



Computer Science Virtual Learning

HS Computer Science A

April 8th, 2020



Lesson: **Compile Errors**

Objective/Learning Target:

1. Students will be introduced to the idea of debugging.
2. Students will be able to identify error messages and understand how to fix those errors.



Bell Ringer Activity

1. Look at the code listed below. Which line contains the error?

a. `Public static void main()`

`{`

b. `Public static void main(String[] args)`

`{`

2. Look at the code listed below. Which line contains the error?

a. `System.out.println("Hi there!");`

b. `System.out.println("Hi there!")`

3. Look at the code listed below. Which line contains the error?

a. `Public class FourthClass`

`{`

b. `Public Class FourthClass`

`{`



Activity

Remember that the Java source file has to be translated into a class file before it can be run. The compiler tries to make sense of your code, but if your code is incorrect, which means it has syntax errors, you will see error messages displayed below the code. A syntax error is an error in the specification of the program. An example of a syntax error is if the code has a open curly brace {, but no close curly brace }.

The error messages will tell the line number that the compiler found the error and the type of error. The error messages are not always easy to understand and sometimes the actual error is before the line that the compiler says is the problem. This section has code that causes compiler errors to show you the types of error messages you might see and help you learn how to fix the errors.



Activity

Click the link below:

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

Click on the **Run** button below to try and run the following code. Look for an error message after the code. This is called a compile time error because it is an error detected by the compiler.



Activity

What is wrong? Can you fix it? The error message will tell you the line number that it thinks is causing the error (SecondClass.java:5: error: unclosed string literal). Check line 5 to make sure that everything looks correct. One good thing to check is that all { have a matching } and all (have a matching) and all starting " have a ending " as well.

Notice that the compiler claims that there are 3 errors, but all the errors are caused by the same problem (the missing end "). Fix the code and run it again.

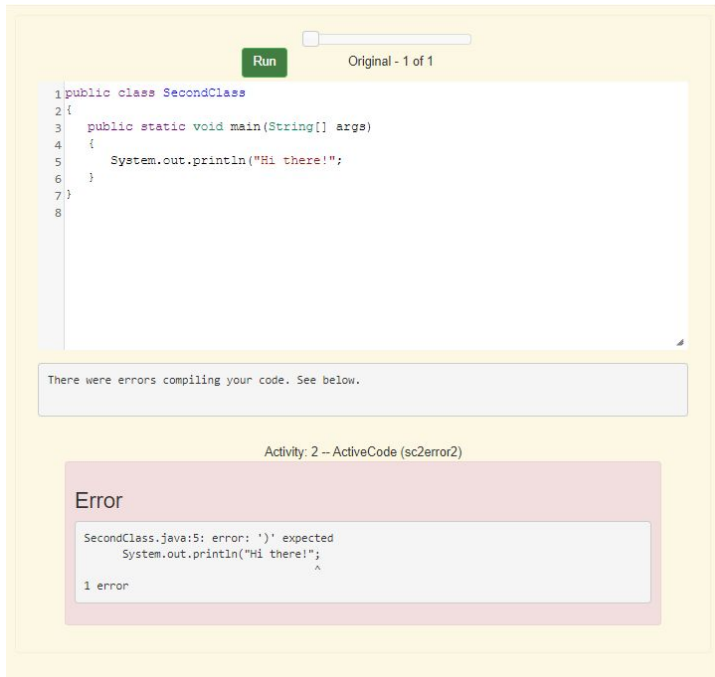
A screenshot of a Java IDE interface. At the top, there is a green "Run" button and a progress indicator showing "Original - 1 of 1". Below this is a code editor with the following Java code:

```
1 public class SecondClass
2 {
3     public static void main(String[] args)
4     {
5         System.out.println("Hi there!);
6     }
7 }
8
```

The code has a missing closing quote on line 5. Below the code editor is a message box that says "There were errors compiling your code. See below." At the bottom of the IDE, there is a section titled "Activity: 1 - ActiveCode (sc2error1)" which contains an "Error" window. The error window lists three errors:

```
SecondClass.java:5: error: unclosed string literal
    System.out.println("Hi there!);
                        ^
SecondClass.java:5: error: ';' expected
    System.out.println("Hi there!);
                        ^
SecondClass.java:7: error: reached end of file while parsing
    }
    ^
3 errors
```

Check Your Understanding

A screenshot of a code editor interface. At the top, there is a green "Run" button and a slider set to "Original - 1 of 1". Below the button is a code editor with the following Java code:

```
1 public class SecondClass
2 {
3     public static void main(String[] args)
4     {
5         System.out.println("Hi there!");
6     }
7 }
8
```

Below the code editor is a message box that says "There were errors compiling your code. See below." At the bottom of the screenshot, there is a red box titled "Error" containing the following text:

```
Activity: 2 -- ActiveCode (sc2error2)

Error

SecondClass.java:5: error: ')' expected
    System.out.println("Hi there!");
                        ^
1 error
```

On the same page, scroll to Compile Time Error 2 and Click on the **Run** button to try and run the following code. Look for an error message after the code.

What is wrong this time?

Can you fix it? One good thing to check is that all { have a matching } and all (have a matching) and all starting " have a ending " as well.



Check Your Understanding

On the same page, scroll down to Compile Time Error 3. Click on the **Run** button to try and run the following code. Look for an error message after the code.

Explain what is wrong this time?

Explain how you fix it? One good thing to check is that all { have a matching } and all (have a matching) and all starting " have a ending " as well.

A screenshot of a code editor interface. At the top right, there is a green "Run" button and a slider control labeled "Original - 1 of 1". The code editor contains the following Java code:

```
1 public class SecondClass
2 {
3     public static void main(String[] args)
4     {
5         System.out.println("Hi there!")
6     }
7 }
8
```

Below the code editor, a light gray box contains the text: "There were errors compiling your code. See below." Below that, a pink box titled "Error" contains the following text:

```
SecondClass.java:5: error: ';' expected
    System.out.println("Hi there!")
                        ^
1 error
```




For More Resources and to Check Answers

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