

Q1. Create an android application to demonstrate the working of Implicit Intent. Use uri parsing.

Code –

Activity_main.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">

    <Button
        android:id="@+id/btnOpenWebpage"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Open Webpage" />
</RelativeLayout>
```

MainActivity.java

```
package com.example.firstpractical;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

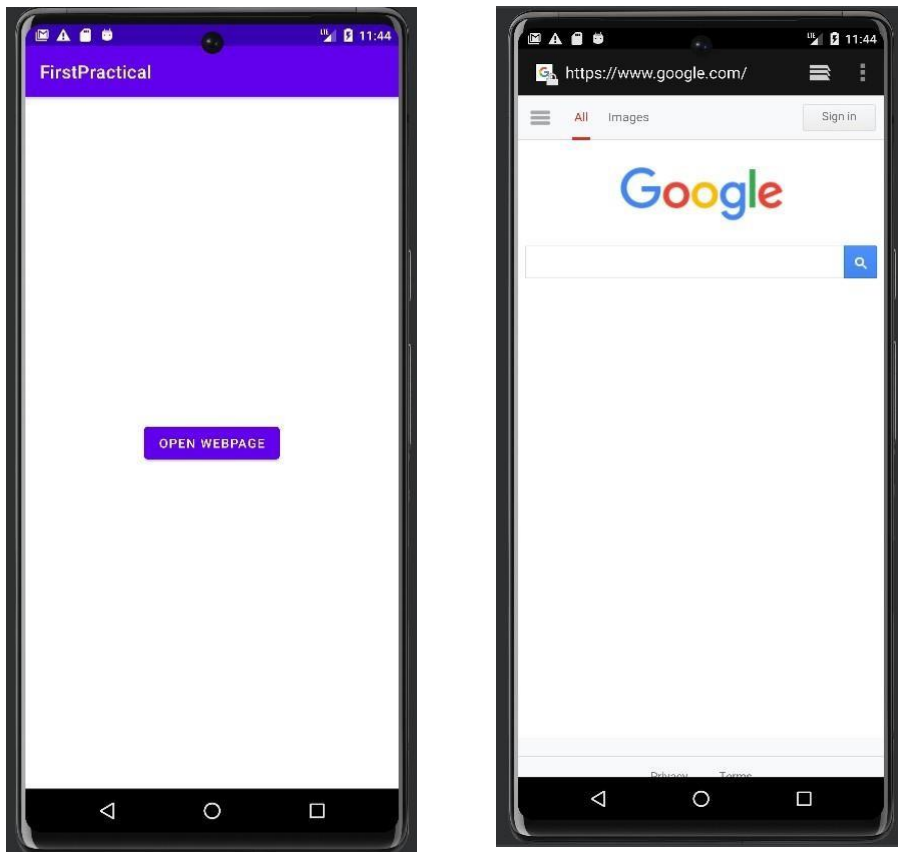
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

```
Button btnOpenWebpage = findViewById(R.id.btnOpenWebpage);  
btnOpenWebpage.setOnClickListener(new View.OnClickListener() {
```

@Override

```
public void onClick(View v) {  
    openWebpage();  
}  
});  
private void openWebpage() {  
    Uri webpageUri = Uri.parse("https://www.google.com");  
    Intent intent = new Intent(Intent.ACTION_VIEW, webpageUri);  
    if (intent.resolveActivity(getPackageManager()) != null) {  
        startActivity(intent);  
    }  
}
```

Output-



Q2. Create an android application to demonstrate the working of Implicit Intent.
Use Phone calling

Code –

Activity_main.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">
    <Button
        android:id="@+id/btnMakePhoneCall"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Make Phone Call" />
</RelativeLayout>
```

Main_activity.java

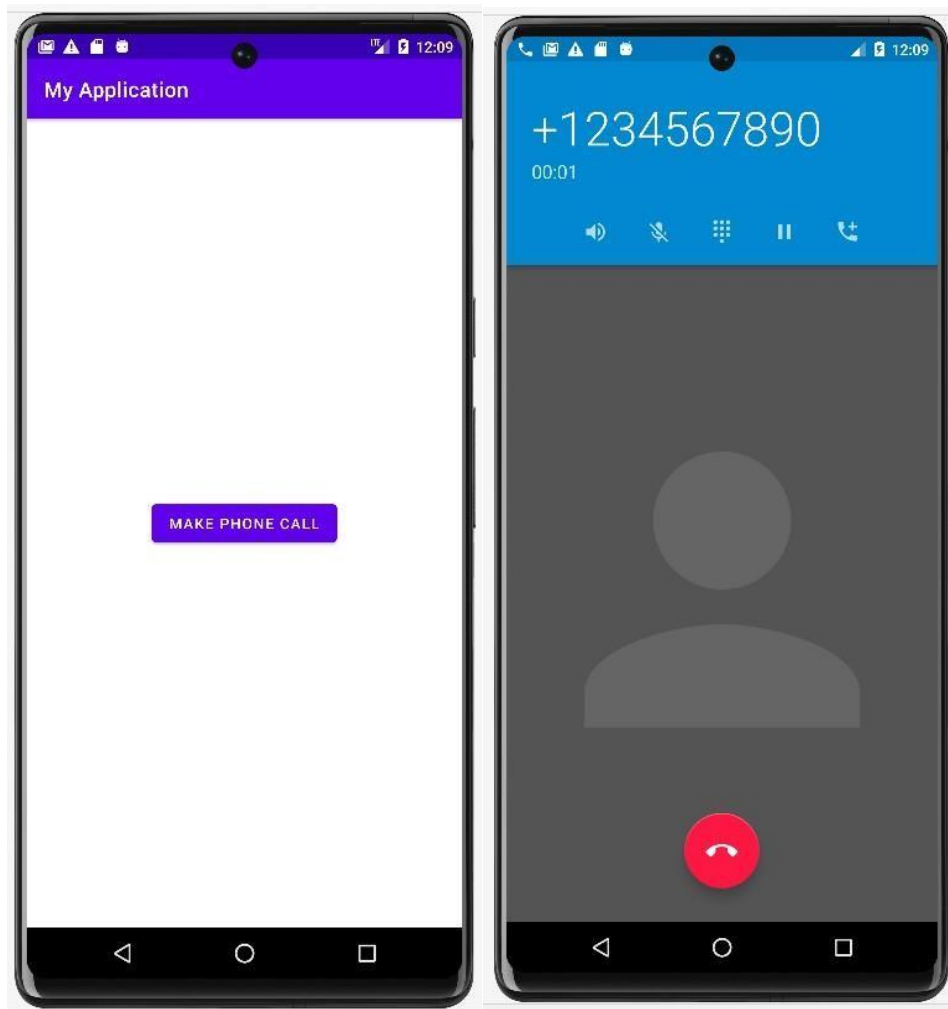
```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btnMakePhoneCall = findViewById(R.id.btnMakePhoneCall);
        btnMakePhoneCall.setOnClickListener(new View.OnClickListener() {
            @Override
```

```

    public void onClick(View v) {
        makePhoneCall();
    }
});
private void makePhoneCall() {
    Uri phoneUri = Uri.parse("tel:+1234567890");
    Intent intent = new Intent(Intent.ACTION_DIAL, phoneUri);
    if (intent.resolveActivity(getPackageManager()) != null) {
        startActivity(intent);
    }
}
}

```

Output –



Q3. Create an android application to demonstrate the working of Implicit Intent.
Use Email.

Code- 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">

    <Button
        android:id="@+id/btnSendEmail"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Send Email" />
</RelativeLayout>
```

Java

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;

