Experiment-5 Date: 12-12-22

Problem Definition:-
Develop an application that makes use of notification.

Objectives:-
1. To understand how to use notification in the app.
2. To understand how to open an app using notification.

Theory :-

In this experiment, we need to develop a simple app that makes use of notification. A notification is a message we can display to the user of our application's normal UI. When we tell the system to issue a notification, it appears in the notification area. Notifications provide short, timely information about events in our app while it's not in use. To do this, we need to set the notification's content and channel using a NotificationCompat.Builder object. Some important methods of Notification class are as follows.

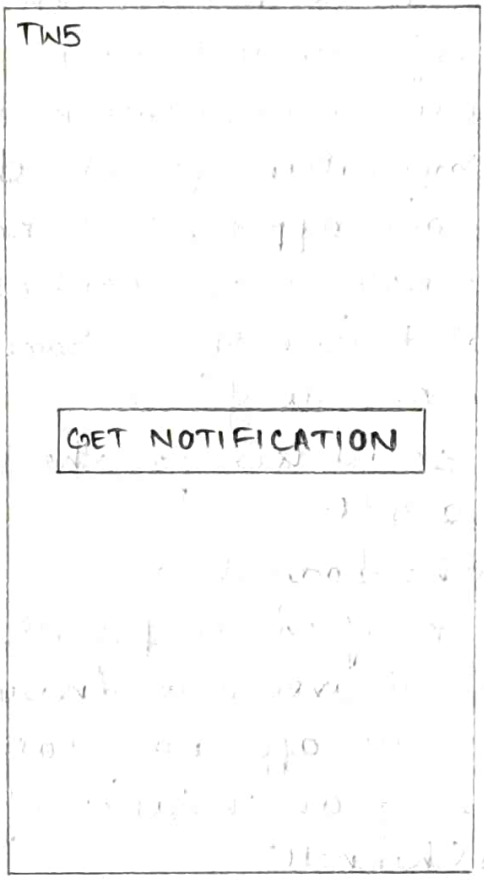
1. setSmallIcon() : a small icon for the user-visible content
2. setContentTitle() : a title
3. setContentText() : the body text
4. setPriority() : the notification priority

A notification can be delivered on Android 8.0 and higher, so we must register our app's notification channel with the system by passing an instance of NotificationChannel to createNotificationChannel().

Every notification should respond to a tap, usually to open an activity in our app that corresponds to the notification. We must specify a content intent defined with a PendingIntent object and pass it to setContentIntent(). The setAutoCancel() method is used to automatically remove the notification when the user taps on it. To make the notification appear, call NotificationManagerCompat.notify(), passing it an unique ID for the notification and the result of NotificationCompat.Builder.build().

Next, we use Intent to open an app when the notification is tapped. An Intent is a description of an operation to be performed.

Design Diagram :-



XML code :- (activity_main.xml)

```
<?xml version="1.0" encoding="utf-8" ?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/notify_btn"
        android:layout_width="281dp"
        android:layout_height="66dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:text="Get Notification"
        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 :- (MainActivity.java)

```
package com.example.tw5;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.os.Build;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
    Button notifyBtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        notifyBtn = findViewById(R.id.notify_btn);
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
            NotificationChannel channel = new NotificationChannel(
                "My Notification", "My Notification", NotificationManager.
                                                    IMPORTANCE_DEFAULT);
            NotificationManager manager = getSystemService(
                                    NotificationManager.class);
            manager.createNotificationChannel(channel);
        }
        notifyBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                NotificationCompat.Builder builder = new NotificationCompat.Builder(
```

```
                MainActivity.this, "My Notification");
        builder.setContentTitle("My Notification");
        builder.setContentText("This is the notification you
                                    received ....");
        builder.setAutoCancel(true);
        builder.setSmallIcon(R.drawable.ic_launcher_background);
        builder.setPriority(NotificationCompat.PRIORITY_DEFAULT);
        NotificationManagerCompat managerCompat =
                NotificationManagerCompat.from(MainActivity.this);
        managerCompat.notify(1, builder.build());
    }
});
}
```

Conclusion :-

By this teamwork, we understood the use of notification, opening the app using the notification and implemented the same in Android Studio by building an application.

References :-

Android Studio 3.5 Development Essentials, Java edition 2019 Neil Smyth / Payload Media, Inc.