

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 2

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/PF1819dec2**

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. more
   2. else
   3. do
   4. or
   5. but

[5 marks]

1. Which of the following are legal variable names (choose 2)?
   1. 2a\_list
   2. a\_list2
   3. to\_a\_list
   4. #a\_list
   5. a list

[5 marks]

1. How many times will \_\_\_\_ appear if lines is called with the parameter arg being set to 7 (choose 1)?

def lines(arg):

while arg <= 10:

print("\_\_\_\_")

arg += 1

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

[5 marks]

1. The function below is designed to print a list of items. Optionally the programmer can pass a header string as a second parameter which will get printed out before the list. Which lines need to be corrected to fix any syntax errors make the code work correctly (choose 2)?
2. def print\_items(items, header=None):
3. """ print out a list of items """

03 if headr != None:

04 print(header)

05 for i in list:

06 print(str(i))

07 print()

1. Line 02
2. Line 03
3. Line 04
4. Line 05
5. Line 06

[5 marks]

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

number = [10, 20, 30, 40]

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

* 1. 30
  2. 1020
  3. 50
  4. 2030
  5. There will be a run-time error

[5 marks]

1. Assuming bool1 is set to True , bool2 is set to False, and bool3 is set to False, which of the following expressions evaluate to True (choose 2):
   1. bool1 and bool2
   2. bool2 or not bool3
   3. bool2 and not bool3
   4. bool1 and bool2 and bool3
   5. bool1 or bool2 or bool3

[5 marks]

1. What value will be printed if print\_calc is called (choose 1)?

def print\_calc():

anInt = calculate(5)

print(anInt)

def calculate(arg):

if arg >= 4:

return arg \* 2

elif arg <= 5:

return arg \* 3

else:

return arg \* 4

* 1. 5
  2. 10
  3. 15
  4. 20
  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 all correct list declarations (choose 2).
   1. months = []
   2. months = "Jan", "Feb", "Mar"
   3. months = ("Jan", "Feb", "Mar")
   4. months = ["Jan", "Feb", "Mar"]
   5. months = ["Jan, Feb, Mar"]

[5 marks]

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

[5 marks]

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

fruit = ["apple", "banana", "onion"]

print(fruit[1])

* 1. apple
  2. "apple"
  3. banana
  4. "banana"
  5. There will be a run-time error because onion is not a fruit

[5 marks]

# The following code is used for questions 12 and 13.

01 n = 5

02 output = ""

03 for i in range(n):

04 for j in range(i+1):

05 output += "\*"

06 output += "="

07 output += "\n"

08 print(output)

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

\*\*==

\*\*\*===

\*\*\*\*====

\*\*\*\*\*=====

* 1. \*=

\*=\*=

\*=\*=\*=

\*=\*=\*=\*=

\*=\*=\*=\*=\*=

* 1. \*=\*=\*=\*=\*=

\*=\*=\*=\*=\*=

\*=\*=\*=\*=\*=

\*=\*=\*=\*=\*=

\*=\*=\*=\*=\*=

* 1. \*=

\*=\*=

\*=\*=\*=

\*=\*=\*=\*=

\*=\*=\*=\*=\*=

* 1. There will be a run-time error

[5 marks]

1. If line 07 is deleted and n is set to 2, what will be output when the code is run (choose 1)?

\*\*==

\*\*\*===

\*=\*=\*=

\*=\*=

\*=\*=

* 1. There will be a run-time error

[5 marks]

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

anInt = 1

for i in range(5):

anInt = anInt \* i

print("anInt = " + str(anInt))

* 1. There will be a run-time error
  2. anInt = 0
  3. anInt = 1
  4. anInt = 6
  5. anInt = 24

[5 marks]

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

The user inputs the size and number of pairs that they want and the program calculates the cost and prints the result.

size = int(input("What size shoes? "))

if size < 4 or size > 8:

print("Size " + str(size) + " not available")

return

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

if number <= 0:

print("Please enter a positive number")

return

cost = 0

if size == 4:

cost = 20

elif size == 5:

cost = 25

else:

cost = 30

cost \*= number

if number >= 2: # discount

cost -= 5

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

1. What size shoes are available (choose 1)?
   1. All sizes greater than and including 4
   2. Sizes 20, 25 and 30
   3. Sizes 4 and 5
   4. Sizes 4, 5 and 6
   5. Sizes 4, 5, 6, 7 and 8

[5 marks]

1. What is the output if the user chooses 2 pairs of size 5 (choose 1)?
   1. That will be £25.00
   2. That will be £40.00
   3. That will be £45.00
   4. That will be £50.00
   5. Size 5 not available

[5 marks]

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

n = 2

for i in range(2):

n = n \* n

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

* 1. The value of n = 2
  2. The value of n = 4
  3. The value of n = 8
  4. The value of n = 16
  5. The value of n = 32

[5 marks]

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

It is part of a program which interacts with the user to generate passwords.

while True:

strength = int(input("Strength [0 to terminate]? "))

if strength == 0:

break

if strength > 10:

length = 20

else:

length = strength\*2

letters = "abcdefghijklmnopqrstuvwxyz"

characters = letters

if strength >= 2:

characters += letters.upper()

if strength >= 5:

characters += "0123456789"

if strength >= 7:

characters += punctuation

password = ""

for i in range(length):

r = randint(0, len(characters)-1)

password += characters[r]

print("Your password is " + password)

1. What statements describe the program's functionality (choose 2)?
   1. It runs a loop which generates random passwords, each 10 or 20 characters long
   2. It prompts the user for password strength and uses the response to determine how long and how complex the password is
   3. It terminates when the user enters 0 for the password strength
   4. It terminates if the user enters a number above 10
   5. It uses a mixture of letters, numbers and punctuation for every password

[5 marks]

1. If the program generates the password "wgWKjk", what strength did the user choose (choose 1)?
   1. 1
   2. 2
   3. 3
   4. 4
   5. 5

[5 marks]

1. Suppose that

if strength >= 5:

near the middle of the program, is replaced by

elif strength >= 5:

Which of the following strength values would then generate passwords which include numbers (choose 1)?

* 1. 5
  2. 7
  3. 9
  4. 11
  5. None of them

[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.**