

CS1 - Exercise 2

1. Assign a variable `x` the value 0. Within a while loop, increment `x` by 1 for each iteration of the loop. Have the loop terminate once `x` has:

- Been an even number two times
- AND
- Been an odd number three times

2. Write a function that prints out every integer between inputs `a` and `b`. If `a` is greater than `b`, or if `a` and `b` are equal, print "bad input" and exit the function. To get full credit, use a for-loop, NOT a while-loop.

3. Write a function that takes in a string and prints out every letter in that string. [Hint: remember that strings share certain qualities with lists. How do you index into a list?]

4. Write a function that takes in a string and outputs the same string but with all the vowels capitalized.

5. Which of the following if statements will cause you to lose a point on the exam?

```
happy = True
if happy == True:
    print("don't write boolean conditions like this")
if happy:
    print("do write boolean conditions like this")
```

6. Evaluate the following code:

```
a = True  
b = False  
c = False  
d = True
```

```
print(a and b)  
print(a or b or c)  
print(c or d and b or c)  
print(b or c or a)
```

7. Write a function that detects whether an integer is even or odd. [Hint: %]

8. Write a function that takes in an array full of 1's and 0's (e.g. [0, 1, 1, 0, 0, 1] and outputs an array with all the 1's and 0's flipped. If any of the elements in the array are not a 1 or a 0, print "bad input" to the console and exit the function.