

CSCI 1301 – Quiz

1 Question 1

For each of the following boolean expressions, decide if it will evaluate to `true` or `false`:

1. `true || 3 != 4`
2. `4 >= 4 && ! false`
3. `('c' == 'd') && true`
4. `(true && 4 >= 3) == false`

This problem is left as an exercise. If you want to check your answers, you can use e.g

```
Console.WriteLine(true || 3 != 4);
```

2 Question 2

2.1 Section A

Write an if-else statement that displays “It’s free for you!” if an int variable `age` is between 0 and 18.

```
if (age >= 0 && age <= 18) Console.WriteLine("It's free for you!");
```

2.2 Section B

Assuming a name string was declared and initialized with a value given by the user, write an if statement that displays “I have the same name!” if name contains your first name.

```
if (name == "Clément") Console.WriteLine("We have the same name!");
```

3 Question 3

3.1 Section A

Assume initialized an int variables called `graduationYear` and a string variable called `graduationSemester`. Write a series of statements that would display “I will graduate at the same time!” if `graduationYear` is 2023 and `graduationSemester` is Fall, “I love this season.” if `graduationSemester` is Winter, “That’s in a long time!” if `graduationYear` is greater than 2025, and “I hope you’ll have in person ceremony!” otherwise. Your program should display exactly one message.

```
if(graduationYear == 2023 && graduationSemester == "Fall"){
    Console.WriteLine("I will graduate at the same time!");
}
else if (graduationSemester == "Winter"){
    Console.WriteLine("I love this season!");
}
else if (graduationYear > 2025){
    Console.WriteLine("That's in a long time!");
}
else{
    Console.WriteLine("I hope you'll have in person ceremony!");
}
```

3.2 Section B

Assume initialized an int variables called `courseNumber` and a string variable called `courseCode`. Write a series of statements that would display “I’m taking this class!” if `courseNumber` is 1301 and `courseCode` is CSCI, “That’s my major!” if `courseCode` is CSCI, “Is that an elective?” if `courseCode` is greater than 3000, and “Is it a good class?” otherwise. Your program should display exactly one message.

You can take inspiration from the answer posted for Section A to figure this one out.

4 Question 4

Give an example of an `if` statement that could not be rewritten as a `switch`.

Basically anything using an operator that is not `==` could work. For instance,

```
if (temperature > 10){...}
```

Or anything involving multiple variables could work too (even if it could be mimicked by nested `switch` in some cases):

```
if (age > 18 && usCit){...}
```

```
if (age == legalLimit){...}
```