**First Walkthrough of the Semester - Solving FizzBuzz**

**What is FizzBuzz and why is the club named after it?**

The "Fizz-Buzz test" is an interview question designed to help filter out the 99.5% of programming job candidates who can't seem to program their way out of a wet paper bag. The text of the programming assignment is as follows:

*"Write a program that prints the numbers from 1 to 100. But for multiples of three print “Fizz” instead of the number and for the multiples of five print “Buzz”. For numbers which are multiples of both three and five print “FizzBuzz”."*

It’s the most famous interview problem, and it’s the most basic programming check employers do. It just makes sure that the candidate knows very basic programming, so the employers time isn’t wasted.

So I think it’s a fitting name for a CS interview prep club.

**Intro**

* If people are confused and lost on how to even start, walk through solving it with them, and ignore the naive approach
* If you ask how to solve it and people seem comfortable, write the naive approach and ask them what they think of it.

**Naive Approach:**

public static void fizzBuzz(int number) {  
 if (number % 3 == 0) {  
 if (number % 5 == 0) {  
 System.out.println("fizzbuzz");  
 } else {  
 return "fizz";  
 }  
 } else if (number % 5 == 0) {  
 System.out.println("buzz");  
 }  
 else {

System.out.println(String.valueOf(number));

}  
 }

**What's wrong with this?**

One important principle in programming is DRY - “Don’t Repeat Yourself”. We should aspire to write clean, readable code. With this code, we see that (number % 5 == 0) is repeated twice. In CS111, you should just worry about solving the problem. However, starting to pay attention to the cleanliness of your code, and design decisions, is only going to help you become a better programmer!

**A Better Version:**

public static void fizzBuzz2(int number) {  
  
 if (number % 15 == 0) {  
 System.out.println("fizzbuzz");  
 } else if (number % 5 == 0) {  
 System.out.println("buzz");  
 } else if (number % 3 == 0) {  
 System.out.println("fizz");  
 }  
 System.out.println(String.valueOf(number));  
 }

Fizzbuzz can be done in many ways, so it’s a good programming test

Later on, you’ll learn about switch statements, which can be used to make this code even cleaner.

A variation of this problem was even on the 1st midterm for the 2018 summer session of CS111.

If you want to get better at similar problems, check out: <https://codingbat.com/java>

**Optional (If they learned string concatenation):**

public static void fizzBuzz3(int number) {  
 String result = “”;  
 if (number % 3 == 0) {  
 result += “fizz”;  
 if (number % 5 == 0) {  
 result += “buzz”;

}

if (result.equals(“”)) {  
 System.out.println(String.valueOf(number));

}  
 }