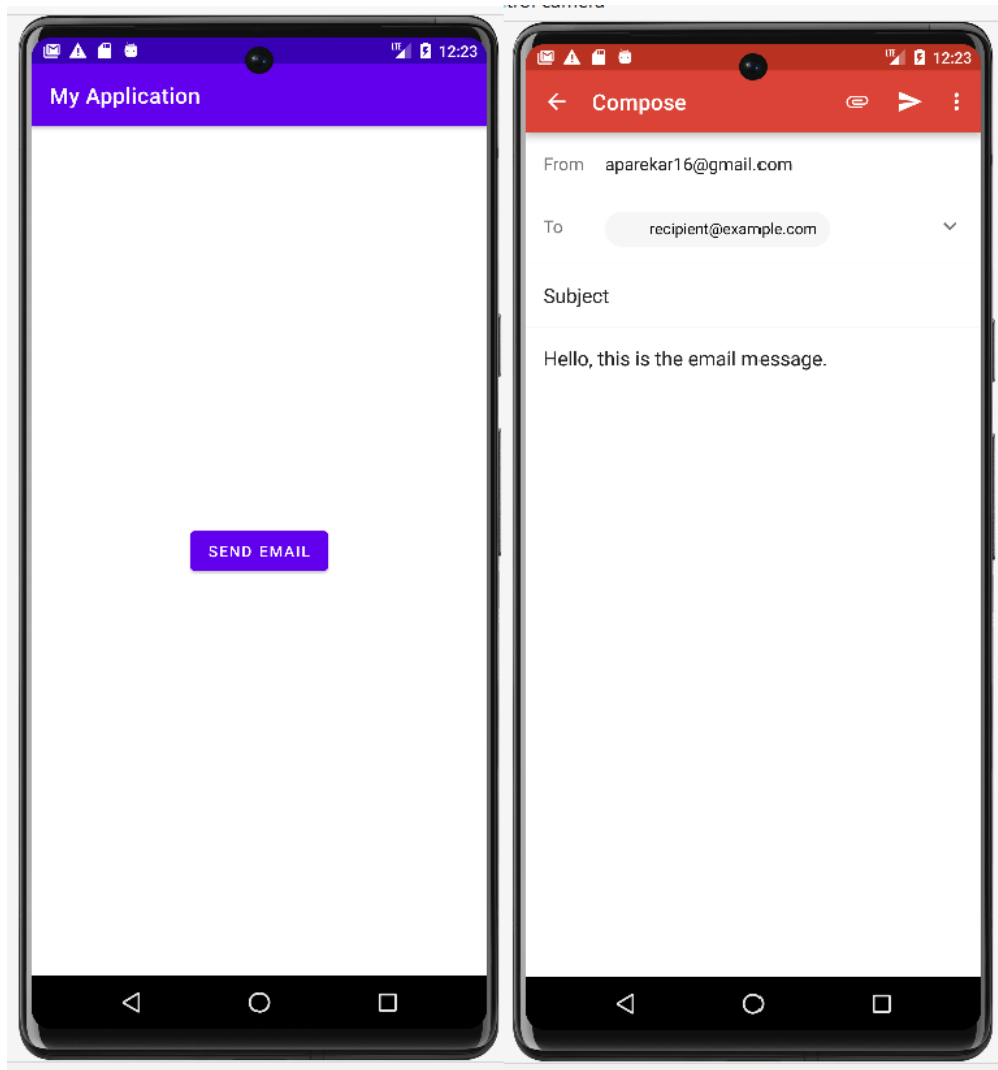
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button btnSendEmail = findViewById(R.id.btnSendEmail);
        btnSendEmail.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                sendEmail();
            }
        });
    }
}
```

```

private void sendEmail() {
    String[] recipients = {"recipient@example.com"};
    String subject = "Subject";
    String message = "Hello, this is the email message.";
    Intent intent = new Intent(Intent.ACTION_SEND);
    intent.setType("message/rfc822");
    intent.putExtra(Intent.EXTRA_EMAIL, recipients);
    intent.putExtra(Intent.EXTRA_SUBJECT, subject);
    intent.putExtra(Intent.EXTRA_TEXT, message);
    if (intent.resolveActivity(getPackageManager()) != null) {
        startActivity(Intent.createChooser(intent, "Send Email"));
    }
}
}

```

Output-



Q4. Create an android application to demonstrate the working of Explicit intent where insert User name and age from user and display both content on the second activity. use putExtra and getExtra

Code-

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:padding="16dp"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/editTextName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Name" />
    <EditText
        android:id="@+id/editTextAge"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Age"
        android:inputType="number" />
    <Button
        android:id="@+id/buttonSubmit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit" />
</LinearLayout>
```

Main_Activity.java

```
package com.example.fourthapplication;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
```

```

import android.widget.Button;
import android.widget.EditText;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final EditText editTextName = findViewById(R.id.editTextName);
        final EditText editTextAge = findViewById(R.id.editTextAge);
        Button buttonSubmit = findViewById(R.id.buttonSubmit);
        buttonSubmit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String name = editTextName.getText().toString();
                String age = editTextAge.getText().toString();
                Intent intent = new Intent(MainActivity.this, SecondActivity.class);
                intent.putExtra("user_name", name);
                intent.putExtra("user_age", age);
                startActivity(intent);
            }
        });
    }
}

```

activity_main2.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:padding="16dp"
    tools:context=".SecondActivity">
    <TextView
        android:id="@+id/textViewName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

```

```

        android:text="User Name: " />
<TextView
    android:id="@+id/textViewAge"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="User Age: " />
</LinearLayout>

```

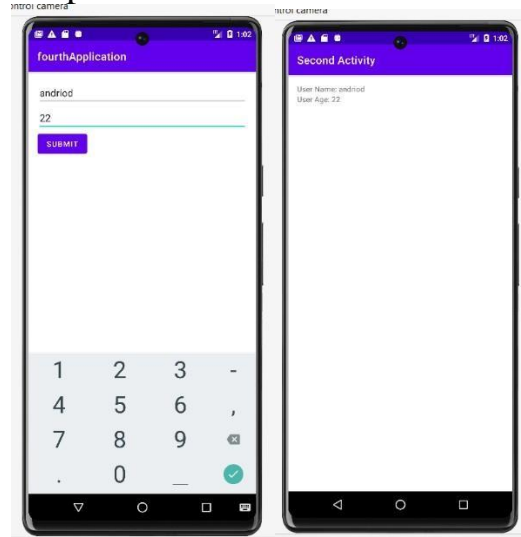
SecondActivity.java

```

package com.example.fourthapplication;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class SecondActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        TextView textViewName = findViewById(R.id.textViewName);
        TextView textViewAge = findViewById(R.id.textViewAge);
        String name = getIntent().getStringExtra("user_name");
        String age = getIntent().getStringExtra("user_age");
        textViewName.setText("User Name: " + name);
        textViewAge.setText("User Age: " + age);    }
}

```

Output-



Q5. Create an android application to demonstrate the working of bundle class, where create first activity as student marksheet and display the content result on second activity and display congratulation on third activity or try again on third activity. Use bundle concept

Code-

Activity_main.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=".StudentMarksheetActivity">
    <EditText
        android:id="@+id/editTextSubject1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Subject 1 Marks" />
    <EditText
        android:id="@+id/editTextSubject2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextSubject1"
        android:hint="Subject 2 Marks" />
    <Button
        android:id="@+id/buttonCalculateResult"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/editTextSubject2"
        android:layout_centerHorizontal="true"
        android:text="Calculate Result" />
</RelativeLayout>
```

StudentMarksheet.java

```
package com.example.myapplication;
```

```

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class StudentMarksheetActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final EditText editTextSubject1 = findViewById(R.id.editTextSubject1);
        final EditText editTextSubject2 = findViewById(R.id.editTextSubject2);
        Button buttonCalculateResult = findViewById(R.id.buttonCalculateResult);
        buttonCalculateResult.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                int marks1 = Integer.parseInt(editTextSubject1.getText().toString());
                int marks2 = Integer.parseInt(editTextSubject2.getText().toString());
                int totalMarks = marks1 + marks2;
                String result = (totalMarks >= 60) ? "Pass" : "Fail";
                Bundle bundle = new Bundle();
                bundle.putString("result", result);
                Intent intent = new Intent(StudentMarksheetActivity.this,
ResultActivity.class);
                intent.putExtras(bundle);
                startActivity(intent);
            }
        });
    }
}

```

activity_result.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=".ResultActivity"
<TextView
    android:id="@+id/textViewResult"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerInParent="true" />
</RelativeLayout>
ResultActivity.java

package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;
public class ResultActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_result);
        TextView textViewResult = findViewById(R.id.textViewResult);
        Bundle bundle = getIntent().getExtras();
        if (bundle != null) {
            String result = bundle.getString("result");
            textViewResult.setText("Result: " + result);
            Class<?> nextActivityClass = (result.equals("Pass")) ? try_again.class :
StudentMarksheetActivity.class;
            Intent intent = new Intent(ResultActivity.this, nextActivityClass);
            intent.putExtra("previous_activity", ResultActivity.class);
            startActivity(intent);
        }
    }
}
try_again.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=".try_again">
<TextView
    android:id="@+id/textViewMessage"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerInParent="true" /
<Button
    android:id="@+id/buttonTryAgain"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@id/textViewMessage"
    android:layout_centerHorizontal="true"
    android:text="Try Again" />
</RelativeLayout>
Try_again.java

package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class try_again extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.try_again);
        TextView textViewMessage = findViewById(R.id.textViewMessage);
        Button buttonTryAgain = findViewById(R.id.buttonTryAgain);
        Intent intent = getIntent();
        Class<?> previousActivityClass = (Class<?>)
intent.getSerializableExtra("previous_activity");
        if (previousActivityClass == StudentMarksheetActivity.class) {
            textViewMessage.setText("Try Again");
        } else if (previousActivityClass == ResultActivity.class) {
            textViewMessage.setText("Congratulations!");
        }
        buttonTryAgain.setOnClickListener(new View.OnClickListener() {
            @Override            public void onClick(View view) {

