Practical No. 3.C

Aim: Write an Android program to demonstrate the working of different views (DatePicker Dialog, TimePicker Dialog, Alert Dialog).

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
    android:layout_width="match_parent"
    xmlns:android="http://schemas.android.com/apk/res/android">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tv1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="50dp"
        android:text="DatePicker Dialog"
        android:textSize="20dp" />
    <Button
        android:id="@+id/btnPickDate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_below="@id/tv1"
        android:layout_marginTop="10dp"
        android:text="Pick Date" />
    <TextView
        android:id="@+id/tvDate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnPickDate"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:textSize="20dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tv2"
        android:layout_centerHorizontal="true"
        android:layout_below="@id/tvDate"
        android:layout_marginTop="50dp"
        android:text="TimePicker Dialog"
        android:textSize="20dp" />
    <Button
        android:id="@+id/btnPickTime"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_below="@id/tv2"
        android:layout_marginTop="10dp"
        android:text="Pick Time" />
```

```xml
    <TextView
        android:id="@+id/tvTime"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnPickTime"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:textSize="20dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tv3"
        android:layout_centerHorizontal="true"
        android:layout_below="@id/tvTime"
        android:layout_marginTop="50dp"
        android:text="Alert Dialog"
        android:textSize="20dp" />
    <Button
        android:id="@+id/btnClickMe"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_below="@id/tv3"
        android:layout_marginTop="10dp"
        android:text="Show Alert Dialog Window" />
    <TextView
        android:id="@+id/tvAlertDialog"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnClickMe"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:textSize="20dp"/>

</RelativeLayout>
```

MainActivity.kt

```kotlin
package com.example.myapplication

import android.annotation.SuppressLint
import android.app.AlertDialog
import android.app.DatePickerDialog
import android.app.TimePickerDialog
import android.icu.text.DateFormat
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.text.format.DateFormat.is24HourFormat
import android.widget.*
import java.util.Calendar
```

```kotlin
class MainActivity : AppCompatActivity(), DatePickerDialog.OnDateSetListener,
TimePickerDialog.OnTimeSetListener {

    lateinit var btnPickDate: Button
    lateinit var tvDate: TextView
    lateinit var btnPickTime: Button
    lateinit var tvTime: TextView
    lateinit var btnClickMe: Button
    lateinit var tvAlertDialog: TextView
    var day: Int = 0
    var month: Int = 0
    var year: Int = 0
    var hour: Int = 0
    var minute: Int = 0
    var myDay: Int = 0
    var myMonth: Int = 0
    var myYear: Int = 0
    var myHour: Int = 0
    var myMinute: Int = 0

    @SuppressLint("MissingInflatedId")
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        btnPickDate = findViewById(R.id.btnPickDate)
        tvDate = findViewById(R.id.tvDate)
        btnPickTime = findViewById(R.id.btnPickTime)
        tvTime = findViewById(R.id.tvTime)
        btnClickMe = findViewById(R.id.btnClickMe)
        tvAlertDialog = findViewById(R.id.tvAlertDialog)

        btnPickDate.setOnClickListener {
            val calender = Calendar.getInstance()
            day = calender.get(Calendar.DAY_OF_MONTH)
            month = calender.get(Calendar.MONTH)
            year = calender.get(Calendar.YEAR)
            val datePickerDialog = DatePickerDialog(this@MainActivity, this@MainActivity,
year, month, day)
            datePickerDialog.show()
        }

        btnPickTime.setOnClickListener {
            val calender = Calendar.getInstance()
            hour = calender.get(Calendar.HOUR)
            minute = calender.get(Calendar.MINUTE)
            val timePickerDialog = TimePickerDialog(this@MainActivity, this@MainActivity,
hour, minute, true)
            timePickerDialog.show()
        }

        btnClickMe.setOnClickListener {
            val builder = AlertDialog.Builder(this)
            builder.setTitle("Dialog Box")
            builder.setMessage("Deleting File may harm your system")
```

```kotlin
        builder.setIcon(android.R.drawable.ic_dialog_alert)

        builder.setPositiveButton("Yes"){dialogInterface, which ->
            tvAlertDialog.text = "Clicked Yes"
        }

        builder.setNegativeButton("No"){dialogInterface, which ->
            tvAlertDialog.text = "Clicked No"
        }

        builder.setNeutralButton("Cancel"){dialogInterface , which ->
            tvAlertDialog.text = "Clicked Cancel\nOperation Cancelled"
        }

        val alertDialog: AlertDialog = builder.create()
        alertDialog.setCancelable(false)
        alertDialog.show()
    }
}

    override fun onDateSet(p0: DatePicker?, p1: Int, p2: Int, p3: Int) {
        myYear = p1
        myMonth = p2+1
        myDay = p3
        tvDate.text = "Year: " + myYear + "\n" + "Month: " + myMonth + "\n" + "Day: "
+ myDay
    }

    override fun onTimeSet(p0: TimePicker?, p1: Int, p2: Int) {
        myHour = p1
        myMinute = p2
        tvTime.text = "Hour: " + myHour + "\n" + "Minute: " + myMinute
    }
}
```

Output

Screen 1 (main screen):

My Application

DatePicker Dialog

PICK DATE

TimePicker Dialog

PICK TIME

Alert Dialog

SHOW ALERT DIALOG WINDOW

Screen 2 (DatePicker dialog):

My Application

DatePicker Dialog

PICK DATE

2023
Wed, Feb 8

February 2023

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

CANCEL   OK

Screen 3 (TimePicker dialog):

My Application

DatePicker Dialog

PICK DATE

Year: 2023

05:30

00
55   05
50   10
45   15
40   20
35   25
30

CANCEL   OK

Screen 4 (Alert dialog):

My Application

DatePicker Dialog

PICK DATE

Year: 2023
Month: 2
Day: 8

TimePicker Dialog

⚠ **Dialog Box**

Deleting File may harm your system

CANCEL   NO   YES

Alert Dialog

SHOW ALERT DIALOG WINDOW

Screen 5 (result screen):

My Application

DatePicker Dialog

PICK DATE

Year: 2023
Month: 2
Day: 8

TimePicker Dialog

PICK TIME

Hour: 5
Minute: 30

Alert Dialog

SHOW ALERT DIALOG WINDOW

Clicked Yes