

LogCat Output:-

----	beginning of main	System
----	beginning of Kernel	
-----	beginning of system	
<<thread>>	com.example.multithreading	Thread talking 0
<<Runnable>>	com.example.multithreading	runnable talking 100
<<Thread>>	com.example.multithreading	Thread talking 1
<<Runnable>>	com.example.multithreading	runnable talking 101
<<Thread>>	com.example.multithreading	Thread talking 2
<<Runnable>>	com.example.multithreading	runnable talking 102
<<Runnable>>	com.example.multithreading	runnable talking 103
<<Thread>>	com.example.multithreading	Thread talking 3
<<Thread>>	com.example.multithreading	Thread talking 4
<<Runnable>>	com.example.multithreading	runnable talking 104

Title:

for (int
 thre
 Log..

}
 } catch (C
 e. pr
 }
 }
 }
 }



```

for (int i=0; i<5; i++) {
    Thread.sleep(1000);
    Log.e("(<Thread> ", "Thread talking", + i);
}

```

```

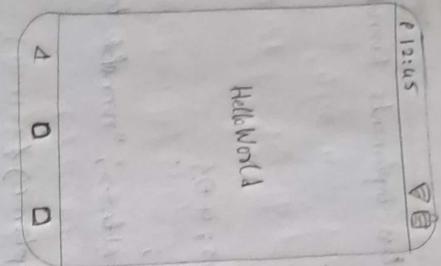
} catch (InterruptedException e) {
    e.printStackTrace();
}

```

Signature
B/6/13

Logd Output :-

--- beginning of main
 --- beginning of kernel
 --- beginning of system
 <thread>> com.example.multithreading Thread talking 0
 <runnable>> com.example.multithreading runnable talking 00
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 <thread>> com.example.multithreading Thread talking 2
 <runnable>> com.example.multithreading runnable talking 100
 <thread>> com.example.multithreading Thread talking 3
 <thread>> com.example.multithreading Thread talking 4



Shared Preferences Example

HomeActivity.java

```
package com.example.sharedpreferencesdemo;  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.SharedPreferences;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class HomeActivity extends AppCompatActivity {  
    TextView name, email;  
    Button bn;  
    private static final String SHARED_PREF_NAME = "mypref";  
    private static final String KEY_NAME = "name";  
    private static final String KEY_EMAIL = "email";  
    @Override  
    protected void onCreate(Bundle savedInstanceState)  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_home);  
    name = (TextView) findViewById(R.id.t1);
```

```
email = (TextView) findViewById(R.id.t1);
```

```
bn = (Button) findViewById(R.id.button);
```

```
sharedPreferences sharedPreferences = getSharedPreferences  
(SHARED_PREF_NAME, MODE_PRIVATE);
```

```
String n = sharedPreferences.getString(KEY_NAME, null);
```

```
String e = sharedPreferences.getString(KEY_EMAIL, null);
```

```
if (n != null || e != null)
```

```
{  
    name.setText ("full name" + n);  
    email.setText ("email id " + e);  
}
```

```
bn.setOnClickListener (new View.OnClickListener () {
```

```
@Override
```

```
public void onClick (View v) {
```

~~sharedPreferences.Editor editor = sharedPreferences.edit();~~~~editor.clear();~~~~editor.commit();~~~~finish();~~

```
Toast.makeText (HomeActivity.this, "Logout successfully",
```

```
    Toast.LENGTH_LONG).show();
```

```
});
```

MainActivity.java

```
package com.example.sharedpreferencesdemo;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    EditText name, email;
    Button save;
    private static final String SHARED_PREF_NAME = "mypref";
    private static final String KEY_NAME = "name";
    private static final String KEY_EMAIL = "email";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = (EditText) findViewById(R.id.name);
        email = (EditText) findViewById(R.id.email);
```

```

save = (Button) findViewById(R.id.button);
SharedPreferences sharedpreferences = getSharedPreferences(
    SHARED_PREF_NAME, MODE_PRIVATE);
String n = sharedPreferences.getString(FEY_NAME, null);
if (n != null) {
    Intent intent = new Intent(MainActivity.this,
        HomeActivity.class);
    startActivity(intent);
}
save.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        SharedPreferences.Editor editor = sharedpreferences.edit();
        editor.putString(FEY_NAME, name.getText().toString());
        editor.putString(KEY_EMAIL, email.getText().toString());
        editor.apply();
    }
});
Intent intent = new Intent(MainActivity.this, HomeActivity.class);
startActivity(intent);
}