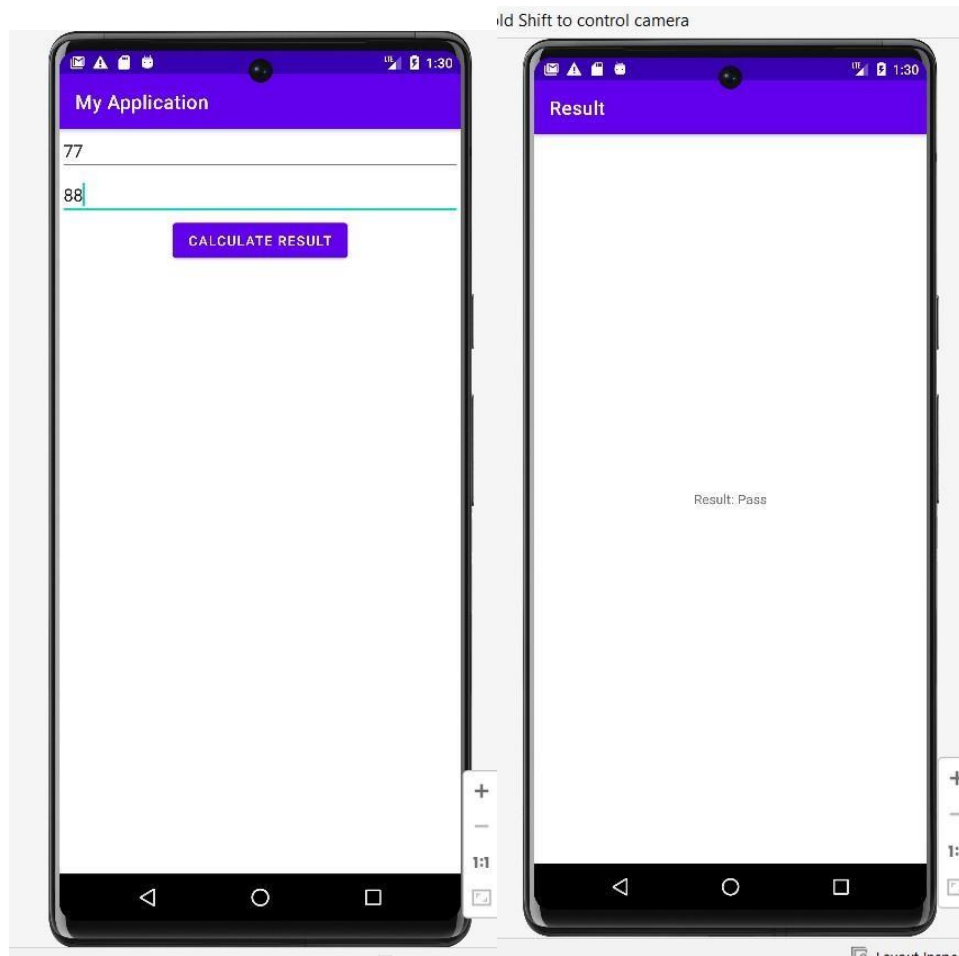
```

```

        Intent tryAgainIntent = new Intent(try_again.this,
StudentMarksheetActivity.class);
        startActivity(tryAgainIntent);
    }
}); }
}

```

Output –



Q6. Create an android application to demonstrate working of simple adapter

Code-

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:padding="16dp"
    tools:context=".MainActivity">

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>
</LinearLayout>
```

List_item.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="8dp">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="40dp"
        android:layout_height="40dp"
        />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">
```

```

        android:layout_gravity="center_vertical"
        android:textSize="18sp"
        android:paddingStart="8dp"
        android:paddingLeft="8dp" />
</LinearLayout>

```

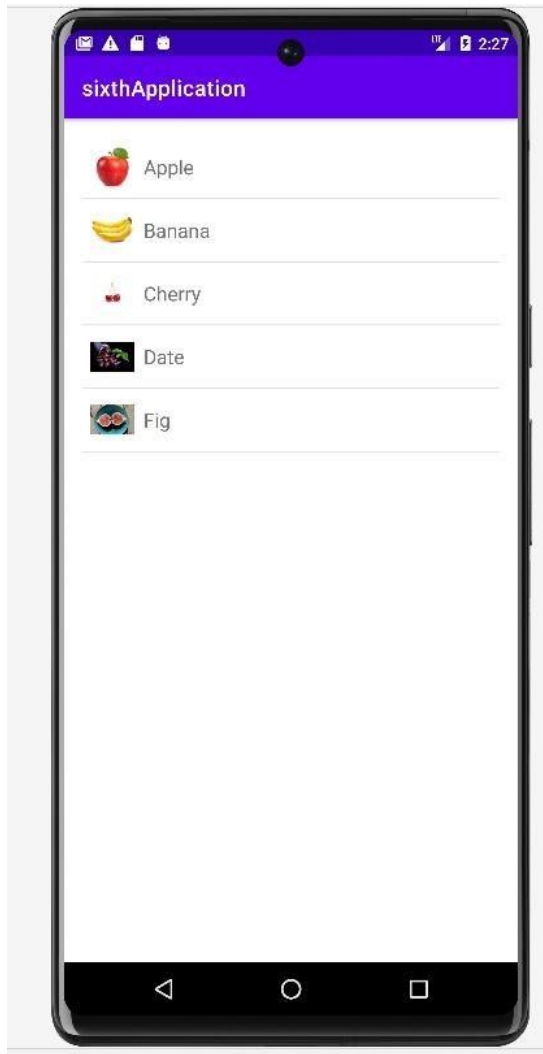
MainActivity.java

```

<?xml version="1.0" encoding="utf-8"?package com.example.sixthapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ListView;
import android.widget.SimpleAdapter;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.List;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        String[] fruits = {"Apple", "Banana", "Cherry", "Date", "Fig"};
        int[] icons = {R.drawable.apple, R.drawable.banana, R.drawable.cherry,
R.drawable.date, R.drawable.fig};
        List<HashMap<String, String>> data = new ArrayList<>();
        for (int i = 0; i < fruits.length; i++) {
            HashMap<String, String> map = new HashMap<>();
            map.put("fruit", fruits[i]);
            map.put("icon", Integer.toString(icons[i]));
            data.add(map);
        }
        String[] from = {"fruit", "icon"};
        int[] to = {R.id.textView, R.id.imageView};
        SimpleAdapter adapter = new SimpleAdapter(this, data, R.layout.list_item,
from, to);
        ListView listView = findViewById(R.id.listView);
        listView.setAdapter(adapter);
    }
}

```

Output –



Q7. Create an android application to demonstrate the working of custom adapter
use string.xml resource file

Code-

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:padding="16dp"
    tools:context=".MainActivity">

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
</LinearLayout>

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="8dp">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="40dp"
        android:layout_height="40dp" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_vertical"
        android:textSize="18sp">
```

```
        android:paddingStart="8dp" />
</LinearLayout>
```

Java

```
package com.example.seventhapplication;
import android.os.Bundle;
import android.widget.ListView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        String[] fruits = getResources().getStringArray(R.array.fruits);
        int[] icons = {
            R.drawable.apple,
            R.drawable.banana,
            R.drawable.cherry,
            R.drawable.date,
            R.drawable.fig
        };
        List<Fruit> fruitList = new ArrayList<>();
        for (int i = 0; i < fruits.length; i++) {
            Fruit fruit = new Fruit(fruits[i], icons[i]);
            fruitList.add(fruit);
        }
        FruitAdapter adapter = new FruitAdapter(this, fruitList);
        ListView listView = findViewById(R.id.listView);
        listView.setAdapter(adapter);
    }
}
```

Java

```
package com.example.seventhapplication;
import android.content.Context;
import android.view.LayoutInflater;
```

