

COMP 1409 Introduction to Software Development 1 Quiz #2 Sample Solution

1. What is the purpose of a constructor? (1 point)
To ensure that when objects are created, all instance variables get a valid starting state.
2. What is a parameter? (1 point)
A variable that allows input to methods / constructors.
3. What does the access modifier “private” do? (1 point)
Limits read/write access to that class only.
4. Typically, which access modifier is used for instance variables and which is used for constructors (1 point)?

Instance variables: private_____

Constructors: public_____

5. Below is the shell of a class called Book. The instance variables (fields) have been provided. Your task is to write two constructors for this class, and two methods. One constructor takes the title and number of pages as parameters, and assigns these to the instance variables. The other constructor is the default constructor. Write accessor methods for both fields. **(8 points)**

```
/** Book class */
public class Book
{
    private String title;
    private int numberOfPages;

    /** Constructor */
    public Book(String bookTitle, int bookPages)
    {
        title = bookTitle;
        numberOfPages = bookPages;
    }

    /** Constructor */
    public Book()
    {}

    /** Gets title */
    public String getTitle()
    {
        return title;
    }

    /** Gets number of pages */
    public int getNumberOfPages()
    {
        return numberOfPages;
    }

} // end Book class
```