CodeHS

Hour of Code: Teacher Guide

Before the Hour of Code:

- Make sure student computers have an up-to-date browser (Chrome, Safari, or Firefox).
- Read through teacher notes in this document. Download notes to have exercise solutions ready.

During the Hour of Code:

1. Direct students to **codehs.com/hoc_java**
2. Allow students to work through Hour of Code at their own pace, providing encouragement and support when needed. See tips below for handling student questions.
3. Tweet pictures or stories at @CodeHS #ReadWriteCode #HourOfCode!
4. If time allows at the end of the period, facilitate a discussion around the Hour of Code using the following guiding questions:
   - Before today, what did you think about programming or coding?
   - Did any of these ideas change during the Hour of Code?
   - What was your favorite part of the Hour of Code?
   - Did any parts of the Hour of Code challenge you? How?

Hour of Code Tips:

If students get stuck or have questions, it is okay if you don't have the answer! Ask questions to activate their problem-solving skills such as:

- What can we try differently?
- What do you want the program to do? What are you telling the program to do?
- How can we break this problem into smaller steps?

Thank you for your dedication to Computer Science Education!

Interested in going beyond the Hour of Code?
Reach out to us at hello@codehs.com.

Coding in Java Teacher Notes

Learn the basics of the Java programming language. This hour will cover printing, variables, types, and getting information from users. Write a program that takes in and stores data from a user and returns a unique response!

Objective

Students will be able to …

- Explain what a program is
- Identify variable types
- Use Java to print data to the screen

Link to Activity: codehs.com/hoc_java

Standards:

Discussion Questions

- What is a program?
- Why do we use programs?
- What are some programs you use on a daily basis?
- Why is data important? Where do you see data used in your favorite programs?
- What does Java do? What can you use it for?
- How do you think programs will change in the future?

Exercise Solutions

Welcome Program	
Description	In this program, you should introduce yourself. Print out two lines to the screen using the `System.out.println()` method. In the first line write your name and in the second line write one fun fact about yourself.
Motivation	Students are introduced to their first Java program and printing data to the screen

Solution	`public class Welcome extends ConsoleProgram`
	`{`

<table>
<tr><td></td><td>

```
    public void run()

    {

        System.out.println("My name is Karel.");

        System.out.println("I like tennis balls.");

    }

}
```

</td></tr>
<tr><td><b>Note</b></td><td>Students should not change the code already in the starter code section. The top lines of code are very important to ensure the code runs correctly</td></tr>
</table>

<table>
<tr><th colspan="2">ASCII Art</th></tr>
<tr><td><b>Description</b></td><td>

In this program you will draw some ASCII art using `System.out.println()`.

Write a program that outputs exactly this drawing.

```
   /)____
  /    O|____
 /         )
/      )____/
```

</td></tr>
<tr><td><b>Motivation</b></td><td>Students will get to be creative with printing in Java</td></tr>
<tr><td><b>Solution</b></td><td>

```
public class Art extends ConsoleProgram{



    public void run()

    {

        System.out.println("   /)___");

        System.out.println("  /     O|___");

        System.out.println(" /           )");
```

</td></tr>
</table>

	`        System.out.println("/       )___/");`
	`    }`
	`}`

Note	Students should be careful with spacing when printing the characters. The solution will check for the exact same output

Our First Integer	
Description	Write a program that declares an int named `year` and set it equal to the current year. Then print it out.
Motivation	Students add different variable types to print a new string!

Solution	`public class Variables extends ConsoleProgram`
	`{`
	`    public void run()`
	`    {`
	`        int year = 2016;`
	`        System.out.println("The current year is " + year);`
	`    }`
	`}`

Note	Variables must be declared in Java,in this case, students must declare the variable as a `int` (integer) When students add the year variable to their string, they do NOT need quotes around it, as shown in the solution

Coding in Java Teacher Notes

<table>
<tr><th colspan="2">About You</th></tr>
<tr><td><b>Description</b></td><td>Write a program that takes in user input to ask the following questions:

"What is your favorite food?"
"What is your favorite color?"
"What is your favorite movie?"

After asking these three questions, print out the answers on their own lines.</td></tr>
<tr><td><b>Motivation</b></td><td>Students can grab data from a user and print that data in separate strings! User interaction is important in program design.</td></tr>
<tr><td><b>Solution</b></td><td>

```
public class AboutYou extends ConsoleProgram
{
    public void run()
    {
        String favFood = readLine("What is your favorite food? ");
        String favColor = readLine("What is your favorite color? ");
        String favMovie = readLine("What is your favorite movie? ");

        System.out.println(favFood);
        System.out.println(favColor);
        System.out.println(favMovie);
    }
}
```

</td></tr>
<tr><td><b>Note</b></td><td>Again, students must declare the variable type, in this case as a String

Students should print each variable to a new line</td></tr>
</table>

Coding in Java Teacher Notes

Mad Libs	
Description	Write a program that builds a Mad Libs in Java! The starter code has been written to take in two nouns and two verbs. Add code that prints all the variables to create a unique and funny mad lib.
Motivation	Students can get creative in writing their mad libs and can add their personality to what their program prints
Solution	`Solutions vary`
Note	Encourage students to get creative with the mad libs they print Students are free to declare more variables to add more parts of speed: String adjective1 = readLine(“Enter an adjective: “); String adverb1 = readLine(“Enter an adverb: “); etc.