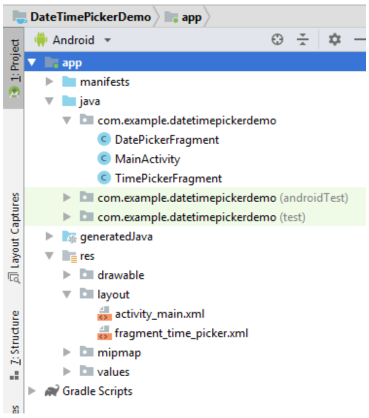
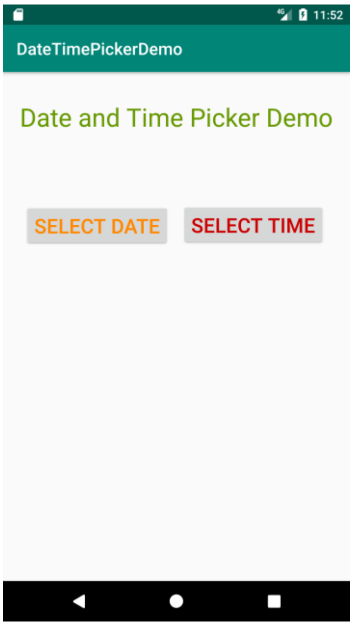
Aim: Develop an application to demonstrate the use of DatePicker and TimePicker



MainActivity.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginStart="20dp"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="33dp"
        android:text="Date and Time Picker Demo"
        android:textColor="@android:color/holo_green_dark"
        android:textSize="30sp"
        android:typeface="sans" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginStart="25dp"
        android:layout_marginLeft="25dp"
        android:layout_marginTop="156dp"
        android:onClick="SelectDate"
        android:text="Select Date"
        android:textColor="@android:color/holo_orange_dark"
        android:textColorLink="@android:color/holo_green_dark"
        android:textSize="24sp" />

    <Button
        android:id="@+id/button2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```



```
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_marginTop="155dp"
        android:layout_marginEnd="29dp"
        android:layout_marginRight="29dp"
        android:onClick="SelectTime"
        android:text="Select time"
        android:textColor="@android:color/holo_red_dark"
        android:textSize="24sp" />
</RelativeLayout>
```

Create a new fragment for the date picker

1. *Expand app > java > com.example.android.DateTimePickers and select MainActivity.*

2. *Choose File > New > Fragment > Fragment (Blank), and name the fragment DatePickerFragment. Uncheck all three checkbox options so that you do not create a layout XML, do not include fragment factory methods, and do not include interface callbacks. You don't need to create a layout for a standard picker. Click Finish to create the fragment.*

3. *Open DatePickerFragment and edit the DatePickerFragment class definition to extend DialogFragment and implement DatePickerDialog.OnDateSetListener to create a standard date picker with a listener.*

DatePickerGragment.java

```
public class DatePickerFragment extends DialogFragment implements
DatePickerDialog.OnDateSetListener {
    @NonNull
    @Override
    public Dialog onCreateDialog(Bundle savedInstanceState) {

        final Calendar c= Calendar.getInstance();
        int year=c.get(Calendar.YEAR);
        int month=c.get(Calendar.MONTH);
        int day=c.get(Calendar.DAY_OF_MONTH);

        return new DatePickerDialog(getActivity(),this,year,month,day);

    }

    @Override//used normally when date is selected by user
    public void onDateSet(DatePicker view, int year, int month, int dayOfMonth) {

        MainActivity activity=(MainActivity)getActivity();
        activity.processDate(year,month,dayOfMonth);
    }
}
```

Create a new fragment for the time picker

1. *Add a fragment to the DateTimePickers project for the time picker:*

2. *Select MainActivity again.*

3. *Choose File > New > Fragment > Fragment (Blank), and name the fragment TimePickerFragment. Uncheck all three options so you do not create a layout XML,*

do not include fragment factory methods, and do not include interface callbacks. Click Finish to create the fragment.

