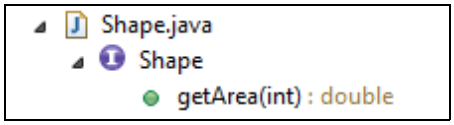
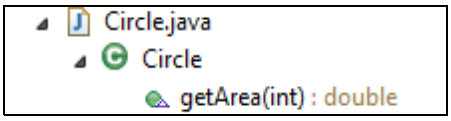
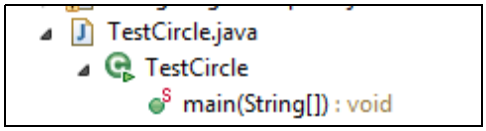
Interface

1) Write a program to calculate area of Circle by using getArea(int radius) method which is inherited from Shape and print the value by invoking that method from TestCircle class. Draw class diagrams for Shape,Circle and TestCircle.



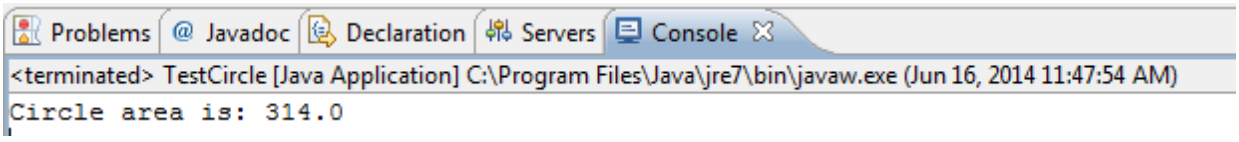





```
public interface Shape {

    public double getArea(int radius);

}
```

```
public class TestCircle {

    public static void main(String[] args) {

        Shape shape = new Circle();
        double area = shape.getArea(10);
        System.out.println("Circle area is: " + area);

    }

}
```

Output:-



Note:-

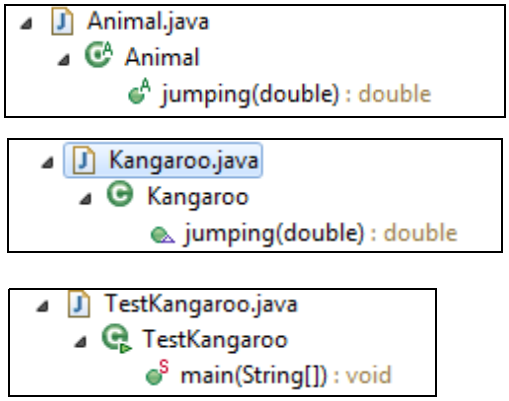
- + symbol for public
- ____ underscore for static

2) Write a program to calculate area of Rectangle by using getArea(int length,int width) method which is inherited from Shape and print the value by invoking that method from TestRectangle class. Draw class diagrams for Shape, Rectangle and TestRectangle.

3) Write a program to calculate area of Square by using getArea(int length) method which is inherited from Shape and print the value by invoking that method from TestSquare class. Draw class diagrams for Shape, Square and TestSquare.

Abstract class

4) Write a program to calculate the distance how much Kangaroo jumps by using jumping(double distance) method which is extended from Animal and print the value by invoking that method from TestKangaroo class. Draw class diagrams for Animal,Kangaroo and TestKangaroo.

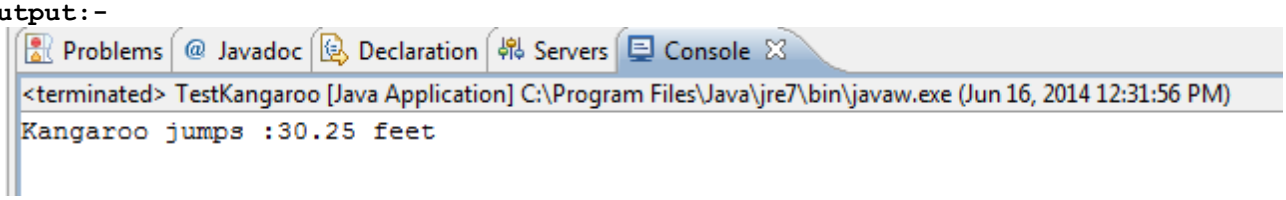


```java
public abstract class Animal {

    public abstract double jumping(double distance);

}
```

```java
public class Kangaroo extends Animal {

    public double jumping(double distance) {

        return distance;
    }

}
```

```java
public class TestKangaroo {

    public static void main(String[] args) {

        Animal animal = new Kangaroo();
        double distance = animal.jumping(30.25);
        System.out.println("Kangaroo jumps :" + distance + " feet");

    }

}
```

Output:-



5) Write a program to calculate the distance how much Tiger jumps by using jumping(double distance) method which is extended from Animal and print the value by invoking that method from TestTiger class. Draw class diagrams for Animal, Tiger and TestTiger .