



## Fall 2021 Java Lesson 5.3

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October 20, 2021



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### do now

be sure to: [Go to desk](#). Take out binder. Copy [goal](#) and read instructions below.

#### The plan

- Read through each problem carefully write answers to the prompts below:
  - A. Explain why the correct answer is correct (one sentence minimum).
  - B. Write down any questions you have.
- Then we'll go over as a group.

#### The framing

- what:** go over Unit assessment
- why:** In this unit, we learned about basics of Java classes. This will provide the groundwork for the rest of the course.
- where to:** Control structures tomorrow


class: AP CS A goal: Review for Unit 2 assessment



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new Car	long class	instantiation of Student objects	Student class	downwriting method	nameClass error	calc and printfraction methods	function1 and function2	cancel 0s and 0s	complete subbing	Calculate expression with left pew and abs
B	C	C	E	A	D	C	B	E	A	E
B	C	C	A	C	D	A	B	D	A	E
B	C	C	E	A	D	A	B	D	E	E
D	C	B	E	D	C	A	B	E	A	E
D	A	B	E	C	D	D	B	E	C	E

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A student has created a `Car` class. The class contains variables to represent the following:

- A `String` variable called `color` to represent the color of the car
- An `int` variable called `year` to represent the year the car was made
- A `String` variable called `make` to represent the manufacturer of the car
- A `String` variable called `model` to represent the model of the car

The object `vehicle` will be declared as type `Car`.

Which of the following descriptions is accurate?

☐ A
 An instance of the `vehicle` class is `Car`.
 0

☒ B
 An instance of the `Car` object is `vehicle`.
 2


☐ C
 An attribute of the `year` object is `int`.
 0

☒ D
 An attribute of the `vehicle` object is `color`.
 3

☐ E
 An attribute of the `Car` instance is `vehicle`.
 0

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This is actually tricky. Why is B not quite right?  
Car is a class, not an object.



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A student has created a `Song` class. The class contains the following variables:

- A `String` variable called `artist` to represent the artist name
- A `String` variable called `title` to represent the song title
- A `String` variable called `album` to represent the album title

The object `happyBirthday` will be declared as type `Song`.

Which of the following statements is true?

☐ A
 `artist`, `title`, and `album` are instances of the `Song` class.
 1

☐ B
 `happyBirthday` is an instance of three `String` objects.
 0


☒ C
 `happyBirthday` is an instance of the `Song` class.
 4

☐ D
 `Song` is an instance of the `happyBirthday` object.
 0

☐ E
 `Song` is an instance of three `String` objects.
 0

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Why is A not correct?



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Consider the following class declaration:

```

public class Student {
    private String myName;
    private int myAge;

    public Student() {
        // implementation not shown
    }

    public Student(String name, int age) {
        // implementation not shown
    }

    // No other constructors
}

```

Which of the following declarations will compile without error?

- `Student s = new Student();`
- `Student s = new Student("Adam", 10);`
- `Student s = new Student("Adam", "10");`

☐ A
 Only
 0

☐ B
 Only
 2

☒ C
 1 and 3 only
 3

☐ D
 1 and 0 only
 0

☐ E
 1, 3, and 0
 0

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Hdw describe the use of the student constructor here? It's overloaded, meaning that the same name is applied to two separate constructor methods.  
How does Java disambiguate? The parameters!



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Consider the following method.

```
public void doSomething()
{
    System.out.println("Something has been done");
}
```

Each of the following statements appears in a method in the same class as `doSomething`. Which of the following statements are valid uses of the method `doSomething`?

- I. `doSomething();`
- II. `String output = doSomething();`
- III. `System.out.println(doSomething());`

- ☒ A I only ✓ 2
- ☐ B II only 0
- ☐ C I and II only 2
- ☐ D I and III only 1
- ☐ E I, II, and III 0

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Consider the following class declaration.

```
public class GameClass
{
    private int numPlayers;
    private boolean gameOver;

    public Game()
    {
        numPlayers = 2;
        gameOver = false;
    }

    public void addPlayer()
    {
        numPlayers++;
    }

    public void endGame()
    {
        gameOver = true;
    }
}
```

Assume that the `GameClass` object `game` has been properly declared and initialized in a method in a class other than `GameClass`. Which of the following statements are valid?

- I. `game.numPlayers;`
- II. `game.addPlayer();`
- III. `game.endGame();`
- IV. `game.endGame();`

- ☐ A II only 0
- ☐ B I and II only 0
- ☐ C I and IV only 1
- ☒ D I and IV only ✓ 4
- ☐ E I, II, and IV only 0

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Consider the following methods, which appear in the same class.

```
public void slope(int x1, int y1, int x2, int y2)
{
    int xChange = x2 - x1;
    int yChange = y2 - y1;
    printFraction(xChange, yChange);
}
```

```
public void printFraction(int numerator, int denominator)
{
    System.out.println(numerator + "/" + denominator);
}
```

Assume that the method call `slope(1, 2, 5, 10)` appears in a method in the same class. What is printed as a result of the method call?

- ☒ A 6/4 ✓ 3
- ☐ B 5/1 0
- ☐ C 4/6 1
- ☐ D 2/1 1
- ☐ E 1/5 0

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Consider the following code segment.

```
String str = "0";  
str += str + 0 + 8;  
System.out.println(str);
```

What is printed as a result of executing the code segment?

- ☐ A 0 0
- ☐ B 00 0
- ☐ C 000 0
- ☒ D 0000 ✓ 2
- ☐ E Nothing is printed, because numerical values cannot be added to a String object. 3

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Consider the following code segment.

```
String str = "CompSci";  
System.out.println(str.substring(0, 3));  
int num = str.length();
```

What is the value of num when the code segment is executed?

- ☐ A 3 3
- ☐ B 4 0
- ☐ C 5 1
- ☐ D 6 0
- ☒ E 7 ✓ 1

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## reflection

- What's one thing you understand better after today's lesson?
- What is one question you still have?
- How prepared do you feel for the retake? What's one thing you can do?

Class: Python Goal: Assessment #1 review