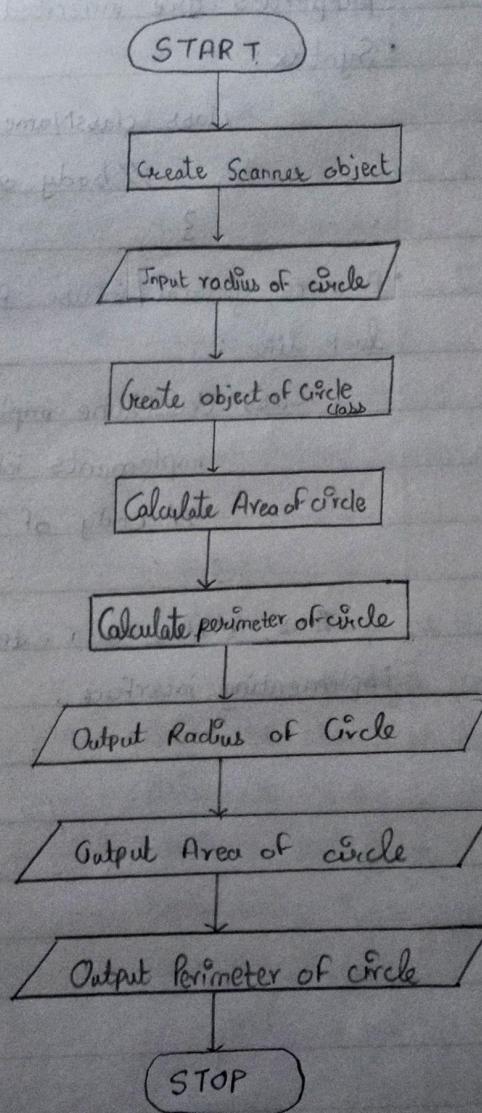


## Practical No. 10

Aim : Create, debug and run java programs based on package

Flowchart :



## Practical No. 10

Aim: Create, debug and run java programs based on Package.

Theory:

What is a package?

→ " Packages are Java language's way of grouping a variety of classes and/or interfaces together. Java packages act as "Containers" for classes."

Java packages are further classified

into two types:

i) Java API package

ii) User defined packages

• Creating Packages:

1. Declare package at the beginning of file using the form:

package packageName;

2. Define the class that is to be put in the package and declare it public.

3. Create a subdirectory under the directory where the main source files are stored.

4. Store the listing as the className.java file in the subdirectory created.

5. Compile the file. This creates .class file in the subdirectory.

• Accessing package:

1. The import statement is used when there are many references to a particular package or the package name is too long and unwieldy.

## 2. Syntax:

import package1[.package2][.package3]. className;  
OR

import package1[.package2][.package3]. \*;

## • Using package :

### • Syntax :

import package1.className;

[This will import the specific classes from the package].

OR

import package1.\*;

[This will import the all the classes from accessible classes from the package].

## • What is Static import?

→ . The feature of static import eliminates the need of qualifying a static member with the class name.

### • Syntax :

import static package-name.Subpackage-name.Class-name.  
Static-member;

OR

import static package-name.Subpackage-name.Class-name.\*;

### Conclusion :

Hence, I learnt about the concepts of package and static import. I also coded, developed, debugged and executed programs based on the concept of packages.

## **Code:**

### **Driver Class:**

```
import practical10.Circle;
import java.util.Scanner;

class Practical10{
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        float radius;
        System.out.print("Enter Radius of Circle : ");
        radius = sc.nextFloat();
        Circle circle = new Circle(radius);
        System.out.println("Radius      : " + circle.getRadius());
        System.out.println("Area       : " + circle.getArea());
        System.out.println("Perimeter : " + circle.getPerimeter());
    }
}
```

### **Class in subdirectory:**

```
package practical10;

import static java.lang.Math.PI;

public class Circle{
    public float radius;
    public float _area;
    public float _perimeter;

    public Circle(float radius){
        this.radius = radius;
        area();
        perimeter();
    }

    public void area(){
        _area = (float) PI * radius * radius;
    }

    public void perimeter(){
        _perimeter = 2 * (float) PI * radius;
    }

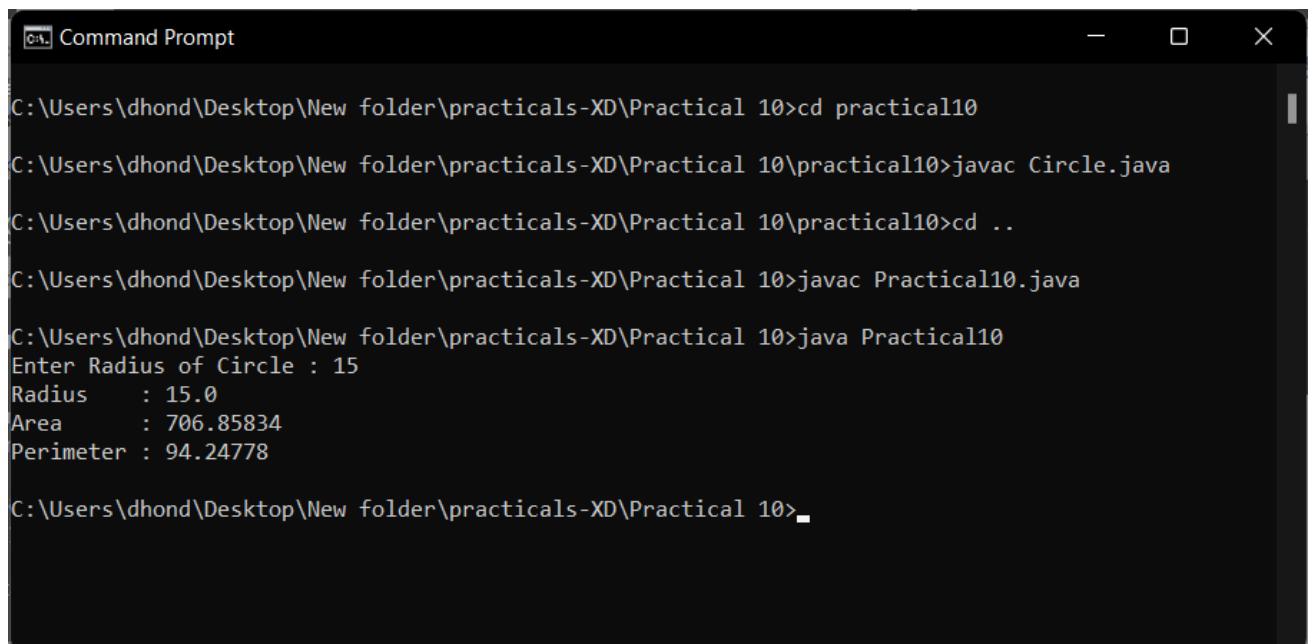
    public float getRadius(){
        return radius;
    }
}
```

```
public float getArea(){
    return _area;
}

public float getPerimeter(){
    return _perimeter;
}

}
```

## Output:



```
Command Prompt

C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 10>cd practical10
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 10\practical10>javac Circle.java
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 10\practical10>cd ..
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 10>javac Practical10.java
C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 10>java Practical10
Enter Radius of Circle : 15
Radius      : 15.0
Area        : 706.85834
Perimeter   : 94.24778

C:\Users\dhond\Desktop\New folder\practicals-XD\Practical 10>
```

Conclusion :

Hence, I learnt about the concepts of package and static import. I also coded, developed, & debugged and executed ~~pr~~ programs based on the concept of packages.