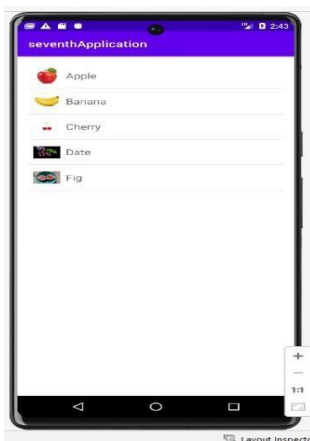
```

import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.ImageView;
import android.widget.TextView;
import java.util.List;

public class FruitAdapter extends ArrayAdapter<Fruit> {
    public FruitAdapter(Context context, List<Fruit> fruits) {
        super(context, 0, fruits);
    }
    @Override
    public View getView(int position, View convertView, ViewGroup parent) {
        View listItemView = convertView;
        if (listItemView == null) {
            listItemView = LayoutInflater.from(getContext()).inflate(R.layout.list_item,
parent, false);
        }
        Fruit currentFruit = getItem(position);
        ImageView imageView = listItemView.findViewById(R.id.imageView);
        imageView.setImageResource(currentFruit.getIcon());
        TextView textView = listItemView.findViewById(R.id.textView);
        textView.setText(currentFruit.getName());
        return listItemView;
    }
}

```

OutPut-



Q8. Create an android application to implement Alert dialog box , where create a quiz of atleast 5 MCQ and display the result on alert box and after click on positive button of alert Box display toast successful

Code-

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:padding="16dp"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/btnStartQuiz"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Start Quiz" />
</LinearLayout>

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="16dp">

    <TextView
        android:id="@+id/textViewQuestion"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Question"
        android:textSize="18sp" />

    <RadioGroup
        android:id="@+id/radioGroupOptions">
```

```

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/textViewQuestion">

        <RadioButton
            android:id="@+id/radioButtonOption1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Option 1" />

        <!-- Repeat RadioButton elements for each MCQ option -->

    </RadioGroup>
</RelativeLayout>

```

Java

```

package com.example.eighthapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;
import android.widget.Toast;
import androidx.appcompat.app.AlertDialog;

public class MainActivity extends AppCompatActivity {

    private String[] questions = {
        "Question 1: What is 2 + 2?",
        "Question 2: Which is the capital of France?",
    };

    private String[][] options = {
        {"3", "4", "5", "6"},
    };

```



```

        {"Paris", "London", "Berlin", "Madrid"},
    };
    private int[] correctAnswers = {1, 0};
    private int currentQuestionIndex = 0;
    private int score = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Button btnStartQuiz = findViewById(R.id.btnStartQuiz);
        btnStartQuiz.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                showNextQuestion();
            }
        });
    }
    private void showNextQuestion() {
        if (currentQuestionIndex < questions.length) {
            AlertDialog.Builder alertDialogBuilder = new AlertDialog.Builder(this);
            LayoutInflater inflater = getLayoutInflater();
            View view = inflater.inflate(R.layout.quiz_questions, null);
            alertDialogBuilder.setView(view);
            final TextView textViewQuestion =
view.findViewById(R.id.textViewQuestion);
            final RadioGroup radioGroupOptions =
view.findViewById(R.id.radioGroupOptions);
            textViewQuestion.setText(questions[currentQuestionIndex]);
            for (int i = 0; i < options[currentQuestionIndex].length; i++) {
                RadioButton radioButton = new RadioButton(this);
                radioButton.setText(options[currentQuestionIndex][i]);
                radioGroupOptions.addView(radioButton);
            }

            alertDialogBuilder
                .setTitle("Question " + (currentQuestionIndex + 1))
                .setPositiveButton("Submit", new DialogInterface.OnClickListener() {
                    @Override
                    public void onClick(DialogInterface dialogInterface, int i) {

```

```

        int selectedOptionIndex = radioGroupOptions.indexOfChild(
findViewById(radioGroupOptions.getCheckedRadioButtonId()));
        if (selectedOptionIndex ==
correctAnswers[currentQuestionIndex]) {
            score++;
        }
        currentQuestionIndex++;
        if (currentQuestionIndex < questions.length) {
            showNextQuestion();
        } else {
            showResult();
        }
    }
})
.setCancelable(false)
.show();
}
}

```

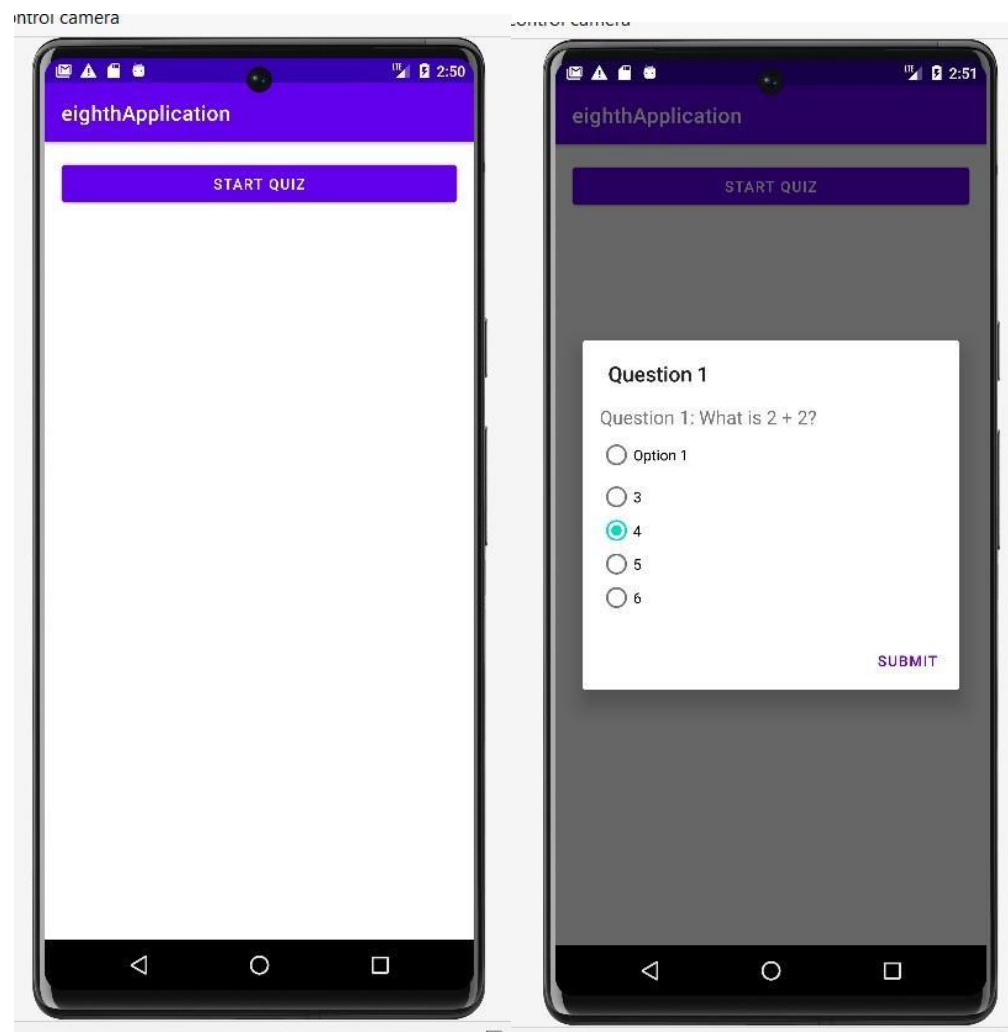
```

private void showResult() {
    AlertDialog.Builder alertDialogBuilder = new AlertDialog.Builder(this);

    alertDialogBuilder
        .setTitle("Quiz Result")
        .setMessage("You scored " + score + " out of " + questions.length)
        .setPositiveButton("OK", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                if (score == questions.length) {
                    Toast.makeText(MainActivity.this, "Congratulations!",
Toast.LENGTH_SHORT).show();
                }
            }
        })
        .setCancelable(false)
        .show();
}
}

```

Output-



Q9. Create an android application to implement Date Picker dialog box

Code-

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">
    <Button
        android:id="@+id/btnOpenDatePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select Date"
        android:layout_centerInParent="true" />
</RelativeLayout>
```

Java

```
package com.example.ninthapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.app.DatePickerDialog;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import java.util.Calendar;

public class MainActivity extends AppCompatActivity {
    private Button btnOpenDatePicker;
    private int year, month, day;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnOpenDatePicker = findViewById(R.id.btnOpenDatePicker);
        btnOpenDatePicker.setOnClickListener(new View.OnClickListener() {
```

