Ex. No. 05	Develop an application that makes use of Notification Manager
Date:	

Aim:

To develop an Android Application that makes use of Notification Manager.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.
- Then type the Application name as **"exno5"** and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml.**
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Code for Activity_main.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"
  android:gravity="center"
  tools:context=".MainActivity">

  <Button
    android:id="@+id/btnSimpleNotification"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Simple Notification" />

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

28

```
    android:text="Notification With Icon" />

  <Button
    android:id="@+id/btnNotificationImage"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Notification With Image" />

  <Button
    android:id="@+id/btnNotificationWithGroupConvo"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Notification With Group Conversation" />

  <Button
    android:id="@+id/btnNotificationSemantic"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Notification Semantic Action" />

</LinearLayout>
```

Java Coding for the Android Application:
- Click on **app -> java -> com.example.exno5 -> MainActivity**.
- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```
packagecom.example.exno5;

import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.net.Uri;
import androidx.core.app.NotificationCompat;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.Person;
import androidx.core.graphics.drawable.IconCompat;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

```java
import android.widget.Toast;
import java.util.Date;
public class MainActivity extends AppCompatActivity implements View.OnClickListener {

    NotificationManager notificationManager;
    NotificationCompat.Builder builder;
    NotificationChannel channel;

    CharSequence charSequence = "";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Button btnSimpleNotification = findViewById(R.id.btnSimpleNotification);
        Button btnNotificationIcon = findViewById(R.id.btnNotificationIcon);
        Button btnNotificationImage = findViewById(R.id.btnNotificationImage);
        Button btnNotificationWithGroupConvo = findViewById(R.id.btnNotificationWithGroupConvo);
        Button btnNotificationSemantic = findViewById(R.id.btnNotificationSemantic);

        charSequence = btnNotificationIcon.getText();

        btnSimpleNotification.setOnClickListener(this);
        btnNotificationIcon.setOnClickListener(this);
        btnNotificationImage.setOnClickListener(this);
        btnNotificationWithGroupConvo.setOnClickListener(this);
        btnNotificationSemantic.setOnClickListener(this);

        notificationManager = (NotificationManager) getSystemService(Context.NOTIFICATION_SERVICE);
        CharSequence name = "My Notification";
        String description = "yadda yadda";
        int importance = NotificationManager.IMPORTANCE_DEFAULT;

        channel = new NotificationChannel("1", name, importance);
        channel.setDescription(description);

        builder = new NotificationCompat.Builder(MainActivity.this, channel.getId())
                .setSmallIcon(R.mipmap.ic_launcher);

        notificationManager.createNotificationChannel(channel);
```

```java
    }

    @Override
    public void onClick(View v) {

        switch (v.getId()) {
            case R.id.btnSimpleNotification:
                simpleNotification();
                break;
            case R.id.btnNotificationIcon:
                notificationWithIcon();
                break;
            case R.id.btnNotificationImage:
                notificationWithImage();
                break;

            case R.id.btnNotificationWithGroupConvo:
                notificationWithGroupConvo();
                break;

            case R.id.btnNotificationSemantic:
                notificationSemantic();
                break;
        }
    }
    private void simpleNotification() {
        Person jd = new Person.Builder().setName("JournalDev ") .setImportant(true) .build();

        new NotificationCompat.MessagingStyle(jd)
                .addMessage("Check me out", new Date().getTime(), jd) .setBuilder(builder);

        notificationManager.notify(1, builder.build());
    }
    private void notificationWithIcon() {
        Person anupam = new Person.Builder()
                .setName("Anupam")
                .setIcon(IconCompat.createWithResource(this, R.drawable.index))
                .setImportant(true) .build();
