EX-1 Application using GUI components, Font and Colour
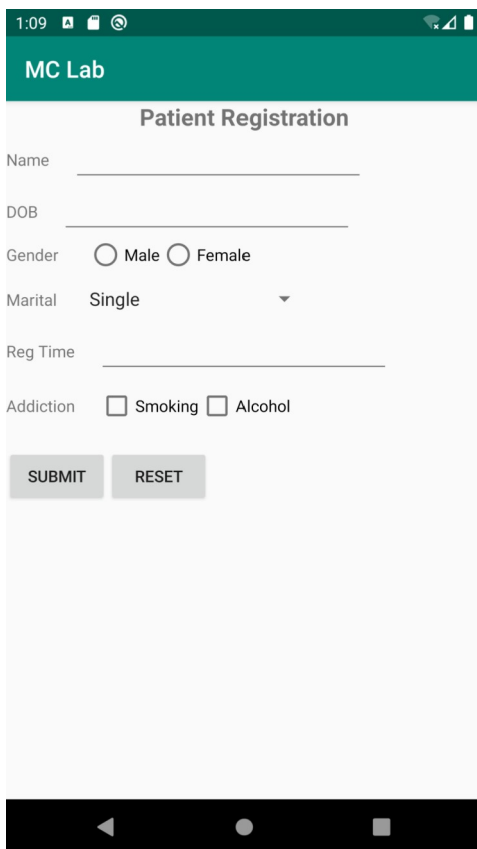
Question:

Generate a registration form for a hospital to register new patient details as below:

a. Assign a title for the registration form(TextView- textSize, textStyle , typeface)
b. Name. Specify some font and colour. (use TextView, EditText-standard)
c. Address (use TextView, EditText-standard)
d. Age (TextView, EditText)
 e. Date of Birth (DatePicker)
f. Gender (RadioButton)
g. Marital Status (Spinner)
h. Contact Number (EditText- inputType, phoneNumber)
i. Registration time (TimePicker)
j. Addiction (Smoking, Alcohol) (CheckBox)

k. Submit (Button) l. Reset (Button)
Sample Input:

ex12_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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=".ex12_main">

    <TextView
        android:id="@+id/tv_title"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:textSize="20sp"
        android:textStyle="bold"
        android:text="Patient Registration"/>

    <LinearLayout
        android:id="@+id/layout_name"
        android:layout_below="@+id/tv_title"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:id="@+id/tv_name"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Name"/>

        <EditText
            android:id="@+id/et_name"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"
            android:ems="12"/>
    </LinearLayout>

    <LinearLayout
        android:id="@+id/layout_dob"
        android:layout_below="@+id/layout_name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:id="@+id/tv_dob"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="DOB"/>

        <EditText
```

```xml
            android:id="@+id/et_dob"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"
            android:ems="12"/>
    </LinearLayout>

    <RelativeLayout
        android:id="@+id/layout_gender"
        android:layout_below="@+id/layout_dob"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:id="@+id/tv_gender"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_centerVertical="true"
            android:text="Gender"/>

        <RadioGroup
            android:id="@+id/rg_gender"
            android:orientation="horizontal"
            android:layout_marginLeft="70dp"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content">

            <RadioButton
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Male"/>
            <RadioButton
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Female"/>
        </RadioGroup>
    </RelativeLayout>
    <LinearLayout
        android:id="@+id/layout_marital"
        android:layout_marginTop="10dp"
        android:layout_below="@+id/layout_gender"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:id="@+id/tv_marital"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Marital"/>

        <Spinner
            android:id="@+id/sp_marital"
```

```xml
        android:layout_width="200dp"
        android:layout_marginLeft="20dp"
        android:layout_height="wrap_content" />
</LinearLayout>

<LinearLayout
    android:id="@+id/layout_reg_time"
    android:layout_marginTop="10dp"
    android:layout_below="@+id/layout_marital"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">

    <TextView
        android:id="@+id/tv_reg_time"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Reg Time"/>

    <EditText
        android:id="@+id/et_reg_time"
        android:layout_width="wrap_content"
        android:layout_marginLeft="20dp"
        android:ems="12"
        android:layout_height="wrap_content" />
</LinearLayout>
<LinearLayout
    android:id="@+id/layout_addict"
    android:layout_marginTop="10dp"
    android:layout_below="@+id/layout_reg_time"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">

    <TextView
        android:id="@+id/tv_addict"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Addiction"/>

    <CheckBox
        android:id="@+id/ck_smoke"
        android:layout_marginLeft="20dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Smoking"/>
    <CheckBox
        android:id="@+id/ck_alcohol"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Alcohol"/>
</LinearLayout>
<Button
    android:id="@+id/bt_submit"
```

```xml
        android:layout_below="@+id/layout_addict"
        android:layout_marginTop="20dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"/>
    <Button
        android:id="@+id/bt_reset"
        android:layout_below="@+id/layout_addict"
        android:layout_marginTop="20dp"
        android:layout_toRightOf="@+id/bt_submit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Reset"/>

</RelativeLayout>
```

//strings.xml (for Spinner)