```

Registration Form

Ername	Ername
blarone@gmail.com	
<input type="button" value="Save"/>	<input type="button" value="Cancel"/>

Welcome

full name Bharani
emailId blarone@gmail.com

mypref.xml

```
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<map>
    <string name="name"> Bhavani </string>
    <string name="email"> bhavani@gmail.com </string>
</map>
```

To view the saved data, follow the below steps:

1. Search for 'Device file explorer.'
2. Click on 'data' folder
3. Search for com.example.sharedPreferencesDemo.
4. Click on shared-prefs folder.
5. Then click on mypref.xml.
6. mypref.xml contains the saved data

✓

Multithreading Example

```
package com.example.week8;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
public class MainActivity extends AppCompatActivity {
    ImageView img;
    Button bt1, bt2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        bt1 = (Button) findViewById(R.id.button);
        bt2 = (Button) findViewById(R.id.button2);
        img = (ImageView) findViewById(R.id.imageView);
        bt1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
```

```

new Thread (new Runnable()) {
    @Override
    public void run() {
        img.post (new Runnable() {
            @Override
            public void run() {
                img.setImageResource (R.drawable.india);
            }
        });
    }
}

```

~~3) start();
 };
 b2.setOnClickListener (new View.OnClickListener () {
 @Override
 public void onClick (View v) {
 new Thread (new Runnable () {
 @Override
 public void run() {
 img.setImageResource (R.drawable.india);
 }
 }).start();
 }
 });~~

~~new Thread (new Runnable () {~~

~~@Override
 public void run() {~~

~~img.setImageResource (R.drawable.india);
 }
 @Override
 public void run() {~~

~~img.setImageResource (R.drawable.india);
 }~~

~~@Override
 public void run() {~~

img. post (new

img. set ImageResource (R.drawable.india2);

}

});

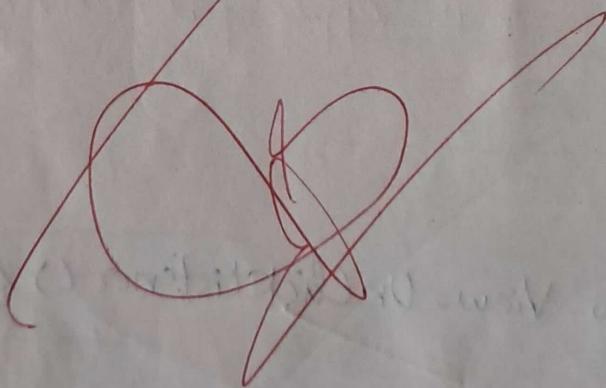
{

). start();

