UNIVERSITY of GREENWICH

# 3+0 Programming Foundations COMP1753 MOCK EXAM
## (Date: July 27th 2023) (Duration: 60Mins)

## Answer all questions (Marks :100)

1. Which of the following are keywords in Python (choose 3)?

A. `if`
B. `but`
C. `continue`
D. `While`
E. `while`

2. Which of the following are legal variable names (choose 2)?

A. `2b_or_not_2b`
B. `two_be_or_not_two_be`
C. `two_be`
D. `#to_be`
E. `to be`

3. How many times will `xxx` appear if `aMethod` is called with the parameter `arg` being set to 5 (choose 1)?

```
def aMethod(arg):
    while arg < 8:
        print("xxx")
        arg += 1
```

A. `xxx` will not appear
B. `xxx` will appear 2 times
C. `xxx` will appear 3 times
D. `xxx` will appear 4 times
E. `xxx` will go on printing forever

4. 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 and make the code work correctly (choose 2)?

```
01  def print_items(items, header=None):
02      """ print out a list of items
03      if header != None:
04          print(heder)
05      for i in items:
06          print(str(i))
07      print()
```

A. Line 02
B. Line 03
C. Line 04
D. Line 05
E. Line 06

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

```
number = ["1", "2", "3", "4", "5"]
print(number[0] + number[4])
```

A. There will be a run-time error
B. `number[0] + number[4]`
C. `4`
D. `6`
E. `15`

6. Assuming `bool1` is set to `True` , `bool2` is set to `False`, and `bool3` is set to `True`, which of the following expressions evaluate to `True` (choose 2)?

A. `bool1 and bool2`
B. `bool2 or not bool3`
C. `bool1 and not bool2`
D. `bool1 and bool2 and bool3`
E. `bool1 or bool2 or bool3`

7. What value will printed if `aMethod` is called (choose 1)?

```
def aMethod():
  anInt = aMethod2(4)
  print(anInt)

def aMethod2(arg):
  if arg < 4:
    return 1
  elif arg >= 4:
    return arg * 3
  else:
    return arg * 4
```

A. 1
B. 4
C. 12
D. 16
E. There will be a syntax error because `aMethod` does not return anything

8. Identify all legal Python operators (choose 2).

A. `!!`
B. `-=`
C. `<>`
D. `and`
E. `++`

The code below is used for questions 9 and 10. Here `n` is a number between 1 and 10 set by the user:

```
01  for i in range(n):
02      s = ""
03      for j in range(n):
04          s += "*"
05      for j in range(n):
06          s += "="
07      print(s)
```

9.Identify a possible output display for this application (choose 1).

A. The code has an error and will not run

B.
```
===***
===***
===***
```

C.
```
***===
***===
***===
```

D.
```
*=*=*=
```

E.
```
*=*=*=
*=*=*=
*=*=*=
```

10.If line 03 is changed from "`range(n)`" to "`range(n,0)`" what will happen (choose1)?

a. Only a square of `*` is output
b. Only a square of `=` is output

c. A triangle of `*` is printed

d. Nothing is printed

e. The code will not run

11. Identify the lines containing a legal Python comment (choose 2).

A. `"""This is a comment"""`
B. `/* This is a comment */`
C. `>>> This is a comment`
D. `a = 0 # This is a comment`
E. `st = "# This is a comment"`

12. Identify all correct list declarations (choose 2).

A. `days = []`
B. `days = "Mon", "Tue", "Wed"`
C. `days = ["Mon", "Tue", "Wed"]`
D. `days = {"Mon", "Tue", "Wed"}`
E. `days = "Mon, Tue, Wed"`

13. Assuming `total` is a variable assigned the value of 10, which of the following expressions evaluate to `True` (choose 2)?

A. `total > 5`
B. `total >= 5`
C. `total < 5`
D. `total == 5`
E. `total == "10"`

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

```
anInt = 1
for i in range(3):
    anInt = anInt + i
print("The value of anInt = " + str(anInt))
```

A. There will be a run-time error
B. `The value of anInt = 1`
C. `The value of anInt = 2`
D. `The value of anInt = 3`
E. `The value of anInt = 4`

The following code is used for questions 15 and 16. It is part of a program which calculates the cost of coffee. The user inputs the number and type of coffees that they require and the programcalculates the cost and prints the result.

```
number = int(input("How many coffees? "))
if number <= 0:
  print("Please enter a positive number")
  return
cost = 0
type = input("What type? ")
if type == "Latte":
    cost = 2.0
elif type == "Cappuccino":
    cost = 1.8
elif type == "FlatWhite":
    cost = 1.5
else:
    print("Coffee " + type + " not recognised")
    return
if number > 5: # discount
  cost -= 0.2
cost *= number
print("That will be £" + format(cost, ".2f"))
```

15.What is the output if the user enters “5” and “latte” (choose 1)?

a. There will be a run-time error
b. `That will be £10.00`
c. `That will be £9.00`
d. `That will be £5.00`
e. `Coffee latte not recognized`

16.What is the output if the user enters “10” and “Latte” (choose 1)?

A. There will be a run-time error
B. `That will be £20.00`
C. `That will be £18.00`
D. `That will be £10.00`
E. `Coffee Latte not recognized`

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

```
n = 2
for i in range(1, 4):
   n = n * n
print("The value of n = " + str(n))
```

A.There will be a run-time error
B.`The value of n = 2`
C.`The value of n = 4`
D.`The value of n = 16`
E.`The value of n = 256`

The following code is used for questions 18, 19 and 20.It is part of a program that interacts with files. The functions `read()` and `write()`, which are not defined here, respectively read the contents of a file as a string and write a string to a file.

```
def my_function(dirname, find, replace):
  filenames = os.listdir(dirname)
  for filename in filenames:
    path = dirname + "\\" + filename
    print(path)
    if os.path.isdir(path):
      print(" is a folder")
      my_function(path, find, replace)
    elif path.endswith(".txt"):
      old_contents = read(path)
      n = old_contents.count(find)
      if n == 0:
        print(" could not find " + find)
        continue
      new_contents = old_contents.replace(find, replace)
      response = input(" replace " + str(n) + " occurrences"
                 + " of " + find + " with " + replace + "? ")
      if response.lower() in ("y", "yes"):
       write(new_contents, path)
```

18.What does this code do (choose 2)?

A. It lists any files it finds
B. It does a word count of any files it finds
C. It searches for and replaces a string in any files it finds
D. It searches for and replaces a string in any text files it finds
E. Nothing – it contains a syntax error

19.What programming techniques are used in this code (choose 2)?

A. Exceptions
B. Recursion
C. Debugging
D. Iteration (loops)
E. Boolean variables

20.What would happen if the line

```
my_function(path, find, replace)
```

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

A. The code would not run because of a syntax error
B. The code would still run but there would be a run-time error
C. The code would still work but only for files in the current folder
D. The code would still work but not change any files it finds
E. The code would still work because this line does nothing