CMSC 201 Section 60

Fall 2021

Sample Exam 1

Description

This is a sample test, created so students can get an understanding of what the actual test will be like. This will not be graded, and students are not required to take this.

Instructions

In the actual test, you will have 75 minutes to complete this exam.

Total Questions 18

Total Points 80

Section 1: Multiple Choice and True False. These questions are worth 3 points each; no partial credit is given

1. True/False: All elements in a Python list must be of the same type. That is, they must all be integers; or all strings; or all floats. You can't mix ints and strings in the same list.

2. Which of the following is NOT a valid Python variable name?

a. 201Section60_Fall_2020

b._time_of_race

c. true_or_false

d. oLyMpIc_ReSuLtS

3. str is a list variable. What method would you invoke to remove the element at index 3 from str?

a. str.pop(3)
b. str.remove(3)
c. del str[0:3]
d. str.strip(3)

4. test_scores is a list variable in your program. You have the following statement:

```
for i in range(len(test_scores)):
```

Which of the following is true about the range of the variable i?

a. i starts at 0; goes up by 1 each time; and ends after executing when i = len(test_scores)
b. The initial value of i is 0; the stop value is len(test_scores); and the hop count is 1
c. The initial value of i is 0; the stop value is len(test_scores); and the hop count is -1
d. The program will crash with an error because there is no element test_scores[len(test_scores)]

5. What is the Python statement

```
total /= 3
```

equivalent to?

a. total = total / 3
b. total = 3 / total
c. total != 3
d. None of the above

6. True/False: The best way to write Python code is to write the code; debug and get it working; and then write the pseudocode that describes what your code actually does.

7. True/False: Any "for" loop in Python can be rewritten as a "while" loop but the reverse is not true.

8. What is the correct order of precedence for the different types of operators we have studied so far?

a. Arithmetic operators (*, /, etc) come first; then assignment operators (=, +=, etc) and finally logical operators (and, not)
b. Logical operators come first, then arithmetic operators and finally assignment operators
c. Arithmetic operators come first, then logical operators and finally assignment operators
d. None of the above

9. Suppose that we have

```
lab_scores = [5,4,2,1,3,4,5,3]
```

What is the result of the statement

```
lab_scores.remove(3)
```

a. The first occurrence of the value 3 is removed, and the list is now [5,4,2,1,4,5,3]
b. All occurrences of the value 3 are removed, and the list is now [5,4,2,1,4,5]
c. The third element in the list is removed, and the list is now [5,4,1,3,4,5,3]
d. The element at index 3 is removed, and the list is now [5,4,2,3,4,5,3]

10. True/False: The following Python statement will cause a syntax error:

```
if (10 > 6) and ( 5 == 3+2):
  print("yay our math is correct")
elif:
  print("there's an error somewhere")
```

Section 2: Short answer questions. These questions are worth 4 points each; partial credit will be given.

11. What is the output of this Python program? If it produces an error, describe the error.

```
days_of_week = ['Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday', 'Sunday']

for day in days_of_week:
    if day[0] != 'T':
        print(day, end=':')
    else:
        print('error', end= ':')
```

12. If game_schedule is a list variable whose current value is ['UMCP', 'Towson', 'Frostburg', 'Salisbury'], what is the difference between

```
game_schedule.remove(3)
```

and

```
game_schedule.pop(3)
```

13. What values can begin a Python variable name?

14. Why do we use CONSTANTs in Python programs?

15. What is the output of this Python program? If it produces an error, describe the error.

```
old_slogan = "A winner never quits is not correct."
new_slogan = "The truth is that a winner knows when to quit."
result = old_slogan + new_slogan
words = result.split('w')
for i in range (3, 5, 1):
  print(words[i])
```

Section 3: Programming. These questions are worth 10 points each; partial credit will be given

16. Write a Python program that asks the user to enter a floating point number. If the user enters a number greater than 0.0, print "that's positive." If the user enters a number less than 0.0, print "that's negative." If the user enters exactly 0.0, print "that's a zero."

17. Write a Python program that creates an empty list variable. Then ask the user to enter 5 integers, and add those numbers to the list. Then calculate the modulus of each integer mod 13. Then print out the average (arithmetic mean) of those 5 moduli.

You do not have to validate input. You may use either a "for" loop or a "while" loop to read in the numbers.

18. Write a Python program that asks the user to enter a string. After the user has entered the string, strip all whitespace from both the beginning and the end of the string. Then create a new variable that is the string, in reverse order. Hint: this will involve copying characters to a list and then joining the elements of the list back into a string.