4. *It extends DialogFragment and implements TimePickerDialog.OnTimeSetListener to create a standard time picker with a listener.*

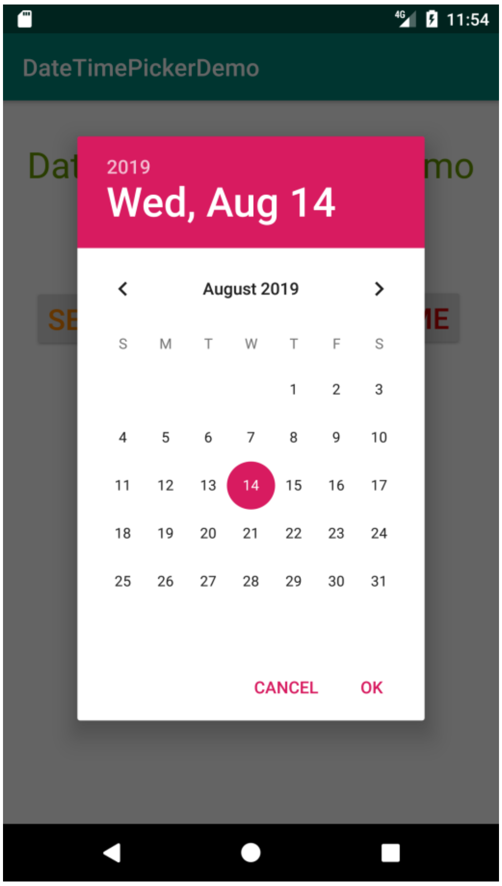
TimePickerFragment.java

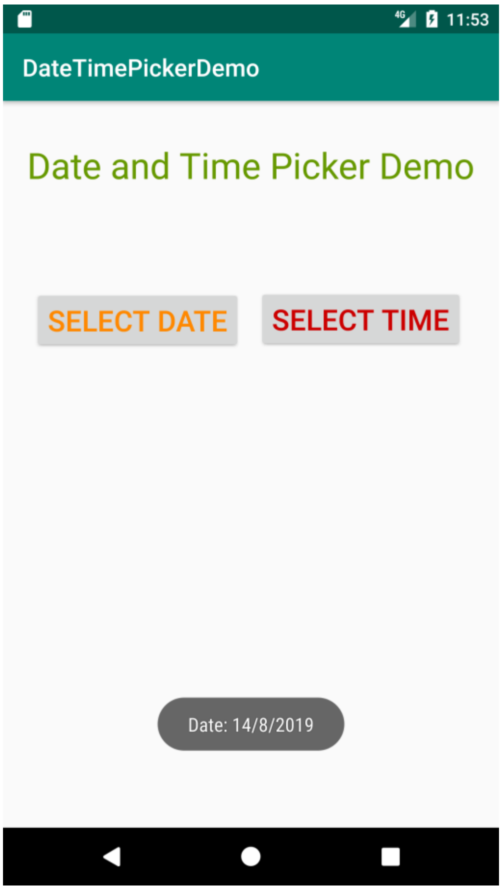
```
public class TimePickerFragment extends DialogFragment implements 
TimePickerDialog.OnTimeSetListener {


    @NonNull
    @Override
    public Dialog onCreateDialog(Bundle savedInstanceState) {
        final Calendar c= Calendar.getInstance();
        int hour=c.get(Calendar.HOUR_OF_DAY);
        int minute=c.get(Calendar.MINUTE);

        return new TimePickerDialog(getActivity(),this,hour,minute, 
DateFormat.is24HourFormat(getActivity()));
    }


    @Override
    public void onTimeSet(TimePicker view, int hourOfDay, int minute) {
        MainActivity activity=(MainActivity)getActivity();
        activity.processTime(hourOfDay,minute);
    }
}
```

Edit MainActictivity as below:

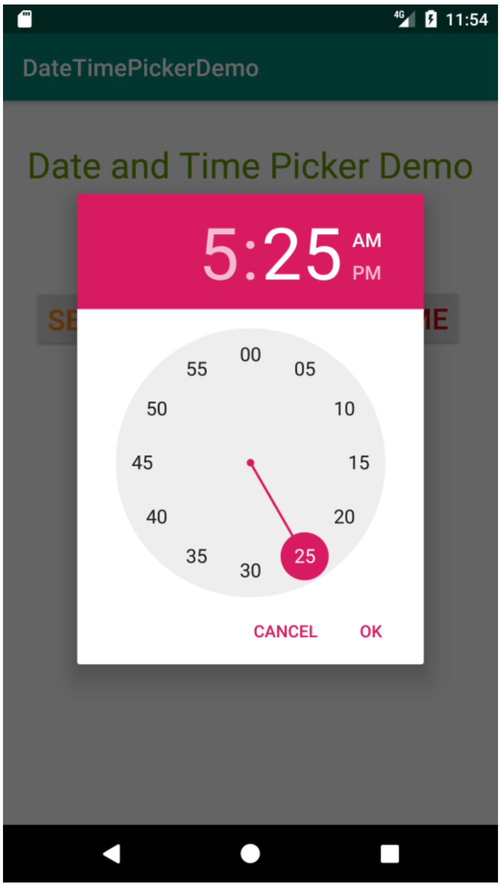
```
MainActivity.java

package com.example.datetimepickerdemo;

import android.support.v4.app.DialogFragment;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

    public void SelectDate(View view)
    {
        DialogFragment dg=new DatePickerFragment();
        dg.show(getSupportFragmentManager(),"Hi");
    }

    public void SelectTime(View view)
    {
        DialogFragment dg=new TimePickerFragment();
        dg.show(getSupportFragmentManager(),"Hi");
     }
    public void processDate(int year,int month,int day)
    {
        String month_string=Integer.toString(month+1);
        String day_string=Integer.toString(day);
        String year_string=Integer.toString(year);

        String date_msg=(day_string+"/"+month_string+"/"+year_string);

        Toast.makeText(this,"Date: "+date_msg,Toast.LENGTH_LONG).show();
    }

    public void processTime(int hourofday,int min)
    {
        String hour_string=Integer.toString(hourofday);
        String min_string=Integer.toString(min);


        String time_msg=(hour_string+":"+min_string);

        Toast.makeText(this,"Time ="+time_msg,Toast.LENGTH_LONG).show();
    }
}
```

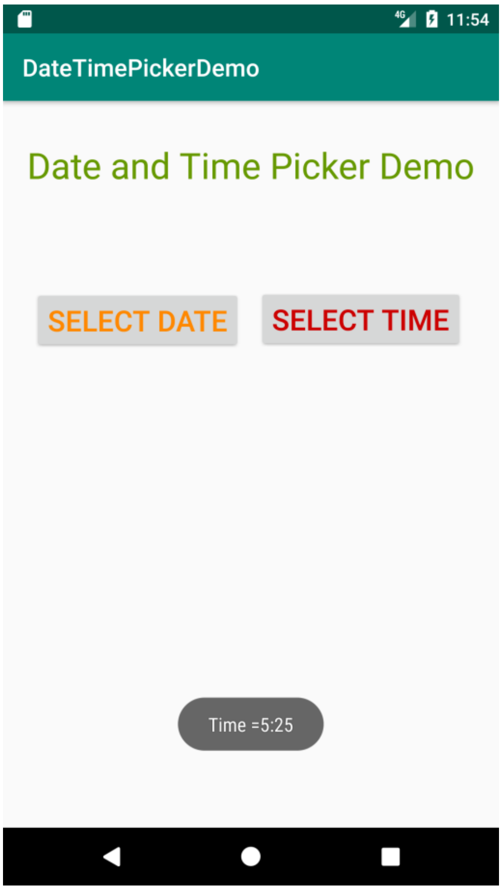
Output:





Date: 14/8/2019





Time =5:25