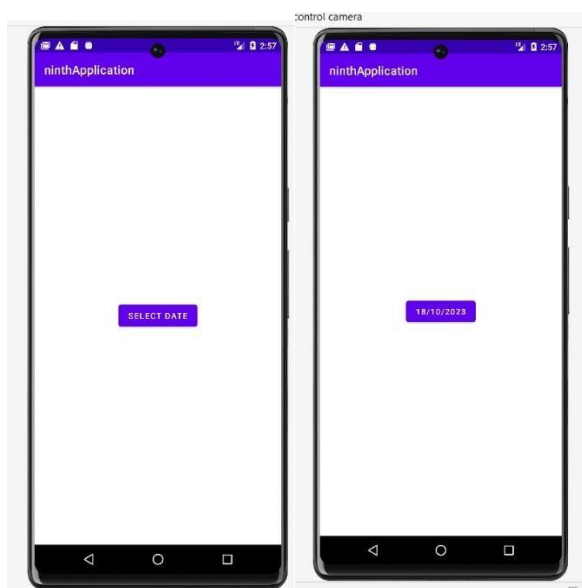
```

@Override
public void onClick(View view) {
    showDatePickerDialog();
}
}); }

private void showDatePickerDialog() {
    Calendar calendar = Calendar.getInstance();
    year = calendar.get(Calendar.YEAR);
    month = calendar.get(Calendar.MONTH);
    day = calendar.get(Calendar.DAY_OF_MONTH);
    DatePickerDialog datePickerDialog = new DatePickerDialog(this,
        new DatePickerDialog.OnDateSetListener() {
            @Override
            public void onDateSet(DatePicker datePicker, int selectedYear, int
selectedMonth, int selectedDay) {
                year = selectedYear;
                month = selectedMonth;
                day = selectedDay;
                btnOpenDatePicker.setText(day + "/" + (month + 1) + "/" + year);
            }
        }, year, month, day);
    datePickerDialog.show();
}
}

```

OutPut-



Q10. Create an android application to implement Date Picker using Calendar class.

Code-

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">

    <Button
        android:id="@+id/btnOpenDatePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select Date"
        android:layout_centerInParent="true" />
</RelativeLayout>
```

Java

```
package com.example.tenthapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.app.DatePickerDialog;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import java.util.Calendar;
public class MainActivity extends AppCompatActivity {
    private Button btnOpenDatePicker;
    private Calendar calendar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnOpenDatePicker = findViewById(R.id.btnOpenDatePicker);
```

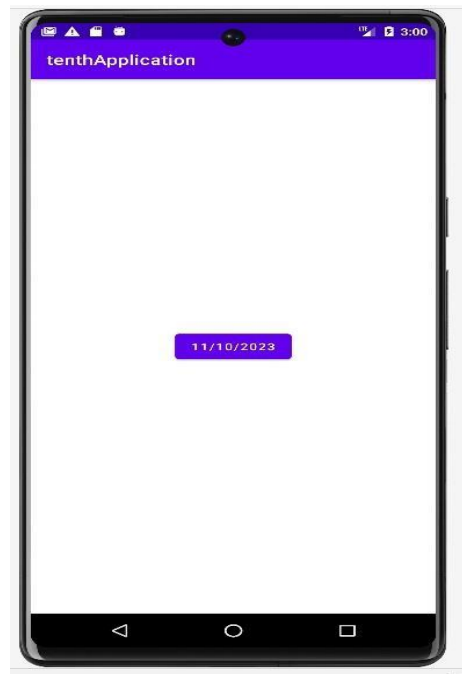
```

calendar = Calendar.getInstance();
btnOpenDatePicker.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        showDatePickerDialog();
    }
});

private void showDatePickerDialog() {
    int year = calendar.get(Calendar.YEAR);
    int month = calendar.get(Calendar.MONTH);
    int day = calendar.get(Calendar.DAY_OF_MONTH);
    DatePickerDialog datePickerDialog = new DatePickerDialog(this,
        new DatePickerDialog.OnDateSetListener() {
            @Override
            public void onDateSet(DatePicker datePicker, int selectedYear, int
selectedMonth, int selectedDay) {
                calendar.set(selectedYear, selectedMonth, selectedDay);
                int displayMonth = selectedMonth + 1;
                btnOpenDatePicker.setText(selectedDay + "/" + displayMonth + "/"
+ selectedYear);
            }
        }, year, month, day);
    datePickerDialog.show();
}
}

```

Output –



Q11. Create an android application to implement Time picker

Code-

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">
    <Button
        android:id="@+id/btnOpenTimePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select Time"
        android:layout_centerInParent="true" />
</RelativeLayout>
```

Java

```
package com.example.eleventhapplicayion;
import androidx.appcompat.app.AppCompatActivity;
import android.app.TimePickerDialog;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TimePicker;
import java.util.Calendar;
public class MainActivity extends AppCompatActivity {
    private Button btnOpenTimePicker;
    private Calendar calendar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnOpenTimePicker = findViewById(R.id.btnOpenTimePicker);
        calendar = Calendar.getInstance();
        btnOpenTimePicker.setOnClickListener(new View.OnClickListener() {
            @Override
```



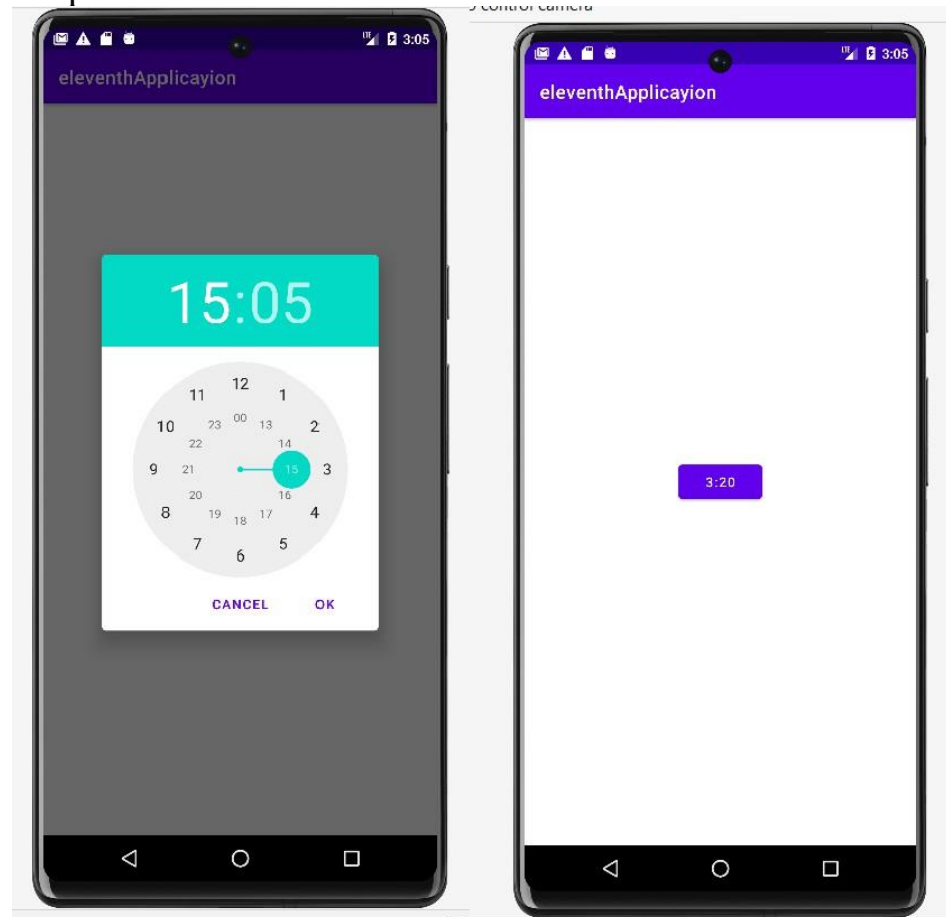
```

    public void onClick(View view) {
        showTimePickerDialog();
    }
}

private void showTimePickerDialog() {
    int hour = calendar.get(Calendar.HOUR_OF_DAY);
    int minute = calendar.get(Calendar.MINUTE);
    TimePickerDialog timePickerDialog = new TimePickerDialog(this,
        new TimePickerDialog.OnTimeSetListener() {
            @Override
            public void onTimeSet(TimePicker timePicker, int selectedHour, int
selectedMinute) {
                calendar.set(Calendar.HOUR_OF_DAY, selectedHour);
                calendar.set(Calendar.MINUTE, selectedMinute);
                btnOpenTimePicker.setText(selectedHour + ":" + selectedMinute);
            }
        }, hour, minute, true);
    timePickerDialog.show();
}
}

```

Output –



Q12. Create an android application to demonstrate working of Option Menu for famous countries.

