CS 2100: Data Structures & Algorithms 1

Live Coding: Fizz-Buzz

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Friendly Reminders

- Masks are **required** at all times during class (University Policy)

- If you forget your mask (or mask is lost/broken), I have a few available
  - Just come up to me at the start of class and ask!

- No eating or drinking in the classroom, please

- Our lectures will be **recorded** (see Collab) – please allow 24-48 hrs to post

- If you feel **unwell**, or think you are, please stay home
  - *We will work with you!*
  - At home: eye mask instead! Get some rest ☺

A Java Example: Fizz-Buzz

- Let's put all of this together in one program
  - Topics from the previous classes

- **Challenge:** FIZZ-BUZZ is a common interview question. Write a Java program that plays Fizz-Buzz perfectly.

- **Fizz-Buzz:** Count up from 1 to 1000. Print out each number but:
  - If the number is divisible by 3, print "Fizz" instead of the number
  - If the number is divisible by 5, print "Buzz" instead of the number
  - If both, print "Fizz Buzz"

Let's Code It!!

- Let's jump onto **Eclipse** and start writing this program together!

Solution to Fizz-Buzz challenge (well commented)

```java
public class FizzBuzz {
  public static void main(String[] args) {
    // Iterate 1000 times, starting at 1, and going up to 1000. Go in increments of 1.
    for(int i=1; i<=1000; i++) {
      if(i % 3 == 0) // if the current number is divisible by 3, print "Fizz"
          System.out.print("Fizz ");
      if(i % 5 == 0) // if the current number is divisible by 5, print "Buzz"
          System.out.print("Buzz ");
      // if the current number is NOT divisible by both 3 and 5...
      if(i % 3 != 0 && i % 5 != 0)
          System.out.print(i); // ... print the number

      System.out.print("\n"); //print a new line
    } // END for loop
  } // END main
} // END class
```

Solution to Fizz-Buzz challenge (just code)

```java
public class FizzBuzz {
  public static void main(String[] args) {

    for(int i=1; i<=1000; i++) {
      if(i % 3 == 0)
          System.out.print("Fizz ");
      if(i % 5 == 0)
          System.out.print("Buzz ");
      if(i % 3 != 0 && i % 5 != 0)
          System.out.print(i);

    System.out.print("\n");
    }
  }
}
```

Python vs. Java

- Let's look at a small example converting some Python code into Java

Be an <u>Active</u> Participant in Your Learning!
Be Curious!
Ask Questions!