

# CSI 11

## Final Exam Study Guide - Answers

### 1 True/False and Multiple Choice Questions

1. 1) if x is 1, what is output? Agrees  
2) if x is -2, what is output? Invalid entry  
3) ... Did he achieve the same results (Yes/No)? No  
4) ... When might that new branch execute? (c) never  
5) ... (a) no branch will execute
2. (d) 39
3. (b) hardware
4. 1) (a) True  
2) (b) False  
3) (b) False  
4) (a) True  
5) (a) True
5. (b) 2
6. 1) (a) True  
2) (b) False  
3) (a) True  
4) (b) False  
5) (a) True  
6) (a) True  
7) (a) True  
8) (a) True
7. (b) 15 in my\_list
8. (c) None of the above
9. (c) 3
10. (a) 0

11. 1) **(b)** while x < 100  
2) **(c)** while x >= 0  
3) **(c)** while c == 'g'
12. **(c)** 1 2 3
13. **(b)** for price in my\_prices
14. **(c)** 2, 5, 8, 11, 14, 17
15. **(a)** 2, 3, 4, 5, 6, 7, 8
16. **(c)** 0 G, 1 No, 2 Maya,
17. **(b)** (x,y)
18. **(b)** 55
19. **(a)** (i,j,k)

## 2 Questions for understanding the code

1. 25.9
2. 80
3. Good, day, how are you?
4. [1, 9, 6, 9.2, -12, 9, -3, 9]  
3
5. Tom Stevens  
12 => pine tree  
8 => Tom  
19 => The Masterpiece  
23 => Georgetown  
5 => tennis  
15 => Stevens
6. **(a)** tree  
**(b)** house  
**(c)** jacket

7. (a)  
found another one!

Hm

(b)  
found them!  
long!

(c)  
found them!  
Hm

8. (a) 6           (1\*2\*3)  
     (b) 6           (3+1+2)  
     (c) -3          (5-7-1)

### 3 Programming Questions

1.  

```
print("You will be asked for 10 numbers, then their sum,  
      their average and their product will be displayed")
```

```
s = 0  
product = 1  
for i in range(10):  
    item = float(input("Enter a decimal number:"))  
    s += item  
    product *= item
```

```
print("Their sum is", s)  
print("Their average is", s/10)  
print("Their product is", product)
```

2. # myList is a list of integer values

```
print("the greatest element is", max(myList))  
print("the smallest element is", min(myList))  
print("the length of the list myList is", len(myList))
```

```
s = 0  
sumOfSquares = 0
```

```
for item in myList:
```

```

    s += item

# it is possible to find the sum of the elements in the list
# by calling sum(myList)
print("the average of all elements in the list is", s/len(myList))
print("the sum of squares of all elements in the list is", sumOfSquares)
print("sorted elements of the list:",myList.sort())

```

### 3. # myString is a string

```

print("the first position of letter 'a' is", myString.index('a'))
print("the number of occurrences of the sub-string 'aba' is",
      myString.count('aba'))
print("the length of the string is", len(myString))
print("the substring from position 2 to 7, including is", myString[2,8])

print("all the symbols of the string, one per line:")
for ch in myString:
    print(ch)

print("the string reversed is", myString[::-1])

```

### 4. # myDict is a dictionary

```

for key in myDict:
    print(key, "=>", myDict[key])

```

### 5. word1 = input("Enter the first word:") word2 = input("Enter the second word:") word3 = input("Enter the third word:") word4 = input("Enter the fourth word:")

```

print(word1 + ' ' + word2 + ' ' + word3 + ' ' + word4)
print(word1+word3)
print(len(word1), len(word2), len(word3), len(word4))

```

### 6. length = int(input("Enter the length (in inches):")) width = int(input("Enter the width (in inches):")) depth = int(input("Enter the depth (in inches):"))

```

lengthInFeet = length/12
widthInFeet = width/12

```

```
depthInFeet = depth/12

print("The amount of planting soil needed:",
      lengthInFeet * widthInFeet * depthInFeet, "cubic feet")
```

7. `from math import sqrt`

```
a = float(input("Enter coefficient a:"))
b = float(input("Enter coefficient b:"))
c = float(input("Enter coefficient c:"))

x1 = (-b-sqrt(b*b-4*a*c))/(2*a)
x2 = (-b+sqrt(b*b-4*a*c))/(2*a)

print("Roots/solutions are:", x1, "and", x2)
```

8. `fname = input("Enter the file name:")`

```
source = open(fname)
s = 0
for i in range(5):
    value = float(source.getline())
    s += value

output = open("out.txt", 'w')
output.write("Their sum: " + str(s) + '\n')
output.write("Their average: " + str(s/5))
```

9. `def stats(myList):`

```
    print("The largest value is", max(myList))
    print("The smallest value is", min(myList))
    print("The length of the list is", len(myList))
    print("The average of all the values in the list is",
          sum(myList)/len(myList))
```