

# COP 2535: Data Structures

## Quiz 04

### Instructions

Answer the following questions in writing. These are short answer questions. Upload your answers in Canvas as plain text. Please include your name in the text.

1. How many times will each of the following execute?

(a)

```
int count = 1;
while (count < 5)
{
    cout << "This is day " << count << endl;
    count += 1;
}
```

(b)

```
int count = 10;
while (count < 5)
{
    cout << "This is day " << count << endl;
    count += 1;
}
```

(c)

```
int count = 1;
while (count > 5)
{
    cout << "This is day " << count << endl;
    count += 1;
}
```

(d)

```
int count = 1;
while (count < 5)
{
    cout << "This is day " << count << endl;
    count -= 1;
}
```

2. What will each of the following display?

(a)

```
x = 2;
y = x++;
cout << "x: " << x << " y: " << y << endl;
```

(b)

```
x = 2;
y = ++x;
cout << "x: " << x << " y: " << y << endl;
```

(c)

```
x = 2;
y = 4;
cout << "x: " << x++ << " y: " << --y << endl;
```

(d)

```
x = 2;
y = 4;
cout << "x: " << ++x << " y: " << y-- << endl;
```

3. What is a counter? What is an accumulator? What is a sentinel?
4. What are the three components of a `for()` loop? What does each do?
5. What is the difference between a `while` loop and a `do-while` loop?
6. What does `break` do? What does `continue` do?
7. What does this code do? When does the loop end?

```
int n = 0;
double value = 0.0, acc = 0.0;
String filename = "MonthlySales.txt";
input.open(filename);
while (input >> value)
{
    counter += 1;
    acc += value;
}
```