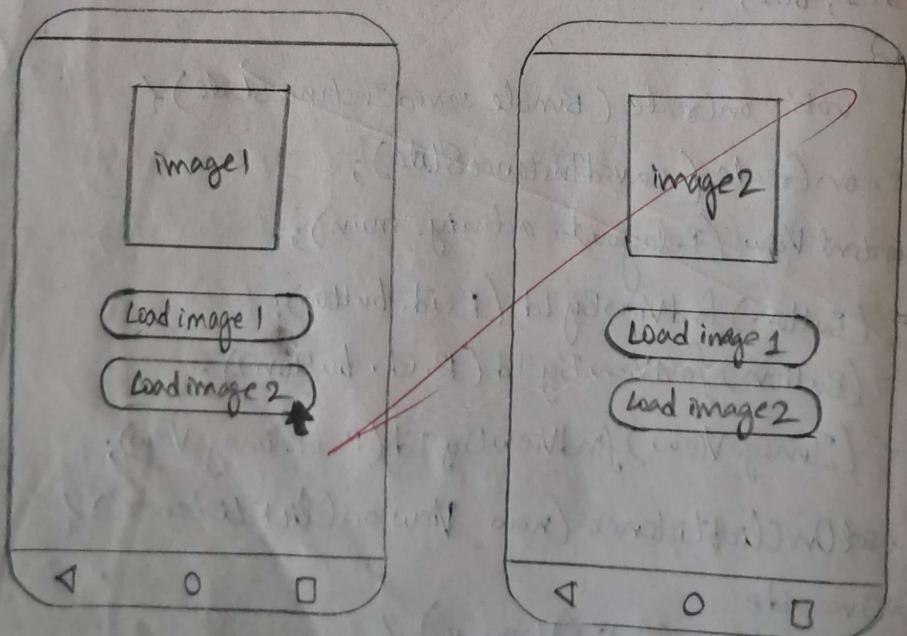
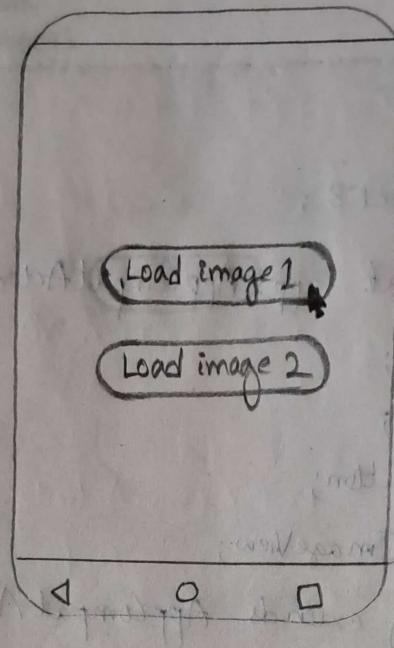
{

y);

{



week 8 outputs



activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/
    android/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    ... >
    <Button android:id="@+id/button" ...
    ... >
    <Button android:id="@+id/button2" ... />
</RelativeLayout>
```

MainActivity.java

```
package com.example.playmusicService;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity implements
    View.OnClickListener {
    Button start, stop;
```

@Override

```
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
    start = (Button) findViewById(R.id.button);  
    stop = (Button) findViewById(R.id.button2);  
    start.setOnClickListener(this);  
    stop.setOnClickListener(this);  
}
```

@Override

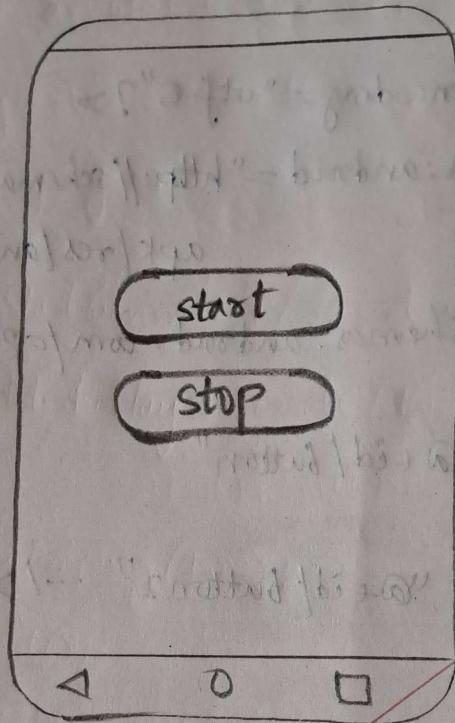
```
public void onClick(View v) {  
    if (v == start)  
        startService(new Intent(this, MyService.class));  
    else if (v == stop)  
        stopService(new Intent(this, MyService.class));  
}
```

MyService.class

```
package com.example.playmusicservice;  
import android.app.Service;  
import android.content.Intent;
```

