

Optional Exercise - 1.

1. Submission: write down your answers, scan it, and send it to yqtian@ust.hk
 - a. The name of the PDF file must be: **COMP1021-EX1_FirstName_LastName.pdf**
 - b. Answers will be released at https://github.com/yqtianust/COMP1021_2024F_L13 on 3rd Oct 2024.
2. First 3 students (by the timestamp of your email is received) of which is 100% correct of this exercise will receive a chocolate from Australia!
3. Students, who finished and submitted all optional exercises in one week after each exercise is released, are eligible for a lucky draw at the end of term! (5 gifts in total.)
4. Students whose total scores of all exercises are ranked top 5 in entire class will receive extra gifts.

Name:

Student ID:

Email:

Question 0 (6pt):

Use range() command to generate the following numbers. if not possible, please explain the reason.

For example, 1 2 3 4 5: range(1,6)

1 3 5 7 9:

1 5 9 13:

9 7 5 3 1:

-1 -3 -5 -7 -9:

-9 -7 -5 -3 -1:

-9 -7 -1 7 9:

Question 1 (6pts):

How many numbers will be generated by the following commands? What is the last generated number?

Example: range(1,2) will generate 1 number, and the last number is 1.

range(1, 400, 2):

range(1, 400, 3):

range(1, 400, 4):

Question 2 (3pts):

What will be displayed on the screen after the a file consisting of the following commands are executed?

```
print("COMP1021")  
print("COMP1021", end="!")  
print("COMP1021",end="?")
```

Question 3 (6pt):

What will be generated by the following command? Explain the reason if any error will occur when any command is executed.

```
list(range(0)):  
list(range(8)):  
list(range(0,8)):  
list(range(8,1,1)):  
list(range(8,-1,1)):  
list(range(8,-1,-1)):
```

Question 4 (5pts):

```
list_a = ["a","bc", "def"]
```

What is the output of the following commands:

```
len(list_a)  
len(list_a[0])  
len(list_a[3])  
print(list_a[0])  
print(list_a[1][1])
```

Question 4 (33pts):

Assume: L = ["def"]

Answer the question after each command is executed. Note that the n-th command is executed after all commands before it are executed.

Command	Questions:	Answers:
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print(L)	What is the output?	
L[0] = "abc"	What is L now?	
L[2] = "abc"	What is the output?	
L.append("aaa")	What is L now?	
L.sort()	What is L now?	
L.insert(1, "bbb")	What is L now?	
L.insert(1, "AAA")	What is L now?	
L.count("bbb")	What is the output?	
L.index("bbb")	What is the output?	
L.index("abc")	What is the output?	
	What is the command to remove "aaa"?	

Assume the now L = ("def"). Explain the reason if any command cannot be executed.

Command	Questions:	Answers:
print(L)	What is the output?	
L[0] = "abc"	What is L now?	
L[2] = "abc"	What is the output?	
L.append("aaa")	What is L now?	
L.sort()	What is L now?	
L.insert(1, "bbb")	What is L now?	
L.insert(1, "AAA")	What is L now?	
L.count("bbb")	What is the output?	
L.index("bbb")	What is the output?	
L.index("abc")	What is the output?	
	What is the command to remove "aaa"?	

Assume the now L = "def". Explain the reason if any command cannot be executed.

Command	Questions:	Answers:
print(L)	What is the output?	
L[0] = "abc"	What is L now?	
L[2] = "abc"	What is the output?	
L.append("aaa")	What is L now?	
L.sort()	What is L now?	
L.insert(1, "bbb")	What is L now?	
L.insert(1, "AAA")	What is L now?	
L.count("b")	What is the output?	
L.index("a")	What is the output?	
L.index("b")	What is the output?	
	What is the command to remove "aaa"?	