

Quiz 1 MC, CT, and ROC (40 pts)

Time Limit: **8 mins**

Name: _____ Section: _____

This part does not contain any free responses. Do not run any code when completing this part of Quiz 1.

Time limit: 8 mins

Part 1 — Multiple Choice (10 pts total)

1. (2 pts) What does $(5 < 0)$ and $(1 / 0 == 0)$ evaluate to?

- ☐ True
- ☐ False
- ☐ 5
- ☐ 0
- ☐ It crashes.

2. (2 pts) What does $(5 < 0)$ or $(1 / 0 == 0)$ evaluate to?

- ☐ True
- ☐ False
- ☐ 5
- ☐ 0
- ☐ It crashes.

3. (2 pts) What does 15 and $((5 == 6) \text{ or } 42)$ evaluate to?

- ☐ True
- ☐ False
- ☐ 15
- ☐ 42
- ☐ It crashes.

4. (2 pts) What does $(5 == 6)$ or $(0 \text{ and } 42)$ evaluate to?

- ☐ True
- ☐ False
- ☐ 0
- ☐ 42
- ☐ It crashes.

5. (2 pts) What happens when the following code is run?

```
def f(x):  
    if x < 5:  
        return x + 1  
    return x  
  
f('a')
```

- ☐ It crashes due to a runtime error.
- ☐ It crashes due to a syntax error.
- ☐ It does not crash but has a logical error.
- ☐ It does not crash and has no errors.

Part 2 — Code Trace / Reasoning Over Code (30 pts total)

Code Trace 1 (10 pts)

What does the following code print?

```
def ct(x, y):  
    if x < y:  
        print('A')  
    elif x <= 2*y:  
        print('B')  
    else:  
        if x % y == 0:  
            print('C')  
        print('D')  
  
print(ct(6, 10))  
print(ct(21, 7))
```

Output:

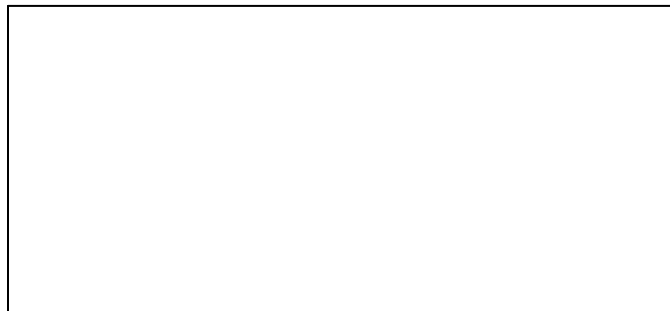


Code Trace 2 (10 pts)

What does the following code print?

```
def ct(x):  
    a = x % 4  
    print(a)  
    x = x // 2 ** 2 * a - 5  
    print(x)  
    x = abs(min(a * -3, x - 10))  
    return x*10 - a**2  
  
print(ct(19))
```

Output:



Reasoning Over Code 1 (10 pts)

Fill in the blank so $f(x) == g(x)$ for all numbers x and y .

```
def f(x, y):  
    z = 0  
    if x < y:  
        z = y - x  
    elif y < x:  
        z = x - y  
  
    return z/2 + min(x, y)  
  
# You MAY NOT call any built-in functions in your answer  
def g(x, y):  
    return (_____) / 2
```