Ex.No: 11 Date :	**Write a mobile application that creates alarm clock**

AIM:

To implement an application that creates alarm clock.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_11.
3. Go to package explorer in the left hand side. Select the project Ex_No_11. 4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Drag and drop the following components:
    a. DatePicker
    b. TimePicker
    c. Button with labeled as SET ALARM
7. Again go to package explorer in the left hand side. Select the project Ex_No_11.
8. Go to src folder. Double click the MainActivity.java file.
9. In java file write the activities done by the application such as notify the alarm.
10. Get the following permission in AndroidManifest.xml file:
    `<uses-permission android:name="android.permission.WAKE_LOCK"/>`
11. Add Alarm class as a receiver in AndroidManifest.xml file.
12. Finally run the android application.

PROGRAMS:

activity_main.xml:

```
<RelativeLayout                  xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools" an-
                                       droid:layout_width="match_parent"
                                    android:layout_height="match_parent"
                 android:paddingBottom="@dimen/activity_vertical_margin"
                 android:paddingLeft="@dimen/activity_horizontal_margin"
                android:paddingRight="@dimen/activity_horizontal_margin"
                    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context="com.example.ex_no_11.MainActivity" >

    <DatePicker    android:id="@+id/datePicker1"
             android:layout_width="wrap_content"
            android:layout_height="wrap_content"
           android:layout_alignParentLeft="true"
          android:layout_alignParentRight="true"
         android:layout_alignParentTop="true" />


    <TimePicker
        android:id="@+id/timePicker1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
        android:layout_alignLeft="@+id/dateP
        icker1"
        android:layout_alignParentBottom="tr
        ue"
        android:layout_alignParentRight="tru
        e"
        android:layout_marginBottom="71dp"
        />

    <Button                 android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/timePicker1"
        android:layout_alignParentBottom="true"
        android:layout_alignParentRight="true"
        android:layout_marginBottom="14dp"
        android:text="SET                        ALARM"
        tools:ignore="HardcodedText" />

</RelativeLayout>
```

MainActivity.java:

```
package com.example.ex_no_11; import
java.util.Calendar;
```

```
                                    import
      android.support.v7.app.ActionBarActivity;
import     android.app.AlarmManager;     import
android.app.Notification;                 import
android.app.NotificationManager;          import
android.app.PendingIntent;                import
android.content.Context;                  import
android.content.Intent;                   import
android.os.Bundle;   import   android.view.View;
import       android.view.View.OnClickListener;
import       android.widget.Button;       import
android.widget.DatePicker;                import
android.widget.TimePicker;                import
android.widget.Toast;
public class MainActivity extends ActionBarActivity
       { private static MainActivity inst; public
       static MainActivity instance() { // TODO Auto-
       generated method stub return inst;
       }     public     void
       onStart()
       { super.onStart();
              inst=this;
       }
       NotificationManager  nm;  Notification
       n;
       @SuppressWarnings("deprecation")
       @Override
       protected  void  onCreate(Bundle  savedInstanceState)  {
                          super.onCreate(savedInstanceState);
              setContentView(R.layout.activity_main);
             final TimePicker tp=(TimePicker)findViewById(R.id.timePicker1);

              final DatePicker dp=(DatePicker)findViewById(R.id.datePicker1); Button
              b=(Button)findViewById(R.id.button1);
                    nm=(NotificationManager)getSystemService(Context.NOTIFICATION_SERVICE);
                                                                                  n=new
              Notification(R.drawable.ic_launcher,"ALARM",System.currentTimeMillis());
 tp.setIs24HourView(false);
              Calendar now=Calendar.getInstance();
              dp.init(now.get(Calendar.YEAR), now.get(Calendar.MONTH),
now.get(Calendar.DAY_OF_MONTH),null);
              tp.setCurrentHour(now.get(Calendar.HOUR_OF_DAY));
              tp.setCurrentMinute(now.get(Calendar.MINUTE));
              b.setOnClickListener(          new
                           OnClickListener()
                           {
                                  @Override
                                  public void onClick(View arg0) {
                                        // TODO Auto-generated method stub

                                                                    Calendar
                                        current=Calendar.getInstance(); Calendar
                                                  alarm=Calendar.getInstance();
                                        alarm.set(dp.getYear(), dp.getMonth(),
dp.getDayOfMonth(), tp.getCurrentHour(), tp.getCurrentMinute(), 00);
                                       if(alarm.compareTo(current)<=0)
                                              Toast.makeText(getApplicationContext(), "Invalid
Date and Time !!!", Toast.LENGTH_LONG).show(); else
                                       {
                                              Intent i=new
Intent(MainActivity.this,Alarm.class);
                                              PendingIntent
pi=PendingIntent.getBroadcast(MainActivity.this, 123, i, 0);
                                              AlarmManager
am=(AlarmManager)getSystemService(ALARM_SERVICE);
```

```
                                                    am.set(AlarmManager.RTC_WAKEUP,
alarm.getTimeInMillis(), pi);
                                                    Toast.makeText(getApplicationContext(), "Alarm is
 Set ON !!!", Toast.LENGTH_LONG).show();
                                                }
                                            }
                                        });
        }
        @SuppressWarnings("deprecation")
        public void update_notification(String no, String msg) {
                // TODO Auto-generated method stub
                n.setLatestEventInfo(getBaseContext(), no, msg, null); nm.notify(1337,
                n);
        }
}
```