        new NotificationCompat.MessagingStyle(anupam)
                .addMessage("Check out my latest article!", new Date().getTime(), anupam)
                .setBuilder(builder);
```

```java
        notificationManager.notify(2, builder.build());
    }
    private void notificationWithImage() {
        Person bot = new Person.Builder()
            .setName("Bot") .setImportant(true)
            .setBot(true) .build();

        Uri uri = Uri.parse("android.resource://com.journaldev.androidpnotifications/drawable/"+R.drawable.bg);

        NotificationCompat.MessagingStyle.Message           message                =               new
        NotificationCompat.MessagingStyle.Message("Check out my latest article!", new Date().getTime(), bot);
        message.setData("image/*",uri);

        new NotificationCompat.MessagingStyle(bot)
            .addMessage(message) .setGroupConversation(true).setBuilder(builder);

        notificationManager.notify(3, builder.build());
    }
    private void notificationWithGroupConvo()
    {
        Person jd = new Person.Builder()
            .setName("JournalDev") .build();

        Person anupam = new Person.Builder()
            .setName("Anupam")
            .setIcon(IconCompat.createWithResource(this, R.drawable.samindexple_photo))
            .setImportant(true).build();

        Person bot = new Person.Builder()
            .setName("Bot").setBot(true) .build();

        Uri uri = Uri.parse("android.resource://com.journaldev.androidpnotifications/drawable/"+R.drawable.bg);

        NotificationCompat.MessagingStyle.Message           message                =               new
        NotificationCompat.MessagingStyle.Message("", new Date().getTime(), bot);
        message.setData("image/*",uri);
        new NotificationCompat.MessagingStyle(bot)
            .addMessage("Hi. How are you?", new Date().getTime(), anupam)
            .addMessage(message)
            .addMessage("Does this image look good?", new Date().getTime(), bot)
            .addMessage("Looks good!", new Date().getTime(), jd)
            .setGroupConversation(true)
```

```java
        .setConversationTitle("Sample Conversation")
        .setBuilder(builder);


    notificationManager.notify(4, builder.build());


}
private void notificationSemantic()
{
    Person jd = new Person.Builder()
        .setName("JournalDev")
        .build();


    Person anupam = new Person.Builder()
        .setName("Anupam")
        .setIcon(IconCompat.createWithResource(this, R.drawable.index))
        .setImportant(true)
        .build();


    Person bot = new Person.Builder()
        .setName("Bot")
        .setBot(true)
        .build();


    Uri uri = Uri.parse("android.resource://com.journaldev.androidpnotifications/drawable/"+R.drawable.bg);


    Intent intent = new Intent(this, MainActivity.class);
    intent.putExtra("hi","Notifications were read");
    PendingIntent pendingIntent = PendingIntent.getActivity(this, 0, intent, 0);


    NotificationCompat.MessagingStyle.Message                  message                =            new
    NotificationCompat.MessagingStyle.Message("", new Date().getTime(), bot);
    message.setData("image/*",uri);


    NotificationCompat.Action replyAction =
        new NotificationCompat.Action.Builder(
            R.drawable.bg, "MARK READ", pendingIntent)
            .setSemanticAction(NotificationCompat.Action.SEMANTIC_ACTION_MARK_AS_READ)
            .build();
    NotificationCompat.Builder separateBuilder = builder;
    separateBuilder.addAction(replyAction);


    new NotificationCompat.MessagingStyle(bot)
```

```
                .addMessage("Hi. How are you?", new Date().getTime(), anupam)
                .addMessage(message)
                .addMessage("Does this image look good?", new Date().getTime(), bot)
                .addMessage("Looks good!", new Date().getTime(), jd)
                .setGroupConversation(true)
                .setConversationTitle("Sample Conversation")
                .setBuilder(separateBuilder);

        notificationManager.notify(5, separateBuilder.build());
    }
    @Override
    protected void onResume() {
        super.onResume();

        if(getIntent()!=null && getIntent().getExtras()!=null)
        {
            String value = getIntent().getStringExtra("hi");
            Toast.makeText(getApplicationContext(),value,Toast.LENGTH_LONG).show();
        }
    }
}
```
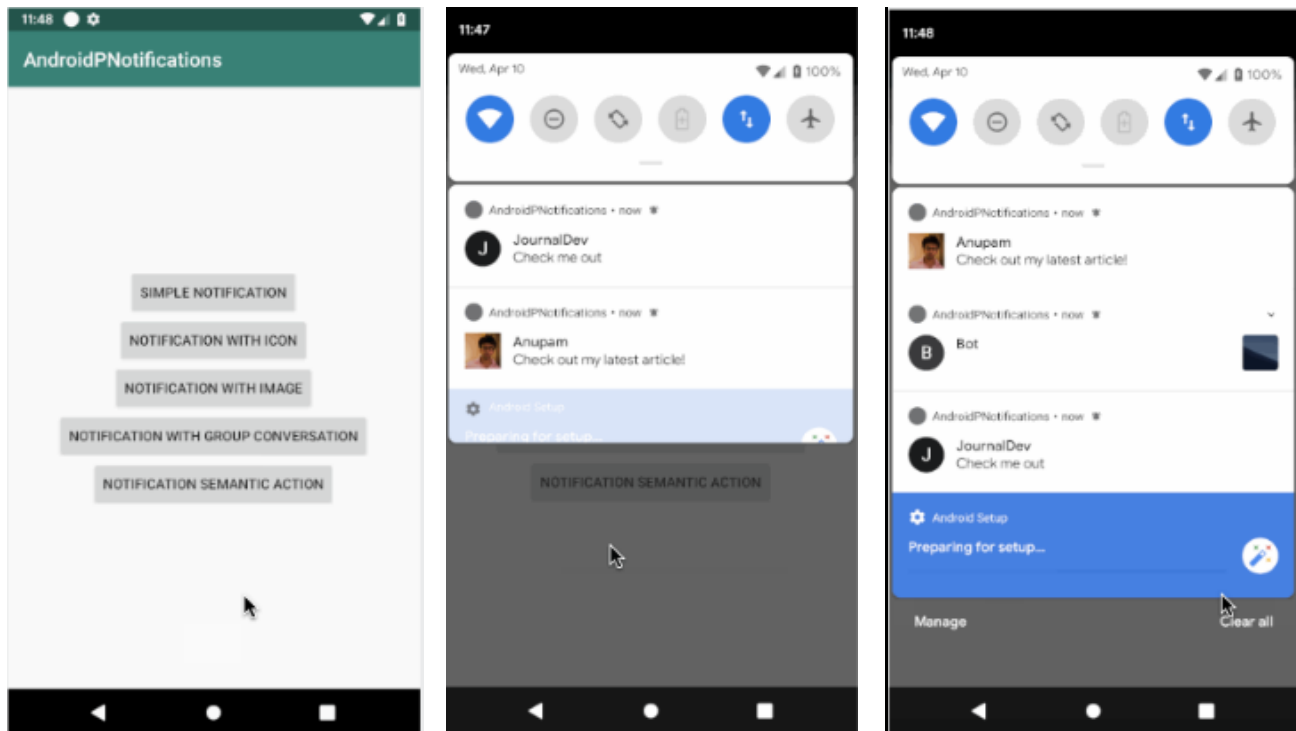
Output:

Result:

      Thus Android Application that makes use of notification manager is developed and executed successfully.