Code-

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/textViewCountry"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select a Country"
        android:layout_centerInParent="true"
        android:textSize="20sp" />
</RelativeLayout>
```

```
<?xml version="1.0" encoding="utf-8"?>
<?xml version="1.0" encoding="utf-8"?>
<menu 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"
    tools:context=".MainActivity">
    <item
        android:id="@+id/country_menu"
        android:title="Countries"
        app:showAsAction="ifRoom">
        <menu>
            <item
                android:id="@+id/country_us"
                android:title="United States" />
            <item
                android:id="@+id/country_uk"
                android:title="United Kingdom" />
        </menu>
    </item>
</menu>
```

```

        <item
            android:id="@+id/country_france"
            android:title="France" />
        <item
            android:id="@+id/country_germany"
            android:title="Germany" />
        <item
            android:id="@+id/country_japan"
            android:title="Japan" />
    </menu>
</item>
</menu>

```

Java

```

package com.example.twelfthapplication;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.TextView;
import android.view.Menu;
import android.view.MenuItem;
public class MainActivity extends AppCompatActivity {
    private TextView textViewCountry;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        textViewCountry = findViewById(R.id.textViewCountry);
    }
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.country_menu, menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {

```

```

switch (item.getItemId()) {
    case R.id.country_us:
        textViewCountry.setText("United States");
        return true;
    case R.id.country_uk:
        textViewCountry.setText("United Kingdom");
        return true;
    case R.id.country_france:
        textViewCountry.setText("France");
        return true;
    case R.id.country_germany:
        textViewCountry.setText("Germany");
        return true;
    case R.id.country_japan:
        textViewCountry.setText("Japan");
        return true;
    default:
        return super.onOptionsItemSelected(item);
}
}
}

```

Output –

Q13. Create an android application to demonstrate working of popup menu for menu of food.

Code-

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">

    <Button
        android:id="@+id/btnOpenPopupMenu"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="View Menu"
        android:layout_centerInParent="true" />
</RelativeLayout>
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/menu_pizza"
        android:title="Pizza" />
    <item
        android:id="@+id/menu_burger"
        android:title="Burger" />
    <item
        android:id="@+id/menu_pasta"
        android:title="Pasta" />
    <item
        android:id="@+id/menu_sushi"
        android:title="Sushi" />
</menu>

```

Java

```

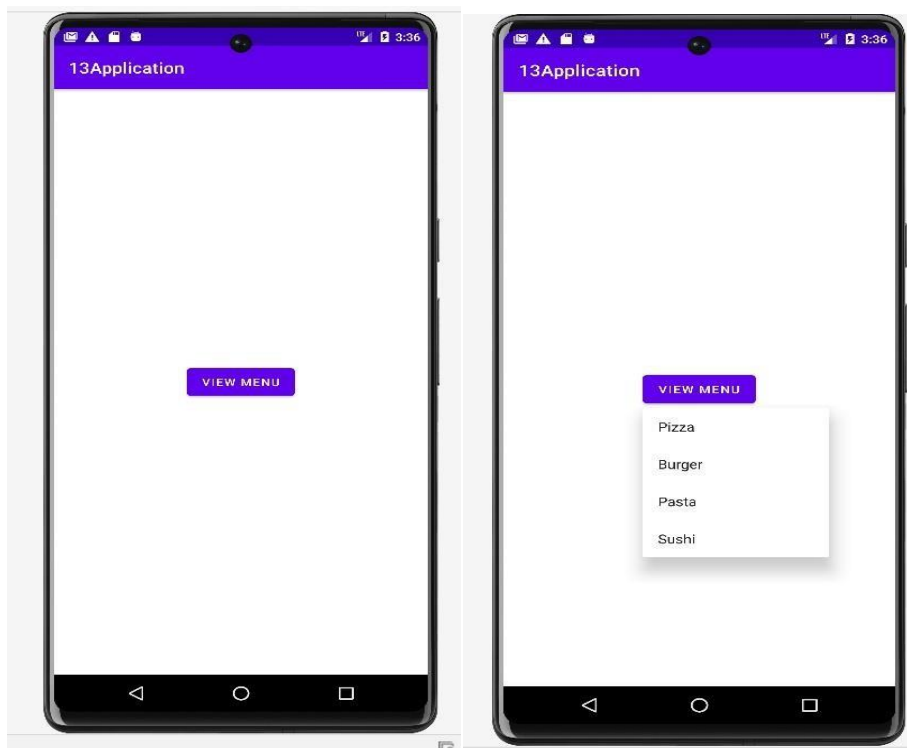
package com.example.a13application;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.PopupMenu;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    private Button btnOpenPopupMenu;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnOpenPopupMenu = findViewById(R.id.btnOpenPopupMenu);
        btnOpenPopupMenu.setOnClickListener(new View.OnClickListener() {

```

```

@Override
public void onClick(View view) {
    showPopupMenu(view);
}
});
private void showPopupMenu(View view) {
    PopupMenu popupMenu = new PopupMenu(this, view);
    MenuInflater inflater = popupMenu.getMenuInflater();
    inflater.inflate(R.menu.food_menu, popupMenu.getMenu());
    popupMenu.setOnMenuItemClickListener(new
PopupMenu.OnMenuItemClickListener() {
        @Override
        public boolean onMenuItemClick(MenuItem menuItem) {
            String foodItem = menuItem.getTitle().toString();
            Toast.makeText(MainActivity.this, "You selected: " + foodItem,
Toast.LENGTH_SHORT).show();
            return true;
        }
    });
    popupMenu.show();
}}
Output –

```



Q14. Create an android application to demonstrate working of Context Menu for all file options

Code-

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">

    <ListView
        android:id="@+id/listViewFiles"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
</RelativeLayout>
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/menu_option_open"
        android:title="Open" />
    <item
        android:id="@+id/menu_option_edit"
        android:title="Edit" />
    <item
        android:id="@+id/menu_option_delete"
        android:title="Delete" />
</menu>
```

Java

```
package com.example.a14application;
import android.os.Bundle;
import android.view.ContextMenu;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
```

```

import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private ListView listViewFiles;
    private String[] fileNames = {"File1.txt", "File2.txt", "File3.txt"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        listViewFiles = findViewById(R.id.listViewFiles);
        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1, fileNames);
        listViewFiles.setAdapter(adapter);
        registerForContextMenu(listViewFiles);
    }
    @Override
    public void onCreateContextMenu(ContextMenu menu, View v,
ContextMenu.ContextMenuInfo menuInfo) {
        super.onCreateContextMenu(menu, v, menuInfo);
        getMenuInflater().inflate(R.menu.file_context_menu, menu);
    }
    @Override
    public boolean onContextItemSelected(MenuItem item) {
        AdapterView.AdapterContextMenuInfo info =
(AdapterView.AdapterContextMenuInfo) item.getMenuInfo();
        String selectedFile = fileNames[info.position];
        switch (item.getItemId()) {
            case R.id.menu_option_open:
                showToast("Open: " + selectedFile);
                return true;
            case R.id.menu_option_edit:
                showToast("Edit: " + selectedFile);
                return true;
            case R.id.menu_option_delete:
                showToast("Delete: " + selectedFile);
                return true;
        }
    }
}

