

1. A class "Student" has fields for name, grade\_level, and gpa. Mr. Hays writes code to create a Student object bobby\_hays. Which of these statements is true (there may be one or more correct answers)?

Student class is an instance of bobby\_hays

bobby\_hays is an instance of Student class

an attribute of the bobby\_hays object is gpa

an attribute of the Student instance is grade\_level

2. Mr. Hays writes code to create a student object emma. Which of these statements is true?

gpa is an instance of emma

emma is an instance of three attributes

grade\_level is an attribute of the emma object

Student class has three attributes

emma is an instance of Student class

Student is an instance of the emma object

3. Given the following Book class, which of the following lines of code would compile in another class?

<pre>public class Book {     private String title;     private String author;     private int year;      public Book()     {         title = "Unknown";         author = "Unknown";         year = 0;     }      public Book(String t)     {         title = t;         author = "Unknown";         year = 0;     }      public Book(String t, String a, int y)     {         title = t;         author = a;         year = y;     } }</pre>	<p><u>Book a;</u></p> <p>a <u>Book b = new Book();</u></p> <p>Book c = new Book(2019); <i>no int-only constructors</i></p> <p>b <u>Book d = new Book("Hammer Time");</u></p> <p>Book e = new Book(1999, "A Deepness in the Sky", "Vinge"); <i>wrong order</i></p> <p><u>Book f = new Book("My Years At Analy", "Hays", 2025);</u></p> <p><u>Book g = new Book("", "Hays", 2020);</u></p>
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4. Which of the following would NOT be a possible new constructor that we might add to the Book class?

public Book(int Year, boolean best\_seller, String Title, String Author)

public Book(String Author)

public Book(String Author, String Title, int Year)

*why? already a single string constructor for title.*

*already a string string int sig.*

(Continued on back)

5. What is constructor overloading in one or more complete sentences?

when a class has more than one constructor with different signatures.

6. What do all constructors share with the class that they reside in?

the class name

7. What do we call the order and type of variables listed in a constructor header?

the signature

8. Circle the legal variable names shown in the following list:

2data    data2    data\_2    data-2  
my f    int    my%    myDog

9. Given the class shown below to the left, write a constructor for this class that accepts an int value and sets the brightness variable to that value with the light turned on (that is, sets poweredOn to true). After you have written your constructor please discuss your answer with a classmate who has also finished. Discuss if either of you should make changes.

```
class LED_Light
{
    private int brightness;
    private Boolean poweredOn;

    public String toString()
    {
        return "Light level: "+brightness;
    }
}
```

```
public LED_Light (int b)
{
    brightness = b;
    poweredOn = true;
}
```