

## CMP167 – Quiz #02

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Name: \_\_\_\_\_

Results: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

The first four questions are multiple choice and are worth 10 points each. Circle the letter of the most appropriate answer choice. Problem 5 is short answer and worth 10 points. Problem 6 requires you modify code. It is worth 50 points.

1. An algorithm is like a:
  - a. newspaper
  - b. venus flytrap
  - c. drum
  - d. recipe**
2. Which of the following is not a legal identifier:
  - a. spam
  - b. spAm
  - c. 2spam**
  - d. spam4u
3. In a mixed-type expression involving ints and floats, Python will convert:
  - a. floats to ints
  - b. ints to strings
  - c. floats and ints to strings
  - d. ints to floats**
4. The process used to compute factorial
  - a. accumulator**
  - b. input, process, output
  - c. counted loop
  - d. plaid
5. What is the difference between a class and an object?

**An object is an instance of a class. A class is akin to a recipe or blueprint of a class.**

6. Find all the bugs in the following program that finds the sums of all the squares of the natural numbers up until an n value (inclusive) input by the user:

For example, the output from n=4 should be 30 (1+4+9+16)

```
eval(input("Please enter a value for n"))
sum = 1
for i in range(n):
    sum += i**3
print(n)
```

Extra Credit: Write a program to find the nth number in the sequence defined by the following recurrence relation:

$$F[0] = F[1] = F[2] = 1$$

$$F[n] = 3 * F[n - 1] - F[n - 3]$$

Use the back of this page to write your answer.