

Quiz 4 CT and ROC (30 pts)

Time Limit: 12 mins

Name: _____ AndrewID: _____

This part does not contain any free responses. Do not run any code when completing this part of Quiz 4.

Time limit: 12 mins

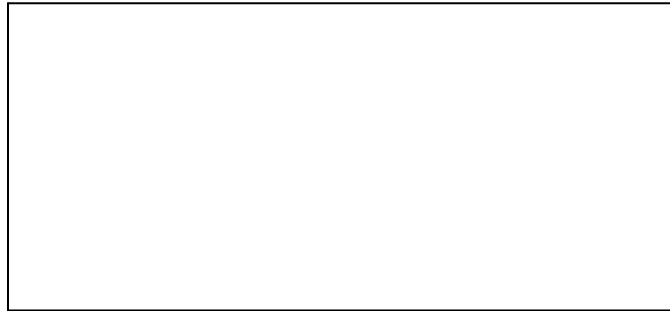
Part 2 — Code Trace / Reasoning Over Code (30 pts total)

Code Trace 1 (10 pts)

What does the following code print?

```
def ct(L):  
    M = [x - y for x, y in L]  
    print(M)  
    N = []  
    for x, y in L:  
        if (x not in M) and (y not in M):  
            N.extend([(x, y)])  
    return N  
  
print(ct([(3, 7), (2, -4), (2, 5), (6, 1), (3, -5)]))
```

Output:



Code Trace 2 (10 pts)

What does the following code print?

```
import copy
def ct(L):
    M = L
    N = copy.copy(L)
    print(N.extend([42, 34]))
    print(N.pop(-3))
    M.insert(2, 'a')
    M = M + [8]
    L += [13]
    L = L[1:]
    print(L)
    print(M)
    print(N)

L = [1, 5, 112]
ct(L)
print(L)
```

Output:



Reasoning Over Code 1 (10 pts)

Fill in the blanks so $f(L) == g(L)$ for all lists L .

```
'''
def f(L):
    N = []
    for i in range(len(L)):
        x, y = L[i]
        cx = cy = 0
        for j in range(len(L)):
            if i == j: continue

            a, b = L[j]
            if x == a: cx += 1
            if x == b: cx += 1

            if y == a: cy += 1
            if y == b: cy += 1

        if cx <= cy:
            N.append((x, y))
        else:
            N.append((y, x))
    return N

def g(L):
    M = []
    for x, y in L:
        M.append(_____) # blank 1
        M.append(_____) # blank 2
    N = []
    for x, y in L:
        if _____ <= _____: # blanks 3 and 4
            N.append((x, y))
        else:
            N.append((y, x))
    return N
'''
```

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