Announcements

- Still missing signed Honor Code from several people
Questions?

- Yesterday:
  - Strings
  - Console I/O
  - Documentation & Style
- Lab 1
Today in COMP 110

- Exercise
  - Review of Chapters 1 & 2

- Lecture
  - Basic UI & Branching Statements

- Lab 2
  - String Manipulation
In-Class Exercise

```
boolean weekday;
int time;
int [] brain;
// Let the wake-up begin!
for (int i = 1; i <= numBrainCells; i++) {
    turnOn(brain[i]);
    system.out.println("Yawn");
}
getCurTime(time);
isItaWorkday(weekday);
void smile() {
    int [] usualDisArray;
    System.out.println("Honeys where are you?" deception.
```

SON, ALL I WANTED WAS A CUP OF COFFEE TO START MY DAY.

THEN WHY'D YOU ASK FOR JAVA?
In-Class Exercise

- Solve the problems on the provided worksheet
- You may use the book and lecture notes
- Work alone
Software & Hardware

Q1:
- 8 bits per byte
- 2 Possible Values: 0 or 1

Q2:
- The Central Processing Unit (CPU) is the brain of the computer
- It is a piece of hardware
Q3: Printing a line of text

```java
System.out.println("Comp 110 is my favorite class");
```
Declaration

Q4: Declare two variables of specific types and values

- `int miles = 0;`
- `double time = 40.5;`
Q5: How to read an integer from the keyboard

Code for a Method
- Scanner keyboard = new Scanner(System.in);
  int myInt = keyboard.nextInt();

Import Statement
- import java.util.*;
Division

Q6: double myDouble = (1 / 2) * 5.0;
   - myDouble is 0.0
   - Why? Integer division: 1/2 = 0

Q7: double myDouble = (1.0/2.0) * 5.0;
   - myDouble is 2.5
Variable Names (Q8)

Legal Identifiers
- myInt
- __input
- magicalFluffyBunnies

Illegal Identifiers
- 3blindMice
  - Starts with a number
- $money!
  - Contains illegal symbols
- total-cost
  - Contains illegal symbol
- 123
  - Starts with a number
- public
  - Is a keyword
```java
char a, b;
a = 'b';
System.out.println(a);
b = 'c';
System.out.print(b);
a = b;
System.out.println(a);
```

**Output**

```
b  
cC
```
Method Invokation

Q10:

- Identifier: mary
- Class: Person
- Method: increaseAge
  - One argument of type int

Invokation:

```
mary.increaseAge(5);
```
Modulus Arithmetic

Q11:

- $5 \% 2$ is 1
- $12 \% 4$ is 0
- $82 \% 60$ is 22
- $24 \% 14$ is 10
Q12: What is the value of myInt

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Error

Q13: byte myByte = 5

- Contains a compiler error
- Fix it by adding a semicolon to the end
  - byte myByte = 5;
Code Execution (Q14)

Code

```c
int n, m, temp;
n = 10;
m = 20;
temp = n;
n = m;
m = temp;
```

Result

- n is 20
- m is 10
- Performed a swap operation
public class TestProgram
{
    public static void main(String[] args)
    {
        String myString = "This is a string";
        int len = myString.length();
        System.out.println("The length is " + len);
        String shortString = myString.substring(10);
    }
}
public class TestProgram
{
    public static void main(String[] args)
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        String myString = "This is a string";
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        System.out.println("The length is " + len);
        String shortString = myString.substring(10);
    }
}
Pseudocode (Q16)

- Compute Factorial
  1. Prompt the user for an integer value
  2. Declare integer total, initially 1
  3. While value is strictly greater than 0
     1. total *= value
     2. Decrement value by 1
  4. Display total
Questions?
Logistics

- Next:
  - Branching Statements

- Later:
  - Lab 2: String Manipulation