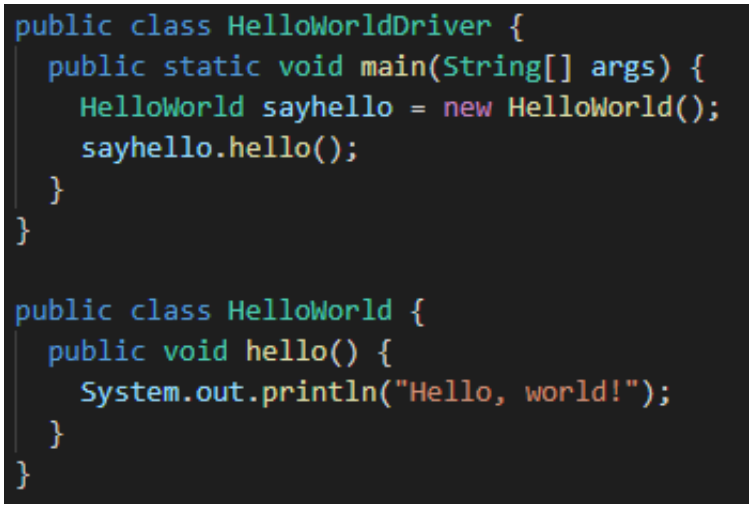
Week 8 Pre-reading quiz

Test your knowledge for Week 8!

Question 1 *Submitted Jun 10th 2022 at 11:41:51 am*

Which of the following is NOT true about driver classes?

Example:



```
public class HelloWorldDriver {
  public static void main(String[] args) {
    HelloWorld sayhello = new HelloWorld();
    sayhello.hello();
  }
}

public class HelloWorld {
  public void hello() {
    System.out.println("Hello, world!");
  }
}
```

- (●) The class name should end with the word Driver
- ( ) Objects of driver classes should not be instantiated and therefore driver classes should not contain instance variables
- ( ) They should usually contain at least one instantiation statement
- ( ) They should usually contain multiple method invocations
- ( ) They should be used for testing other thing/concept classes or for starting an application
- ( ) They should contain a main method
- ( ) If you think all of the above are true select this option

Question 2 *Submitted Jun 10th 2022 at 11:42:09 am*

What symbol is used to start and finish both a class's code and a method's code?

- ○ Square brackets: [ ]
- ◉ Curly braces: {}
- ○ Parenthesis: ()
- ○ Semi colon ;

Question 3 *Submitted Jun 10th 2022 at 11:42:16 am*

A class's setters are coded:

- ◉ In the class's code (block)
- ○ inside the getters
- ○ below the main method
- ○ must be in the header

Question 4 *Submitted Jun 10th 2022 at 11:42:45 am*

A class's Instance Variables are declared:

- ○ In the class's header
- ○ In the headers of the methods of the class
- ○ Outside of all of the class's code
- ◉ In a class's code but outside of all its methods

- ( ) In the code of the class's methods

Question 5 *Submitted Jun 10th 2022 at 11:43:29 am*

An instance variable is a storage location in memory that contains:

- ( ) The name of a data item of a class
- ( ) Part of the state of an instance of a class
- ( ) The current value of a class's data item
- ( ) The current value of a data item of an object of a class
- (•) More than one of the above is correct

Question 6 *Submitted Jun 10th 2022 at 11:44:13 am*

Given a class called Trains, which of the following is an incorrect header for a default constructor?

- ( ) Train()
- ( ) public Train()
- (•) public Train(int newNoCarriages)
- ( ) All of these answers are valid default constructors.

Question 7 *Submitted Jun 10th 2022 at 11:44:40 am*

Which of the following is not a convention when writing code in a class?

- ( ) Name for methods and variables start with a lower case letter, and every subsequent word's first letter is in upper case.

- [ ] All methods are organised alphabetically.
- [ ] There is exactly one empty line between methods.
- [ ] Class names must start with an upper case letter.
- [x] All of these answers are true.

Question 8 *Submitted Jun 10th 2022 at 11:47:06 am*

The following code has a few errors (syntax and convention). How many errors in total can you identify?

10

Question 9 *Submitted Jun 10th 2022 at 11:48:13 am*

You have been provided the following code, which has an error present in it. Identify and suggest how it can be fixed.

- **calculateFactors()** should be made static.
- **getMaxFactor()** should be made non-static.
- **maxFactors** should be made non-static.
- None of these answers are correct.

Question 10 *Submitted Jun 10th 2022 at 11:48:34 am*

Which of the following is false with respect to public static methods?

- They can be invoked by their class name.
- They can be invoked by any object instantiated from their class.

- [ ] They can be invoked by other static methods of their class.
- [ ] They can be invoked by other non-static methods of their class.
- [x] None of these answers are false.

Code Prac: Instance Variables #1

You have been provided with three classes. In each of the classes, define some instance variables that you believe are appropriate and define the characteristics of that class.

Please include appropriate visibility and data types of the instance variables.

Code Prac: Instance Variables #2

You have been given a class, which has a few methods defined in it. However, it is missing the instance variables. Can you identify and include them so the class can execute and provide an output?

Code Prac: Java Class #1

Create a class template for the following class:

You should be able to infer the data types required for each of the fields. Your code should include the following in the template:

- Fields.
- Default Constructor.
- Non-Default Constructor.
- Accessor Methods for each field.
- Mutator Methods for each field.
- A **display()** method that displays the value of the fields on the screen.
- A method called **showTime()**, which displays the time in the format hh:mm:ss.

The class header and the **main()** method have been already provided to you.

You must ensure that your code follows the conventions outlined in the previous lessons.

Code Prac: Java Class #2

Code a Java class named that defines a single class variable of type integer set to an arbitrary random number between 1 and 100. In the main method of the class, allow the user to guess two things: a number between 1 and 100 and, whether their guessed number is higher, lower or equal to the random number defined in the class variable. If the user guesses correctly, display a message saying they win. If they do not guess correctly, they lose.