```
import android.media.MediaPlayer;
import android.provider.Settings;
import androidx.annotation.Nullable;
public class MyService extends Service {
    MediaPlayer player;
    @Override
    public int onStartCommand(Intent intent, int flags, int startId) {
        player = MediaPlayer.create(this, Settings.System.DEFAULT_ALARM_ALERT_URI);
        player.setLooping(true);
        player.start();
        return START_STICKY;
    }
    @Override
    public void onDestroy() {
        player.stop();
        player.release();
    }
    @Nullable
    @Override
    public IBinder onBind(Intent intent) {
        return null;
    }
}
```

Output:



Develop a native application that uses GPS location information.

MainActivity.java

```
package com.example.gps;
import android.Manifest;
import android.app.AlertDialog;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.location.Location;
import android.location.LocationManager;
import android.location.LocationManager;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private static final int REQUEST_LOCATION = 1;
    Button btnGetLocation;
    TextView showLocation;
```

Location nManager;

LocationManager locationManager;

String latitude, longitude;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

ActivityCompat.requestPermissions(this, new String[] {

Manifest.permission.ACCESS_FINE_LOCATION}, REQUEST_LOCATION);

showLocation = findViewById(R.id.showLocation);

btnGetLocation = findViewById(R.id.btnGetLocation);

btnGetLocation.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

locationManager = (LocationManager) getSystemService(Context.LOCATION_SERVICE);

if (!locationManager.isProviderEnabled(LocationManager.GPS_PROVIDER)) {

onGPS();

```
else {
    getLocation();
}

};

}

};

private void onGPS() {
    final AlertDialog.Builder builder = new AlertDialog.Builder(this);
    builder.setMessage("Enable GPS").setCancelable(false).setPositiveButton("Yes", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            startActivityForResult(new Intent(Settings.ACTION_LOCATION_SOURCE_SETTINGS));
        }
    }).setNegativeButton("No", new DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int which) {
            startActivity(new Intent(Settings.ACTION_LOCATION_SOURCE_SETTINGS));
            dialog.cancel();
        }
    });
    final AlertDialog alertDialog = builder.create();
    alertDialog.show();
}
```

private void getLocation() {

if (ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS_FINE_LOCATION) != PackageManager.PERMISSION_GRANTED && ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS_COARSE_LOCATION) != PackageManager.PERMISSION_GRANTED) {

ActivityCompat.requestPermissions(this, new String[]{Manifest.permission.ACCESS_FINE_LOCATION}, REQUEST_LOCATION);

} else {

Location locationGPS = locationManager.getLastKnownLocation(LocationManager.GPS_PROVIDER);

if (locationGPS != null) {

double lat = locationGPS.getLatitude();

double longi = locationGPS.getLongitude();

latitude = String.valueOf(lat);

longitude = String.valueOf(longi);

ShowLocation.setText("Your Location: " + "Latitude: " + latitude + " " + longitude);

else {

Toast.makeText(this, "Unable to find location", Toast.LENGTH_SHORT).show();

3. Implement OnLocationChangedListener

Manifest.xml

Add this

<uses-permission

 android:name="android.permission.ACCESS_FINE_LOCATION"/>

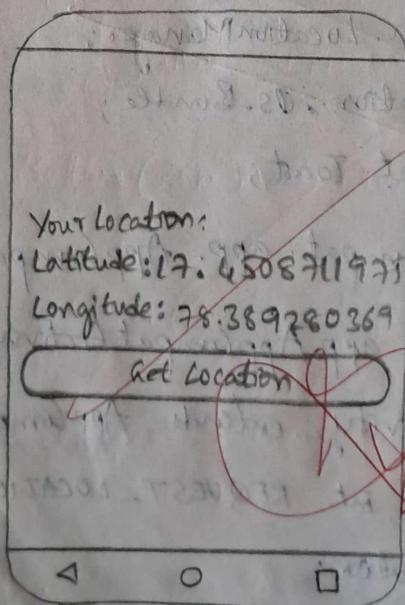
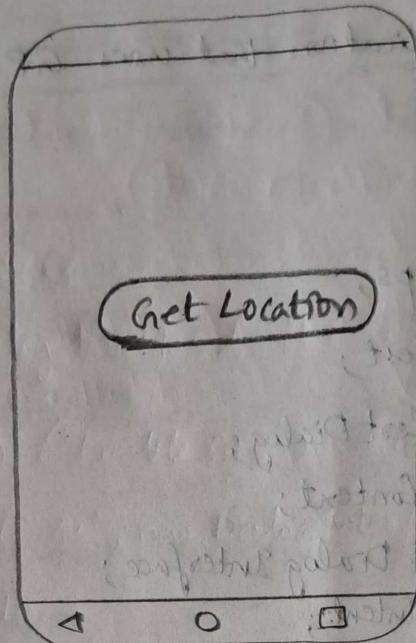
<uses-permission

 android:name="android.permission.ACCESS_COARSE_LOCATION"/>

<uses-permission

 android:name="android.permission.INTERNET"/>

week 9 output



Manifest. Implement an application that writes data to the files.

MainActivity.java

