapFactory.decodeResource(getResources(),R.drawable.s100rr);
        scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, true);
        wallpaperManager.setImageBitmap(scaledWlp);
        Thread.sleep(30000);

        walpapper =
BitmapFactory.decodeResource(getResources(),R.drawable.z900);
        scaledWlp = Bitmap.createScaledBitmap(walpapper,width,height, true);
        wallpaperManager.setImageBitmap(scaledWlp);
        Thread.sleep(30000);
    }

    }catch (Exception e){
        e.printStackTrace();
    }
}
});
}
}
```

Sample Output: