CS111 Introduction to Computer Science
Recitation 4

Exercise 1: Find the Bug(s)

Warmup:

Declaration/Assignment	*Boolean expressions*

int x = 5
double = a;
char 'f' = g;
boolean b = "true";
	if (boolean == true) …
	if (var = true) …
	if (boolean == "false") …
	if (var == 5 & x = 3) …

Write your own code:
 	
Break into groups or partners and write code to solve one of the following problems, then introduce a bug or two (either intentionally or unintentionally). Switch code and debug the other team's code.
 	
a. Simple calculator – ask user if (s)he wishes to add or subtract 2 numbers, ask for 2 numbers, then do the appropriate operation, and output the answer
b. Odd or Even – ask the user for a number. Determine if said number is odd or even. Output the result.
	Subroutine Usage
	
	double z = math.sqrt(math.pi) ;
	IO.readDouble(19) ;
	IO.readBoolean() ;
	char q = Math.pow();
	int double = IO.readBoolean();

Exercise 2: Fizz Buzz

Write a program that takes in an integer from the user. You should do of the following:
a.) If the number is divisable by 3 or ends with a 3, print "Fizz"
b.) If the number is divisable by 5 or ends with a 5, print "Buzz"
c.) If a and b are true, print "FizzBuzz"
d.) If none of these conditions are true, print out the original number.

Exercise 3: Guess My Number game

a) Here are the rules for a two-team game called Guess My Number:

- The two teams agree on a range of numbers (for example, 1 to 100, or 1 to 1 million). Both teams secretly pick a number in the range. While Team B looks away, Team A enters their number into the computer, and vice versa.
- The two teams agree on the number of guesses that will be allowed. Then they take turns trying to guess the other's number. After each guess, the computer tells the guessing team whether the target number is "higher" or "lower" than their guess.
- The first team to correctly guess the other's number wins. If neither team can guess the other's number correctly within the specified maximum number of guesses, the game is declared a draw.

Your peer leader will divide you into two groups. Each group should try to write a Java program that implements this game. Once you have written it, test your program by using it to play the game. The first team to finish coding gets to go first in the first testing game.

b) Modify your program so that instead of saying "higher" or "lower" in response to a guess, it says "warmer" or "colder". "Warmer" means your team's current guess is closer to the target than your last guess. "Colder" means the opposite. On the first guess, it is not possible to say "warmer" or "colder" so the program should still say "higher" or "lower". Test your program again.