



Computer Science Virtual Learning

HS Computer Science A

April 7th, 2020



Lesson: **First Example Classes**

Objective/Learning Target:

1. Identify the structure of a class in java programming language
2. Understand the items that go in to making a class in java programming language



Bell Ringer Activity

1. Answer the following questions based on what you've learned about java so far this year:
 - a. Classes create objects and the objects do the actual work in an object-oriented program. If we are using a cookie cutter to make cookies, which (cookie cutter and cookie) is considered the object and which is the class?
 - i. Cookie cutter = _____
 - ii. Cookies = _____



Activity

To define a class in Java use the keywords (words that Java already understands) `public class` followed by a `ClassName`. Then the body of the class is enclosed in a starting `{` and ending `}` as shown.

```
public class ClassName
```

```
{
```

```
}
```

****Note****

In Java, every open curly brace “{” must have a matched closed curly brace “}”. These are used to start and end class definitions and method definitions



Activity

The following is an example class in Java. A class in Java can have **fields** (data or properties), **constructors** (ways to initialize the fields), **methods** (behaviors), and a **main method** for testing the class. It does not have to have *any* of these items. The following would compile, but what do you think would happen if you tried to have a computer execute it?

```
public class FirstClass  
{  
}
```

The class FirstClass doesn't have anything inside of it, so the computer wouldn't know what to do if we asked it to execute the class.

When you ask the Java run-time to run a class (java ClassName) it will start execution in the main method.



Activity

Go to:

<https://runestone.academy/runestone/books/published/apcsareview/JavaBasics/firstClass.html>

Scroll down on the website to find the code on the next slide and click on the **Run** button to have the computer execute the main method (starts with `public static void main(String[] args)`) in the following class. You can also click on the **Audio Tour** button to listen to a line by line description of the code.



Activity

```
public class SecondClass
{
    public static void main(String[] args)
    {
        System.out.println("Hi there!");
    }
}
```

**Note

System.out.println is just the way that you ask Java to print out the value of something. In the case above we are just printing the characters between the first " and the second ". The "Hi there!" is called a string literal. A string literal is zero to many characters enclosed in starting and ending double quotes in Java.

Try to change the code above on the website to print your name. Be sure to keep the starting " and ending ". Click on the Run button to run the modified code.



Check Your Understanding

The following has all the correct code to print out "Hi my friend!" when the code is run, but the code is mixed up. Place a letter in alphabetical order (starting with "a") next to the the line of code that would be first in the program. Continue this by placing the letter "b" next to the line of code that would go 2nd in the program. The first one has been completed for you

```
___ 1|         System.out.println("Hi my friend!");  
___ 2|     }  
___ 3|     public static void main(String[] args)  
        {  
_a_ 4| public class ThirdClass  
        {  
___ 5| }
```

***Click the below link and scroll to the bottom to check your answers:

<https://runestone.academy/runestone/books/published/apcsareview/JavaBasics/firstClass.html>



For More Resources and to Check Answers

Go to: <https://runestone.academy/runestone/books/published/apcsareview/JavaBasics/firstClass.html>