OOP

Lab 8 (Interfaces)

Practice

Interfaces are a good way of achieving abstraction and code reusability. An interface is a reference type that defines a contract of methods that a class implementing the interface must provide. An interface can be thought of as a set of abstract methods (i.e. only the method header is provided) that any class implementing the interface agrees to provide concrete implementations for.

An interface can have fields(named constants) which are implicitly public, static and final and must be initialized in the interface itself.

All methods in the interface are implicitly public and abstract.

A class can implement multiple interfaces.

Eg. Java provides a Comparable interface defined as:

```java
public interface Comparable
{
    int compareTo(Object other);    // implicitly public and abstract
}
```

Any class implementing the Comparable interface needs to define this method as :

```java
public int compareTo(Object other)
{
    // TODO
}
```

Q. You are provided with Point2D.java, Shape.java, Circle.java and Driver.java files. Complete the Point2D.java and Circle.java files.