

IT 211 Midterm Exam
Spring 2024

This is a closed-book, no notes, no electronics, individual-effort exam. You may not receive help nor help anyone in taking this exam.

For multiple choice, circle the best answer.

1. An example of a literal list of integers in Python is
 - a) "25 34 45"
 - b) "cat dog cow"
 - c) [26, 27, 28]
 - d) ["c23", "48", "cat"]
2. The expression **int("45")** function evaluates to (i.e. returns)
 - a) a string.
 - b) an integer.
 - c) a floating point value.
 - d) an array.
3. An example of a Python expression that evaluates to a floating point number is
 - a) 10 / 3
 - b) str(34)
 - c) input("Type in any number: ")
 - d) 25 < 38
4. Assume that the variable **answer** has been set to the number 12. Then the Python plus ('+') operation in the expression **"The answer is " + str(answer)**
 - a) performs arithmetic addition.
 - b) produces an error.
 - c) converts the string to a number.
 - d) performs string concatenation.
5. An example of a Python Boolean expression is
 - a) 10 // 3
 - b) str(34)
 - c) float("25")
 - d) 25 == val
6. If a function has a return statement, its return statement accomplishes the following:
 - a) it prints a value.
 - b) it signals that the function should continue working.
 - c) it exits the function and the function call (invocation) evaluates to the value it returns.
 - d) it prevents the function from being used as an expression in an assignment statement.

For the next questions, provide the **print output** that each of the Python programs produces. You can assume that all statements run without any errors. (5 points each)

7. Python program:

```
val1 = "stop"
val2 = "go"
combo = len(val1) + len(val2)
print("Answer: " + val2[0])
print("Signal: " + str(combo))
```

Provide print output below:

8. Python program:

```
farm = ["cow", "sheep", "cow", "pig"]
key = "cow"
count = 0
for element in farm:
    print("Checking for " + element)
    if key == element:
        count = count + 1
print("Count: " + str(count))
```

Provide print output below:

9. Python program:

```
val1 = 0
val2 = 28
if val2 == 28:
    print("green")
    if val1 == 0:
        print("teal")
    elif val1 < val2:
        print("blue")
    else:
        print("orange")
else:
    print("red")
print("yellow")
```

Provide print output below:

10. Python program:

```
def loopy(limit):
    print("Goal: "+ str(limit))
    tally = 0
    for counter in range(limit):
        print("Round: " + str(counter))
        tally = tally + counter

    print("Loop Tally: " + str(tally))
    print("last print")

loopy(1)
loopy(3)
```

Provide print output below:

The remaining questions ask you to write Python code. Do the best you can. Partial credit will be given for partially correct answers. Each question is worth 6 points.

11. Write a Python program that reads in a person's name as a string (use input). As output, it should print a greeting that says "Hello" followed by the person's name, followed by an exclamation mark (!). Also, if the name is "Sam", it should add the message "That's my name too!" on the line below. Below are examples of how the program should run:

Example 1:

```
What is your name? Sam
Hello Sam!
That's my name too!
```

Example 2:

```
What is your name? Gary
Hello Gary!
```

12. Write a Python program that reads in (using input) a whole positive number. It should then repeatedly print out:

Hello number 1!

Hello number 2!

Hello number 3!

...

Hello number x!

(where x is the number given by the user.)

Below is an example of how the program should run:

Hello number 1!

Hello number 2!

Hello number 3!

Hello number 4!

13. Write a **function** called `littleWordCount`. It should take one argument that is a list of strings. It should print out the number of times that a string in the list is less than 4 characters long (i.e. length of 3 or less). For example, if the following expression were typed into the interactive shell:

```
littleWordCount(["cat", "snake", "antelope", "cat", "hare"])
```

The function should print the number **2**.

14. Write a **function** called `longestSelectWord`. It should have two parameters. The first parameter is a list of strings. The second parameter is a single letter (string with just one character). It should print a message with the longest word in the list of strings that starts with the single letter. If the list has more than one word with the selected letter and the longest length, it should just print the first of these words. If no words start with the selected letter, it should print the message “No words start with the selected letter.”

For example, if the following code were typed into the interactive shell:

```
words = ["cat", "snake", "antelope", "crow", "hare", "calf"]  
longestSelectWord(words, "c")
```

The function should print “The word is crow”.

If the following code were typed into the interactive shell:

```
words = ["cat", "snake", "antelope", "crow", "hare", "calf"]  
longestSelectWord(words, "d")
```

The function should print “No words start with the selected letter”.

Below is the start of the function statement. Use it in your answer.

```
def longestSelectWord(word_list, start_letter):
```