

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.

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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)
```

```
n = eval(input("Please enter a value for n"))
sum = 0
for i in range(n+1)
    sum += i**2
print(sum)
```

Extra Credit: Write a program to find the n th 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.

```
a = b = c = 1
n = eval(input())
for i in range(n+1):
    a, b, c = 3*a-c, a, b
print(a)
```