CMSC 201 Section 60

Fall 2021

Answers to Sample Exam 1

True/False – Multiple Choice section

1. False. We usually make them the same type because it makes the programming easier, but they don't have to be the same type.

2. a. You can't start a Python variable name with a digit

3. a. pop removes an element by its index. Use remove to get rid of an element by its value

4. b. This is kind of a tricky one, but a. can't be right because you don't execute when I is equal to the stop value. That's also why d is wrong. C is wrong because when the hop count is omitted the default is 1, not -1.

5. a.

6. False

7. True

8. a.

9. a.

10. True. If you're going to use elif, there has to be a Boolean clause after 'elif'. This would be fixed by using 'else' rather than 'elif'

Short answer section:

11. Monday:error:Wednesday:error:Friday:Saturday:Sunday:

12. the remove variable takes elements out of a list by value, while pop takes them out by index. So game_schedule.pop(3) removes 'Salisbury' from the list. Since 3 is not a value in the list, game_schedule.remove(3) causes an error.

13. Underscores, and upper and lower case letters

14. It eliminates the use of “magic numbers” and string literals that make our code hard to understand and debug. Use an understandable symbolic name such as NUM_OF_CMSC_STUDENTS rather than 621.

15. s

hen to quit.

“result” – the concatenated string is

```
 "A winner never quits is not correct.The truth is that a winner knows when to quit."
```

Splitting on the ‘w’ – you throw the ‘w’ away, so the list words is:

```
['A', 'inner never quits is not correct.The truth is that a', 'inner kno', 's', 'hen to quit.']
```

Then you just print out elements 3 and 4 of the list.

Programming section:

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."

```
x = float(input("Please enter a floating point number"))

if x>0:

     print("that's positive")

elif x < 0:

     print("that's negative")

else:

     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

```
numlist = []

for i in range(5):
```

```
    numlist.append(int(input("Please enter an integer")))
for i in range(5):
    numlist[i] = numlist[i]%13
sum = 0
for i in range(len(numlist)):
    sum += numlist[i]
mean = sum / (len(numlist))
print("The mean of your numbers is: ", mean)
```

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.

```
str = input("please type in a string")
str.strip()
char_list = []
for i in range(len(str)):
    char_list.insert(0, str[i])
new_str = "".join(char_list)
```