Internship Challenge

Welcome to the technical challenge for the Internship for Software Engineer. Feel free to use all available resources online, but do your own code and don’t share anything with other candidates.

Quiz section

💡 To answer this section, send us a pdf with the answers to the questions.

1. (SQL) If you need to select an employee’s last name from a table, but you only remember that the employee’s last name starts with the letter F, which string pattern can you use?

A.

```
SELECT lastname FROM author WHERE lastname LIKE 'F#'
```

B.

```
SELECT lastname FROM author WHERE lastname LIKE 'F%'
```

C.

```
SELECT lastname FROM author WHERE lastname LIKE 'F$'
```

D.

```
SELECT lastname FROM author WHERE lastname LIKE 'F*'
```

2. Given the following code lines, select the correct answer:

```
int a = 1;
String b = "1"
```

A. The variable **a** is a **value-type** variable and variable **b** is a **reference-type** variable.

B. The variable **a** is a **reference-type** variable and variable **b** is a **value-type** variable.

C. Both variables are **value-type** variables**.**

D. Both variables are **reference-type** variables**.**

3. Given the following code, select the correct answer:

```
for (var i = 0; i < 10; i++)
{
    if(i % 3 == 0)
      console.log(i);
}
```

A. 3 6 9

B. 2 4 6 8

C. 0 3 6 9

D. 0 2 4 6 8

4. Given the following code, select the correct answer:

```
var x = 2;
var y = "2";

(x == y)
(x === y)
```

A. true, true

B. false, true

C. false, false

D. true, false

Code section

> 💡 Use the language you are used to, make sure the code will run on other computers and attach the files/solution in the e-mail with your answers from the quiz section.

1. Given a list with Employee Name, Salary, and length of service. Print the name of all employees with more than 3 years in the company with a salary below the average.

[[“Bruno”, 1700.00, 3], [“Leonardo”, 1400.23, 1], [“Juan”, 1561.12, 2], [“Juliana”, 1660.07, 3], [“Wagner”, 1841.92, 5], [“Micaela”, 2000.00, 1], [“Bento”, 1750.87, 4], [“Lucia”, 1600.55, 1], [“Pedro”, 1690.00, 4], [“Carla”, 1580.00, 6]]

2. Given the X variable with a value of 10 and the Y variable with a value of 20, using only variable assignment, invert the values of the X and Y variables and print the result.

3. Create the following class and methods:

1. The class should have at least two properties (with respective setters/getters):
    a. Weight
    b. Height
2. The class should have two methods:
    a. A method to calculate the BMI and return the value.
    b. A method that receives the BMI and returns the Classification and Obesity.

Print the value of BMI, Classification, and Obesity degree (if applicable).

BMI (body mass index)	Classification	Obesity
Less than 18.5	Thinness	
Between 18.5 and 24.9	Normal	
Between 25.0 and 29.9	Overweight	
Between 30.0 and 34.9	Obesity	I
Between 35.0 and 39.9	Obesity	II
Greater than 40.0	Obesity	III

The BMI formula is weight in kilograms divided by the square of height in meters.

Example:
weight = 65 kg, height = 1,72 m
BMI: 65 ÷ (1,72×1,72) = 22