

FACULTY OF LIBERAL ARTS & SCIENCES

ACADEMIC SESSION 2018/2019

Campus Maritime Greenwich

School Computing & Mathematical Sciences

Level 4

Academic Stage Undergraduate

TITLE OF PAPER Programming Foundations – MOCK PAPER 1

COURSE CODE COMP1753

Time 1 hour 30 minutes

Answer ALL questions

You may use your log book and a text book during the exam. You may also use a computer and online Python documentation as reference material.

**To submit your answers, you must:**

1. **Tear off the answer sheet (the last page of this exam paper) and mark your answers there.**
2. **Once you have filled in the answer sheet, you must transfer your answers online here:**

**https://tinyurl.com/PF1819dec1**

1. **At the end of the exam you must hand in your paper answer sheet.**

**To find out your result in the mock exam, just submit your answers at the link above.**

Note: The link will only work **on campus** or when using the **virtual desktop** at home (for more information see <http://cms-support.gre.ac.uk/labdesktop/index.html>)

# Answer all questions

1. Which of the following are keywords in Python (choose 2)?
   1. and
   2. do
   3. elseif
   4. var
   5. break

[5 marks]

1. Which of the following are legal variable names (choose 2)?
   1. #five\_pence\_piece
   2. five pence piece
   3. 5\_pence\_piece
   4. five\_pence\_piece
   5. fivepencepiece

[5 marks]

1. How many times will xx appear if printx is called with the parameter i being set to 0 (choose 1)?

def printx(i):

while i < 3:

print("xx")

i += 1

return i

* 1. xx will not appear
  2. xx will appear 2 times
  3. xx will appear 3 times
  4. xx will appear 4 times
  5. xx will go on printing forever

[5 marks]

1. Identify all correct list declarations (choose 2).
   1. alphabet = "A", "B", "C"
   2. alphabet = ["A", "B", "C"]
   3. alphabet = {"A", "B", "C"}
   4. alphabet = "ABC"
   5. alphabet = []

[5 marks]

1. What will be printed out when you run the following code (choose 1)?

nums = ["1", "2", "3", "4", "5"]

print(nums[1] + nums[2])

* 1. 12
  2. "1""2"
  3. 23
  4. "2""3"
  5. There will be a run-time error

[5 marks]

1. Identify all legal Python operators (choose 2).
   1. +=
   2. =+
   3. !=
   4. +-
   5. <>

[5 marks]

1. Identify the lines containing a legal Python comment (choose 2).
   1. # This is a comment
   2. // This is a comment
   3. " This is a comment "
   4. """"This is a comment""""
   5. / \* This is a comment \*/

[5 marks]

1. What value will be printed if f1 is called (choose 1)?

def f1():

result = f2(4)

print(result)

def f2(par):

if par < 3:

return par

elif par == 3:

return par \* 2

else:

return par \* 3

* 1. There will be a run-time error because f1 does not return anything
  2. 4
  3. 8
  4. 12
  5. 16

[5 marks]

1. How do you declare a function in Python (choose 1)?
2. def func()
3. def = func()
4. def: func()
5. def func():
6. func():

[5 marks]

1. How do you invoke (call) a function named "func" (choose 1)?
2. func()
3. func.invoke()
4. call func()
5. call function func()
6. call.func()

[5 marks]

1. What will be printed out if this code is run (choose 1)?

helloWorld = ["hello", "world", "!"]

print(helloWorld[3])

* 1. There will be a run-time error
  2. helloWorld[3]
  3. hello world !
  4. !
  5. undefined

[5 marks]

The following code is used for questions 12 and 13.

01 n = 4

02 for i in range(1, n+1):

03 output = ""

04 for j in range(1, 6):

05 output += " " + str(j \* i)

06 print(output)

1. What will be output when the code is run (choose 1)?
   1. 1

2 4

3 6 9

4 8 12 16

* 1. 1 2 3 4

2 4 6 8

3 6 9 12

4 8 12 16

* 1. 1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

* 1. 1 2 3 4 5

2 4 6 8 10

3 6 9 12 15

4 8 12 16 20

* 1. There will be a run-time error

[5 marks]