```xml
<resources>
    <string name="app_name">MC Lab</string>
    <string-array name="marital">
        <item>Single</item>
        <item>Married</item>
    </string-array>
</resources>
```

//ex12_main.java

package cocomo.lab;

import android.app.DatePickerDialog;
import android.app.TimePickerDialog;
import android.content.Intent;
import android.content.SharedPreferences;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Spinner;
import android.widget.TimePicker;

import java.text.SimpleDateFormat;
import java.util.Calendar;
import java.util.Locale;

public class ex12_main extends AppCompatActivity {

    Calendar c;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.*ex12_main*);

        final EditText et_name=findViewById(R.id.*et_name*);
        final EditText et_dob=findViewById(R.id.*et_dob*);
        final EditText et_reg_time=findViewById(R.id.*et_reg_time*);
        final RadioGroup rg_gender=findViewById(R.id.*rg_gender*);
        final Spinner sp_marital=findViewById(R.id.*sp_marital*);
        final CheckBox ck_smoke=findViewById(R.id.*ck_smoke*);
        final CheckBox ck_alcohol=findViewById(R.id.*ck_alcohol*);
        Button bt_submit=findViewById(R.id.*bt_submit*);
        Button bt_reset=findViewById(R.id.*bt_reset*);

        ArrayAdapter<CharSequence>
adapter=ArrayAdapter.*createFromResource*(this,R.array.*marital*,android.R.layout.*simple_spinner_item*);
        adapter.setDropDownViewResource(android.R.layout.*simple_spinner_dropdown_item*);
        sp_marital.setAdapter(adapter);

        et_dob.setOnFocusChangeListener(new View.OnFocusChangeListener() {
            @Override

```java
        public void onFocusChange(View v, boolean hasFocus) {
            c=Calendar.getInstance();
            if(hasFocus){
                new DatePickerDialog(ex12_main.this, new DatePickerDialog.OnDateSetListener() {
                    @Override
                    public void onDateSet(DatePicker view, int year, int month, int dayOfMonth) {
                        c.set(year,month,dayOfMonth);
                        SimpleDateFormat sdf=new SimpleDateFormat("dd/MM/yyyy", Locale.US);
                        et_dob.setText(sdf.format(c.getTime()));
                    }
                },c.get(Calendar.YEAR),c.get(Calendar.MONTH),c.get(Calendar.DAY_OF_MONTH)).show();
            }
        }
    });

    et_reg_time.setOnFocusChangeListener(new View.OnFocusChangeListener() {
        @Override
        public void onFocusChange(View v, boolean hasFocus) {
            c=Calendar.getInstance();
            if(hasFocus){
                new TimePickerDialog(ex12_main.this, new TimePickerDialog.OnTimeSetListener() {
                    @Override
                    public void onTimeSet(TimePicker view, int hourOfDay, int minute) {
                        et_reg_time.setText(String.format(Integer.toString(hourOfDay)
+":"+Integer.toString(minute)));
                    }
                },c.get(Calendar.HOUR_OF_DAY),c.get(Calendar.MINUTE),false).show();
            }
        }
    });

    bt_submit.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            SharedPreferences Status=getSharedPreferences("status",MODE_PRIVATE);
            SharedPreferences.Editor EStatus=Status.edit();

            EStatus.putString("name",et_name.getEditableText().toString()); EStatus.apply();
            EStatus.putString("dob",et_dob.getEditableText().toString()); EStatus.apply();
            EStatus.putString("gender",
((RadioButton)findViewById(rg_gender.getCheckedRadioButtonId())).getText().toString());
EStatus.apply();
            EStatus.putString("marital",sp_marital.getSelectedItem().toString()); EStatus.apply();
            EStatus.putString("reg_time",et_reg_time.getEditableText().toString()); EStatus.apply();

            String str="";
            if(ck_smoke.isChecked())
                str+="Smoking ";
            if(ck_alcohol.isChecked())
                str+="Alcohol ";
            EStatus.putString("addict",str); EStatus.apply();
```

```java
                startActivity(new Intent(getApplicationContext(), ex12_disp.class));
            }
        });

        bt_reset.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(), ex12_main.class));
            }
        });
    }
}
```

//ex12_disp.xml (Output screen)

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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=".ex12_disp">

    <TableLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">
        <TableRow>
            <TextView
                android:id="@+id/tv_name1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Name"/>

            <TextView
                android:id="@+id/tv_name"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginLeft="20dp"/>
        </TableRow>
        <TableRow>
            <TextView
                android:id="@+id/tv_dob1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="DOB"/>

            <TextView
                android:id="@+id/tv_dob"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginLeft="20dp"/>
```

```xml
    </TableRow>
    <TableRow>
        <TextView
            android:id="@+id/tv_gender1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Gender"/>

        <TextView
            android:id="@+id/tv_gender"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"/>
    </TableRow>
    <TableRow>
        <TextView
            android:id="@+id/tv_marital1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Marital"/>

        <TextView
            android:id="@+id/tv_marital"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"/>
    </TableRow>
    <TableRow>
        <TextView
            android:id="@+id/tv_reg_time1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Reg Time"/>

        <TextView
            android:id="@+id/tv_reg_time"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"/>
    </TableRow>
    <TableRow>
        <TextView
            android:id="@+id/tv_addict1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Addiction"/>

        <TextView
            android:id="@+id/tv_addict"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="20dp"/>
```

```
        </TableRow>
    </TableLayout>

</RelativeLayout>
```

//ex12_disp.java

```java
package cocomo.lab;

import android.content.SharedPreferences;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class ex12_disp extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.ex12_disp);

        final TextView tv_name=findViewById(R.id.tv_name);
        final TextView tv_dob=findViewById(R.id.tv_dob);
        final TextView tv_gender=findViewById(R.id.tv_gender);
        final TextView tv_marital=findViewById(R.id.tv_marital);
        final TextView tv_reg_time=findViewById(R.id.tv_reg_time);
        final TextView tv_addict=findViewById(R.id.tv_addict);

        SharedPreferences Status=getSharedPreferences("status",MODE_PRIVATE);

        tv_name.setText(Status.getString("name",null));
        tv_dob.setText(Status.getString("dob",null));
        tv_gender.setText(Status.getString("gender",null));
        tv_marital.setText(Status.getString("marital",null));
        tv_reg_time.setText(Status.getString("reg_time",null));
        tv_addict.setText(Status.getString("addict",null));
    }
}
```

//Output