

Test No. 2
Programming in Java, Summer 2022
12/07/2022

Q1. “Why would a programmer want to hide something”? Discuss the benefits of information hiding.

Consider the following implementation of a class Square:

```
public class Square {  
    private int sideLength;  
    private int area; // Not a good idea  
    public Square(int length){  
        sideLength = length;  
    }  
    public int getArea(){  
        area = sideLength * sideLength;  
        return area;  
    }  
}
```

Why is it not a good idea to introduce an instance variable for the area? Rewrite the class so that area is a local variable.

How do you get the first and last character of a string ? How do you remove the first and last character of a string?

Q2. Suppose you declare variables “meas” whose type is an interface “Measurable”, for example:

```
Measurable meas;
```

Is the below statement correct or not, give reasons?

```
Measurable meas = new Measurable();
```

When to use Abstract class in Java?

How do you access the parent class members from the subclass? How can you access the instance variable when the local variable and instance variables have the same name?

Q3. How can we handle exceptions at compile-time and run-time? Is a NullPointerException checked or unchecked, also justify your answer? Which exceptions do you need to declare with the throws keyword?

What type of exceptions can be caught by the following handler?

```
catch (Exception e) {  
    }  
}
```

What are the limitations of the above given exception handler?