1. Assuming any run-time errors are fixed, the output still has a formatting problem where the numbers 10 and above take up two spaces, whilst numbers below 10 take up 1 space. What should be done to fix this and make all the numbers line up (choose 1)?
   1. The following code should be inserted between lines 04 and 05

if j \* i > 10:

output += " "

* 1. The following code should be inserted between lines 04 and 05

if j \* i >= 10:

output += " "

* 1. The following code should be inserted between lines 04 and 05

if j \* i < 10:

output += " "

* 1. The following code should be inserted between lines 04 and 05

if j \* i <= 10:

output += " "

* 1. There is no way to fix this

[5 marks]

1. What will be printed out when you run the following code (choose 1)?

sum = 0

for count in range(3):

sum = sum + 3

print("The value of sum = " + str(sum))

* 1. There will be a run-time error
  2. The value of sum = 0
  3. The value of sum = 3
  4. The value of sum = 6
  5. The value of sum = 9

[5 marks]

The following code is used for questions 15 and 16. It is part of a program which calculates the cost of tickets.

The user inputs the number and type of tickets that they require and the program calculates the cost and prints the result.

number = int(input("How many tickets? "))

if number <= 0:

print("Please enter a positive number")

return

cost = 0

type = input("What type? ")

if type == "S": # Standard

cost = 8

elif type == "C": # Concession

cost = 6

elif type == "P": # Premium

cost = 10

else:

print("Ticket type " + type + " unrecognised")

return

if number > 5: # discount

cost -= 1

cost \*= number

print("That will be £" + format(cost, ".2f"))

1. What is the output if the user enters “6” and “Premium” (choose 1)?
   1. There will be a run-time error
   2. That will be £10.00
   3. That will be £54.00
   4. That will be £60.00
   5. Ticket type Premium unrecognised

[5 marks]

1. What is the output if the user enters “10” and “C” (choose 1)?
   1. There will be a run-time error
   2. That will be £50
   3. That will be £60
   4. That will be £10
   5. Ticket type C unrecognised

[5 marks]

1. What will be printed out when you run the following code (choose 1)?

n = 2

for i in range(2, 0, -1):

n = n + n

print("The value of n = " + str(n))

* 1. There will be a run-time error
  2. The value of n = 2
  3. The value of n = 4
  4. The value of n = 8
  5. The loop will never finish executing

[5 marks]

The following code is used for questions 18, 19 and 20.

It is part of a program which interacts with files.

def my\_function(dirname, search):

files = os.listdir(dirname)

for file in files:

path = dirname + "\\" + file

if os.path.isdir(path):

print(path)

my\_function(path, search)

elif path.endswith(".py"):

if search in file.lower():

print("FOUND: " + path)

try:

root\_path = os.curdir

search = input("Filename? ").lower()

if os.path.isdir(root\_path):

my\_function(root\_path, search)

except OSError as err:

print(err)

print("Stopping, can't access files.")

1. What does this code do (choose 2)?
   1. It lists any folders it finds
   2. It lists any files it finds
   3. It searches for files containing the search string
   4. It searches for files with names that match the search string
   5. It searches for files with names that contain the search string

[5 marks]

1. What programming techniques are used in this code (choose 2)?
   1. Boolean variables
   2. Dictionaries
   3. Lists
   4. Iteration (loops)
   5. Sets

[5 marks]

1. What would happen if the line

my\_function(path, search)

in the middle of the program, was commented out (choose 1)?

1. The code would not run because of a syntax error
2. The code would still work but there would be a run-time error
3. The code would still work because this line does nothing
4. The code would still work but not report any files it finds
5. The code would still work but only for files in the current folder

[5 marks]

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# Answer Sheet

TITLE OF PAPER COMP1753 Programming Foundations

Your Full Name (please use Block Capitals) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Your Student ID (e.g 000123456): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please circle all correct answers

1. A B C D E
2. A B C D E
3. A B C D E
4. A B C D E
5. A B C D E
6. A B C D E
7. A B C D E
8. A B C D E
9. A B C D E
10. A B C D E
11. A B C D E
12. A B C D E
13. A B C D E
14. A B C D E
15. A B C D E
16. A B C D E
17. A B C D E
18. A B C D E
19. A B C D E
20. A B C D E

**Make sure you submit your answers to the online system too, or you will FAIL THE EXAM. See the front page of the exam for details.**