```
package com.example.filesexample;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.InputStreamReader;
```

public class MainActivity extends AppCompatActivity {

EditText e1;
 Button write, read, clear;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
 e1 = (EditText) findViewById(R.id.editText);

Page No.: 77

```
write = (Button) findViewById (R.id.button);
read = (Button) findViewById (R.id.button2);
clear = (Button) findViewById (R.id.button3);
write.setOnClickListener (new View.OnClickListener() {
    @Override
    public void onClick (View v)
    {
        String message = et.getText().toString();
        try {
            File f = new File ("/storage/emulated/0/myfile.txt");
            f.createNewFile();
            FileOutputStream fout = new FileOutputStream(f);
            fout.write (message.getBytes());
            fout.close();
            Toast.makeText (getBaseContext (), "Data written to SDCARD", Toast.LENGTH_LONG).show();
        } catch (Exception e)
        {
            Toast.makeText (getBaseContext (), e.getMessage(),
                Toast.LENGTH_LONG).show();
        }
    }
});
```

read, setOnItemClickListener (new View.OnClickListener ()

{
 @Override

 public void onClick (View v)

 String message;

 String buf = " ";

 try {

 File f = new File ("/storage/emulated/0");

 FileInputStream fin = new FileInputStream (f);

 BufferedReader br = new BufferedReader (new
 InputStreamReader (fin));

 while (message = br.readLine () != null)

 buf += message;

 } catch (Exception e) {

 br.close ();

 fin.close ();

 Toast.makeText (getBaseContext (), "Data Received from
SD Card", Toast.LENGTH_LONG).show ();

 } catch (Exception e) {

 Toast.makeText (getBaseContext (), e.getMessage (),
 Toast.LENGTH_LONG).show ();

{}

3);

clear.setOnItemClickListener (new View.OnClickListener() {

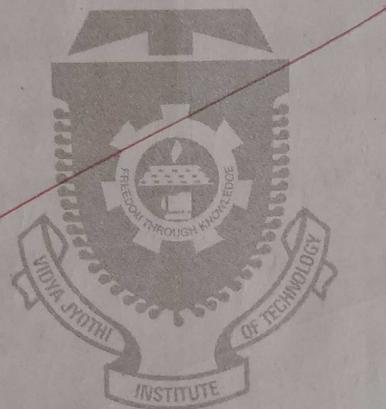
@Override

public void onClick (View v)
{
et.setText (" ");

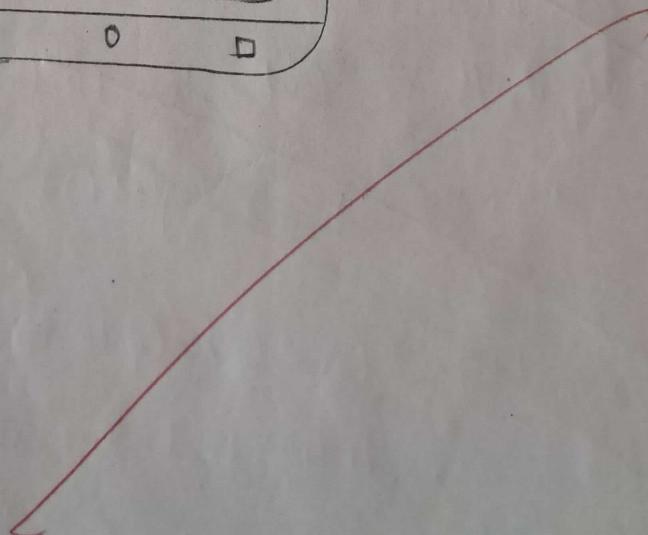
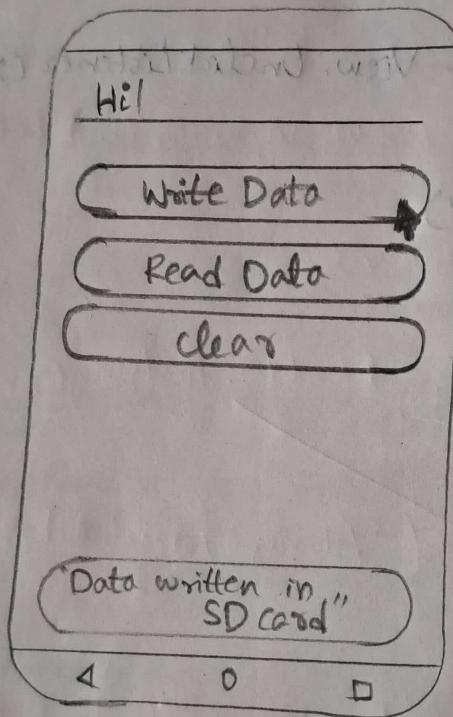
}

});

4)



Week10 output:



Develop an application that creates notification upon receiving a message.

MainActivity.java