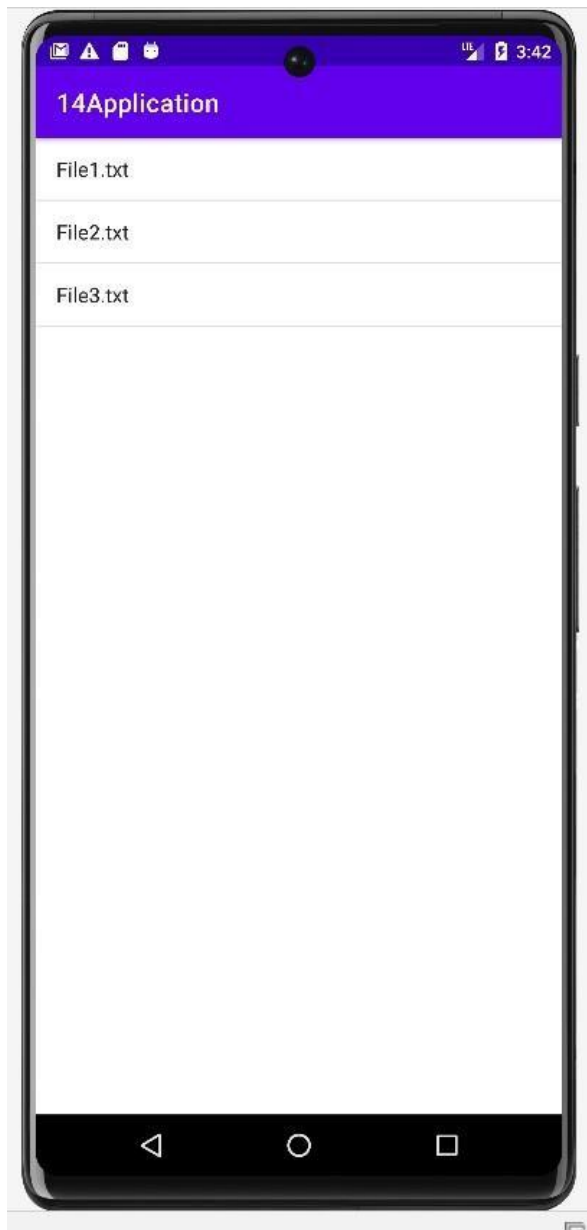
```



```
default:  
    return super.onContextItemSelected(item);  
} }
```

```
private void showToast(String message) {  
    Toast.makeText(this, message, Toast.LENGTH_SHORT).show();  
}}
```

Output -



Q15. Create an android application to implement rating bar

Code-

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">

    <RatingBar
        android:id="@+id/ratingBar"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:numStars="5"
        android:stepSize="1.0" />
</RelativeLayout>
```

Java

```
package com.example.ratingbardemo;

import android.os.Bundle;
import android.widget.RatingBar;
import android.widget.Toast;
```

```

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private RatingBar ratingBar;

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

        ratingBar = findViewById(R.id.ratingBar);

        ratingBar.setOnRatingBarChangeListener(new
RatingBar.OnRatingBarChangeListener() {
            @Override
            public void onRatingChanged(RatingBar ratingBar, float rating, boolean
fromUser) {
                String ratingMessage = "Rating: " + rating;
                Toast.makeText(MainActivity.this, ratingMessage,
Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```

Output –



Q.1) Write a program to Plot the correlation plot on dataset and visualize giving an overview of relationships among data on iris data.

```
import seaborn as sns
import matplotlib.pyplot as plt

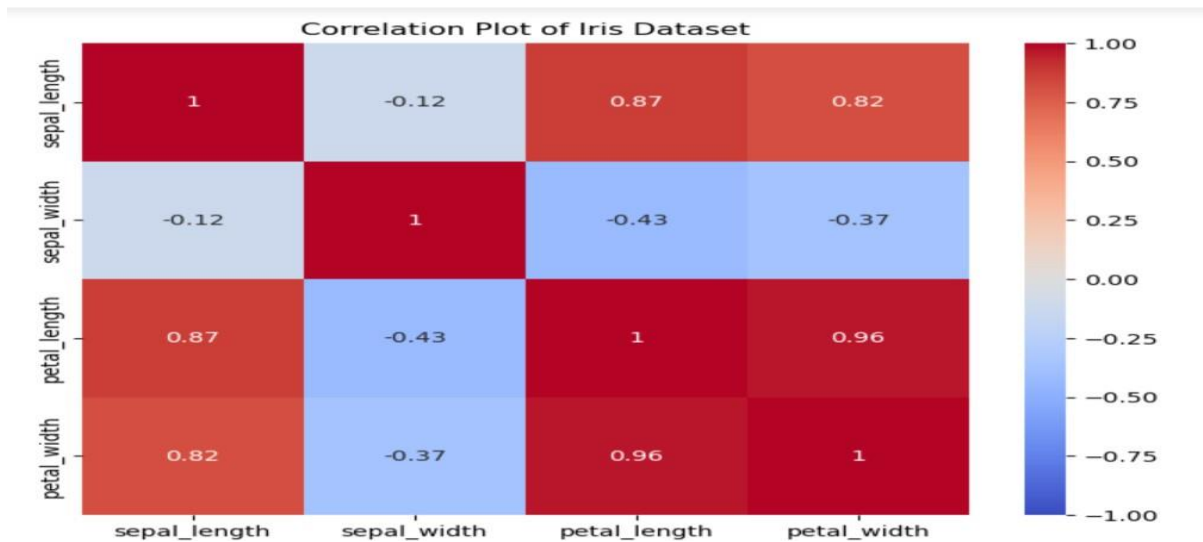
# Load the iris dataset
iris = sns.load_dataset("iris")

# Calculate the correlation matrix
corr = iris.corr()

# Plot the heatmap
plt.figure(figsize=(10, 8)) # Set the size of the figure
sns.heatmap(corr, annot=True, cmap='coolwarm', vmin=-1, vmax=1)

# Display the plot
plt.title("Correlation Plot of Iris Dataset")
plt.show()
```

Output:



Q2) Write a program to implement linear regression algorithm to create and evaluate a model on a given dataset

```
import numpy as np
```

```
import matplotlib.pyplot as plt
```

```
def estimate_coef(x, y):
```

```
    # number of observations/points
```

```
    n = np.size(x)
```

```
    # mean of x and y vector
```

```
    m_x = np.mean(x)
```

```
    m_y = np.mean(y)
```

```
    # calculating cross-deviation and deviation about x
```

```
    SS_xy = np.sum(y*x) - n*m_y*m_x
```

```
    SS_xx = np.sum(x*x) - n*m_x*m_x
```

```
    # calculating regression coefficients
```

```
    b_1 = SS_xy / SS_xx
```

```
    b_0 = m_y - b_1*m_x
```

```
return (b_0, b_1)
```

```
def plot_regression_line(x, y, b):
```

```
    # plotting the actual points as scatter plot
```

```
    plt.scatter(x, y, color = "m",
```

```
               marker = "o", s = 30)
```

```
    # predicted response vector
```

```
    y_pred = b[0] + b[1]*x
```

```
    # plotting the regression line
```

```
    plt.plot(x, y_pred, color = "g")
```

```
    # putting labels
```

```
    plt.xlabel('x')
```

```
    plt.ylabel('y')
```

```
    # function to show plot
```

```
    plt.show()
```

```
def main():
```

```
    # observations / data
```

```
    x = np.array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9])
```

```
    y = np.array([1, 3, 2, 5, 7, 8, 8, 9, 10, 12])
```

```
    # estimating coefficients
```

```
    b = estimate_coef(x, y)
```

```
    print("Estimated coefficients:\nb_0 = {} \
```

```
        \nb_1 = {}".format(b[0], b[1]))
```



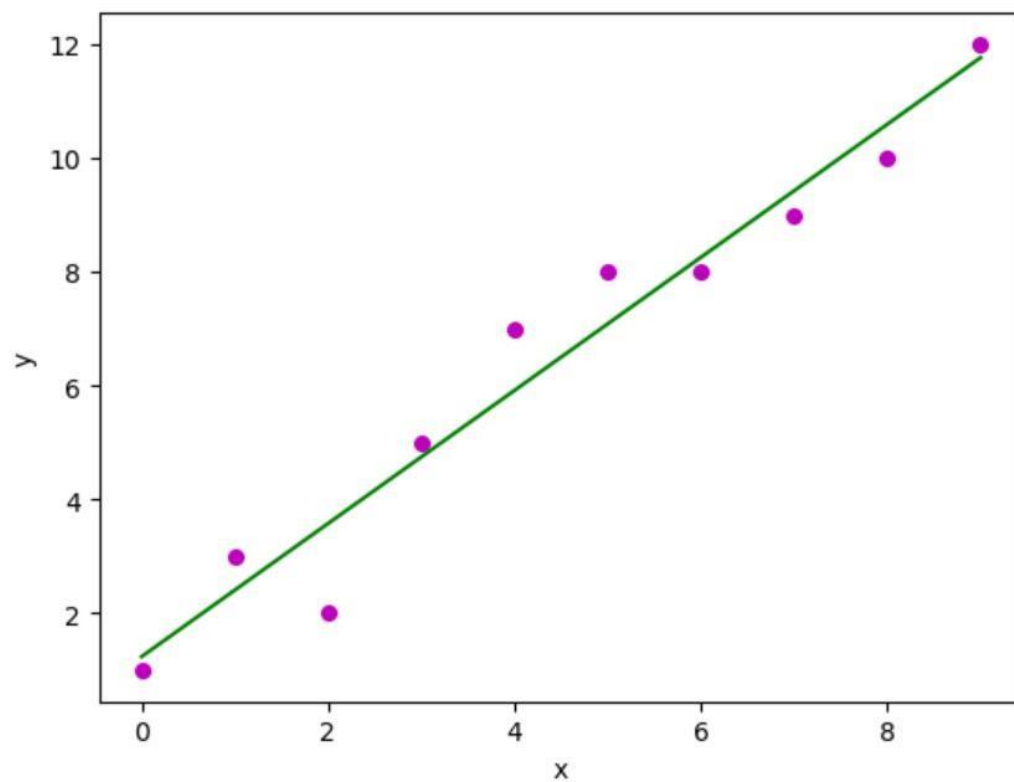
```
# plotting regression line

plot_regression_line(x, y, b)

if __name__ == "__main__":
    main()
```

Output:

