

Computer Science G12

Term 2 Test 3 Wed. Jan. 24 2018

Name:

All questions have the same weight towards the final mark of this test.

Questions:

1. Suppose that `School` is the name of an object type. What is the meaning of the statement `var shs = new School()`? That is, what does the computer do when it executes that statement?
2. What is meant by the terms *instance variable* and *instance method*? Give an example of each.
3. In JavaScript we define a *constructor* in order to define a new object type, e.g., `function Voice(msg=""){ this.msg=msg}`. In other languages like C++ or Python that would be called *defining a class*. We could call it that as well in JS. Whence OOP languages are said to use *classes* and *objects*. Explain what you think is the distinction between these two terms and how are they related? How did we call all this during the course? What distinctions did we make?
4. What is a constructor in JS? What is its purpose?
5. What is in essence an object in JS? Give an example of an object in JS. Try to come up with one that is as simple as possible.
6. You need to write an as simple as possible, but complete object. The class represents a counter that counts 0,1,2,... The name of the constructor should be `Counter`. It should work as `var count = new Counter(); count.increment() ; count.getValue()` so that the last statement would return the value of *that particular* counter at that moment.
7. Design an object in JS to represent a bank account. Include the following properties: Name of depositor, type of account, account number and balance. In addition it should have methods for: assigning initial values, depositing an amount, withdrawing an amount *after* checking balance, displaying the name and balance.