```
package com.example.notificationex;  
import android.app.NotificationManager;  
import android.content.Context;  
import android.content.res.Resources;  
import android.graphics.BitmapFactory;  
import android.support.v4.app.NotificationCompat;  
import android.support.v7.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.RelativeLayout;  
import android.graphics.Bitmap;  
public class MainActivity extends AppCompatActivity {  
    private Context mContent;  
    private Resources mResources;  
    private RelativeLayout mRelativeLayout;  
    private Button mButton;
```

@ Override

```
protected void onCreate (Bundle savedInstanceState) {  
    super.onCreate (savedInstanceState);  
    setContentView (R.layout.activity_main);  
    mContent = getApplicationContext();  
    mResources = getResources();  
    mRelativeLayout = (RelativeLayout) findViewById (R.id.rl);  
    mButton = (Button) findViewById (R.id.btn);  
    mButton.setOnClickListener (new View.OnClickListener() {
```

@ Override

```
public void onClick (View view) {
```

NotificationCompat.Builder builder = new NotificationCompat.Builder (mContent);

builder.setSmallIcon (R.drawable.notification_small_icon);

Bitmap bitmap = BitmapFactory.decodeResource (mResources,
 R.drawable.notification_large_icon);

builder.setLargeIcon (bitmap);

builder.setContentTitle ("Notification Title");

builder.setContentText ("Hello! Notification service.");

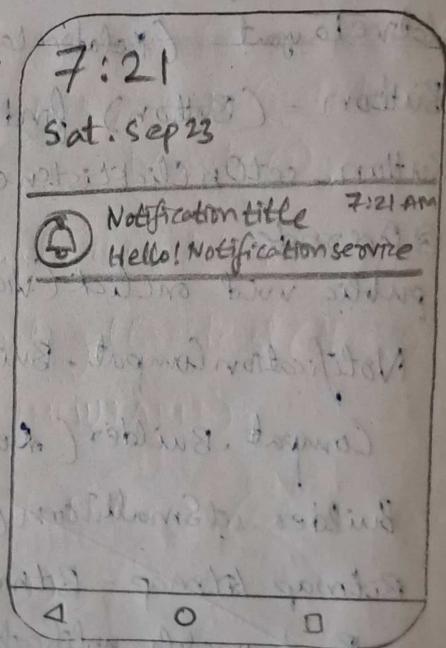
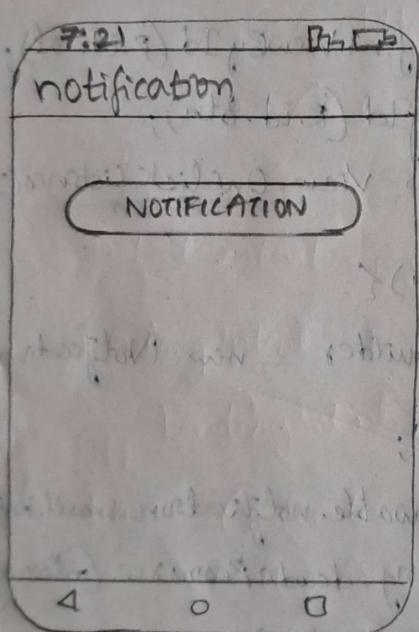
int notificationId = 001;

NotificationManager manager = (NotificationManager)