```
Estimated coefficients:
b_0 = 1.2363636363636363
b_1 = 1.1696969696969697
```



Q3) Write a program to classify the given dataset using logistic regression and evaluate the model

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
```

```

from sklearn.metrics import classification_report, accuracy_score, confusion_matrix

# Load iris dataset
from sklearn.datasets import load_iris
data = load_iris()
df = pd.DataFrame(data.data, columns=data.feature_names)
df['species'] = data.target

# Set target variable to 1 if species is 'setosa', and 0 otherwise
y = (df['species'] == 0).astype(int)
X = df.drop('species', axis=1)

# Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Create a logistic regression model
model = LogisticRegression(max_iter=1000)

# Train the model
model.fit(X_train, y_train)

# Predict values for the test set
y_pred = model.predict(X_test)

# Evaluate the model
print("Accuracy:", accuracy_score(y_test, y_pred))
print("\nClassification Report:\n", classification_report(y_test, y_pred))
print("\nConfusion Matrix:\n", confusion_matrix(y_test, y_pred))

```

Output:

Accuracy: 1.0

Classification Report:					
	precision	recall	f1-score	support	
0	1.00	1.00	1.00	20	
1	1.00	1.00	1.00	10	
accuracy			1.00	30	
macro avg	1.00	1.00	1.00	30	
weighted avg	1.00	1.00	1.00	30	

Confusion Matrix:
[[20 0]
[0 10]]

Q4) Write a program to implement support vector machine algorithm

Import necessary libraries

from sklearn import datasets

from sklearn import svm

from sklearn.model_selection import train_test_split

from sklearn.metrics import accuracy_score

Load a sample dataset (e.g., the Iris dataset)

iris = datasets.load_iris()

X = iris.data

y = iris.target

Split the data into training and testing sets

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=42)

Create an SVM classifier (you can choose different kernel types, such as 'linear', 'rbf', etc.)

clf = svm.SVC(kernel='linear')

Fit the classifier on the training data

clf.fit(X_train, y_train)

```
# Make predictions on the test data
```

```
y_pred = clf.predict(X_test)
```

```
# Calculate the accuracy of the classifier
```

```
accuracy = accuracy_score(y_test, y_pred)
```

```
print(f"Accuracy: {accuracy}")
```

```
# You can also get the support vectors and other parameters
```

```
print("Support Vectors:")
```

```
print(clf.support_vectors_)
```

```
print("Coefficients (weights):")
```

```
print(clf.coef_)
```

```
print("Intercepts:")
```

```
print(clf.intercept_)
```

```
output:
```

```

Accuracy: 1.0
Support Vectors:
[[4.8 3.4 1.9 0.2]
 [5.1 3.3 1.7 0.5]
 [4.5 2.3 1.3 0.3]
 [5.6 3.  4.5 1.5]
 [5.4 3.  4.5 1.5]
 [6.7 3.  5.  1.7]
 [5.9 3.2 4.8 1.8]
 [5.1 2.5 3.  1.1]
 [6.  2.7 5.1 1.6]
 [6.3 2.5 4.9 1.5]
 [6.1 2.9 4.7 1.4]
 [6.5 2.8 4.6 1.5]
 [6.9 3.1 4.9 1.5]
 [6.3 2.3 4.4 1.3]
 [6.3 2.8 5.1 1.5]
 [6.3 2.7 4.9 1.8]
 [6.  3.  4.8 1.8]
 [6.  2.2 5.  1.5]
 [6.2 2.8 4.8 1.8]
 [6.5 3.  5.2 2. ]
 [7.2 3.  5.8 1.6]
 [5.6 2.8 4.9 2. ]
 [5.9 3.  5.1 1.8]
 [4.9 2.5 4.5 1.7]]
Coefficients (weights):
[[-0.04631136  0.52105578 -1.0030165  -0.46411816]
 [-0.00641373  0.17867392 -0.5389119  -0.29158729]
 [ 0.57613513  1.19215085 -2.03465638 -1.67923323]]

```

Q5) Write a program to implement Decision Tree model on the given dataset

```

import pandas

from sklearn import tree

from sklearn.tree import DecisionTreeClassifier

import matplotlib.pyplot as plt

df = pandas.read_csv(r"C:\Users\hp\Downloads\data.csv")

```

```

d = {'UK': 0, 'USA': 1, 'N': 2}
df['Nationality'] = df['Nationality'].map(d)

d = {'YES': 1, 'NO': 0}
df['Go'] = df['Go'].map(d)

features = ['Age', 'Experience', 'Rank', 'Nationality']

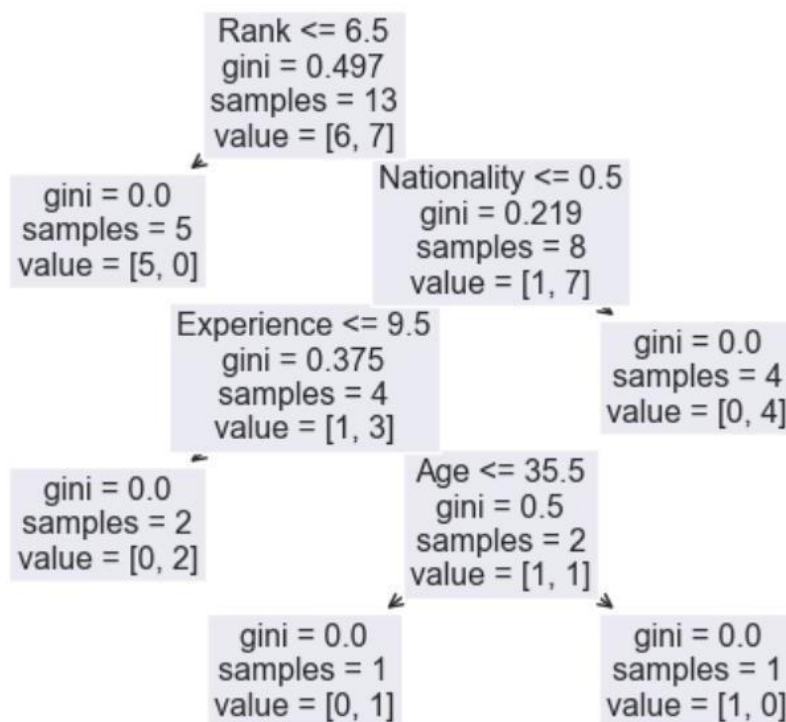
X = df[features]
y = df['Go']

dtree = DecisionTreeClassifier()
dtree = dtree.fit(X, y)

tree.plot_tree(dtree, feature_names=features)

```

output:



Q6) Write a program to implement Bayesian classification on given dataset.

```
import numpy as np
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.naive_bayes import GaussianNB
from sklearn.metrics import classification_report, accuracy_score, confusion_matrix

# Load iris dataset
from sklearn.datasets import load_iris
data = load_iris()
df = pd.DataFrame(data.data, columns=data.feature_names)
df['species'] = data.target

X = df.drop('species', axis=1)
y = df['species']

# Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Create a Gaussian Naive Bayes classifier
model = GaussianNB()

# Train the model
model.fit(X_train, y_train)

# Predict values for the test set
y_pred = model.predict(X_test)
```

Evaluate the model

```
print("Accuracy:", accuracy_score(y_test, y_pred))
```

```
print("\nClassification Report:\n", classification_report(y_test, y_pred))
```

```
print("\nConfusion Matrix:\n", confusion_matrix(y_test, y_pred))
```

Output:

```
Accuracy: 1.0
```

```
Classification Report:
```

	precision	recall	f1-score	support
0	1.00	1.00	1.00	10
1	1.00	1.00	1.00	9
2	1.00	1.00	1.00	11
accuracy			1.00	30
macro avg	1.00	1.00	1.00	30
weighted avg	1.00	1.00	1.00	30

```
Confusion Matrix:
```

```
[[10  0  0]
 [ 0  9  0]
 [ 0  0 11]]
```