

Worksheet: Final Review 3

1. Write a class named `SomeClass` according to the following specifications.
- two private integer fields: one named `a`, the other named `b`.
 - a constructor that takes in two integers and uses these to set `a` and `b`, respectively.
 - an accessor method, named `getA`, that returns the value stored in field `a`.
 - a mutator method, named `setB`, that can be used to set the value of `b`.
 - a method, named `getC`, that returns the sum of field `a` and field `b`.
 - has no other fields or methods other than those specified above.

- a) State why this statement will not compile: `SomeClass sc = new SomeClass();`

- b) Consider the following code segment.

```
SomeClass sc = new SomeClass(2,3);
sc.setB(4);
System.out.println(sc.getC() - sc.getA());
```

What is the output of the above code segment?

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2. Write a class named `SomeOtherClass` according to the following specifications.
- is a subclass of `SomeClass` that was written for the previous question.
 - contains a private field of type `double`.
 - has a constructor that takes in two `int` and a `double`, and uses these to set fields `a` and `b` of the superclass, and the local `double` variable, respectively.
 - an accessor method, named `getD`, that returns the value stored in field `d`.
 - has no other fields or methods other than those specified above.

- a) Consider the following code segment.

```
SomeClass soc = new SomeOtherClass(1, 2, 3.0);
System.out.println(soc.getD());
```

Explain the error in the code. Is the error a compile-time or run-time error?

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- b) The following method is added to `SomeClass` class.

```
public double getD() {
    return (double) a / b;
}
```

What is the output of the code segment in part (a) after the addition of the above method to `SomeClass`?