Alarm.java:

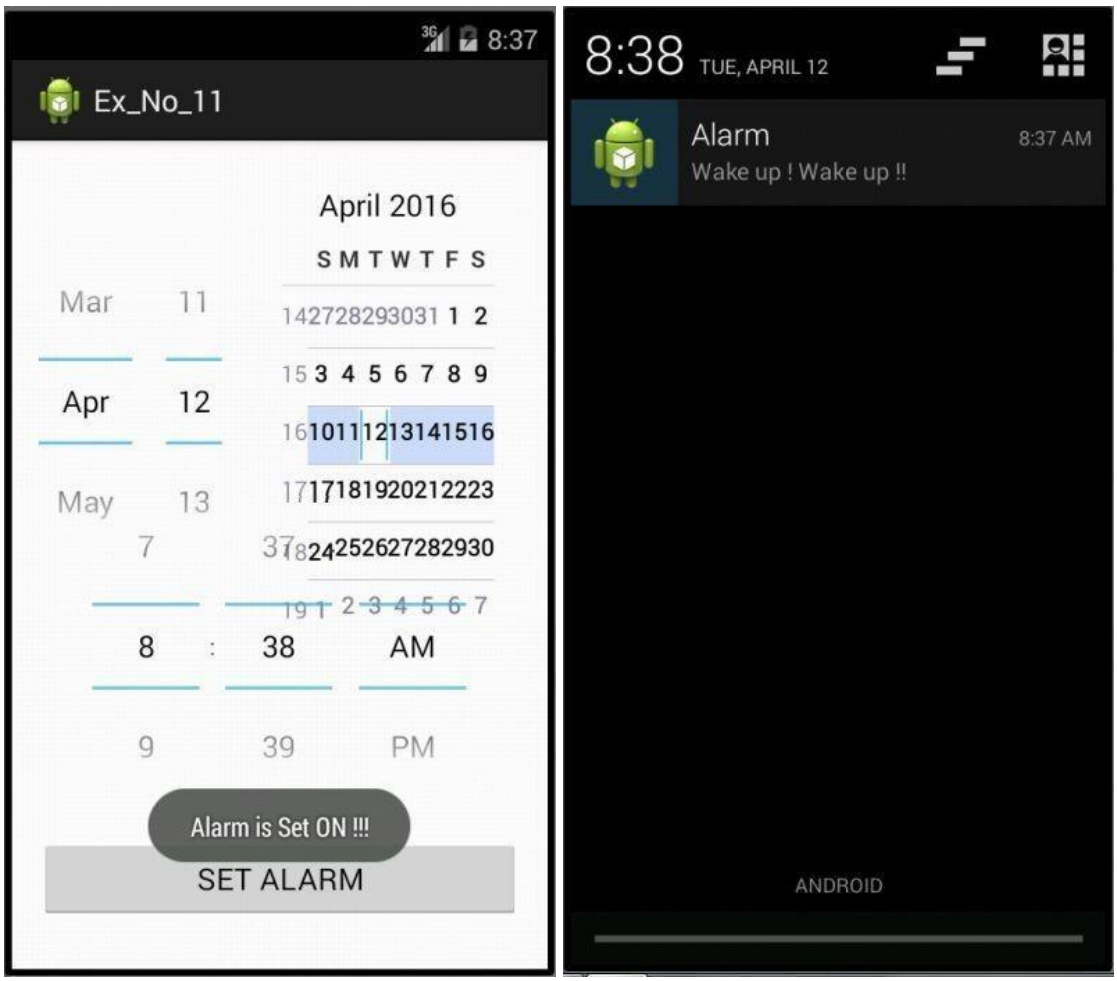
```
 package com.example.ex_no_11; import
android.content.BroadcastReceiver; import
android.content.Context; import
android.content.Intent; public class Alarm
extends BroadcastReceiver{  @Override
        public void onReceive(Context arg0, Intent arg1) {
                //    TODO    Auto-generated    method    stub
                MainActivity inst=MainActivity.instance();
                inst.update_notification("Alarm","Wake up ! Wake up !!"); }
}
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.ex_no_11"            android:versionCode="1"
    android:versionName="1.0" >
    <uses-sdk
        android:minSdkVersion="8"
        android:targetSdkVersion="21"
        />
    <uses-permission android:name="android.permission.WAKE_LOCK"/>
    <application android:allowBackup="true"
        android:icon="@drawable/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >
        <activity
            android:name=".MainActivity"
            android:label="@string/app_name
            " >
            <intent-filter>
```

```
            <action android:name="android.intent.action.MAIN" />
            <category   android:name="android.intent.category.LAUNCHER"   />   </intent-
        filter>
    </activity>
    <receiver android:name=".Alarm" />
</application>
</manifest>
```

OUTPUT:


8:37
Ex_No_11
April 2016
S M T W T F S
Mar 11
Apr 12
May 13
8 : 38 AM
9 39 PM
Alarm is Set ON !!!
SET ALARM
8:38 TUE, APRIL 12
Alarm
8:37 AM
Wake up ! Wake up !!
ANDROID

RESULT:

Thus the application that creates an alert upon receiving a message has been developed and the output was verified.