```
getSystemService(NOTIFICATION_SERVICE);  
manager.notify(notificationId, builder.build());
```

}
});

};
week 11
OUTPUT



Create an alarm clock mobile application.

MainActivity.java

```
package com.example.alarm;  
import androidx.appcompat.AppCompatActivity;  
import android.app.AlarmManager;  
import android.app.PendingIntent;  
import android.content.Intent;  
import android.widget.TimePicker;  
import android.widget.ToggleButton;  
import java.util.Calendar;  
public class MainActivity extends AppCompatActivity {  
    TimePicker alarmTimePicker;  
    PendingIntent pendingIntent;  
    AlarmManager alarmManager;  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
        alarmTimePicker = (TimePicker) findViewById(R.id.timePicker);  
        alarmManager = (AlarmManager) getSystemService(ALARM_SERVICE);  
    }  
}
```

```
public void onToggleClicked (View view)
{
    long time;
    if (((ToggleButton) view).isChecked ()) {
        Toast.makeText (MainActivity.this, "ALARM ON", Toast.LENGTH_SHORT).show ();
    }
    Calendar calendar = Calendar.getInstance ();
    calendar.set (Calendar.HOUR_OF_DAY, alarmTimePicker.get
        CurrentHour ());
    calendar.set (Calendar.MINUTE, alarmTimePicker.get
        CurrentMinute ());
}
```

```
Intent intent = new Intent (this, AlarmReceiver.class);
PendingIntent pendingIntent = PendingIntent.getBroadcast (this, 0, intent,
    PendingIntent.FLAG_IMMUTABLE);
```

```
time = (calendar.getTimeInMillis () - (calendar.getTimeIn
    Millis () * 60000));
```

```
if (System.currentTimeMillis () > time) {
```

```
    if (calendar.AM_PM == 0)
```

```
        time = time + (1000 * 60 * 60 * 12);
```

```
else
```

```
    time = time + (1000 * 60 * 60 * 24);
```

```
alarmManager.setRepeating (AlarmManager.RTC_WAKEUP,
    time, 10000, pendingIntent);
```

}
else {

alarmManager.cancel(pendingIntent);

Toast.makeText(MainActivity.this, "ALARM OFF",

Toast.LENGTH_SHORT).show();

}

}

AlarmReceiver.java

package com.example.alarm;

import android.content.BroadcastReceiver;

import android.content.Context;

import android.media.Ringtone;

import android.media.RingtoneManager;

import android.net.Uri;

import android.widget.Toast;

public class ~~AlarmReceiver~~ extends BroadcastReceiver {

@Override

public void onReceive(Context context, Intent intent) {

Toast.makeText(context, "Alarm! Wake up! Wake up!",

Toast.LENGTH_LONG).show();

Uri alarmUri = RingtoneManager.getDEFAULTUri(RingtoneManager

```

    .TYPE_ALARM);
if (alarmUri == null) {
    alarmUri = RingtoneManager.getDefaultsUri(RingtoneManager.TYPE_ALARM);
}
Ringtone ringtone = RingtoneManager.getRingtone(content, alarmUri);
ringtone.play();
}
}

```

Outputs

Manifest file

```

add
this
mode
application
<receiver android:name=".AlarmReceiver">
</receiver>

```

week12

Output

