Student ID number:

_____

Pages: 6

Questions: 10

UNIVERSITY OF TASMANIA

KIT100 Programming Preparation

Test 1, Semester x, xxxx

SAMPLE

Time allowed: 60 minutes

Instructions:

- Write your student number in the box above. Answer ALL 10 questions in the spaces provided in this test paper with a pen.
- This is a closed-book test and do not allow using Python software.
- This is a pass/fix/fail test, so there are no numerical marks. If you only make a small number of mistakes you will have the opportunity to correct them and explain your corrections to your tutor.

1. Complete the table by circling `True` or `False` in the Answer columns for each of the following expressions to indicate whether they evaluate to true or false.

Logical expression	**Answer (circle)**	
`2 >= 4`	True	False
`1 < 1 and 5 >= 2`	True	False
`20 == 20`	True	False
`3 != 1 or 8 > 9`	True	False
`not (5 > 6)`	True	False

2. What will be displayed to the output after the following code is executed:

```
count = 0
while count <= 4:
    print ("Current ", count)
    count = count + 1
```

A.
```
Current count
```

B.
```
Current 0
Current 1
Current 2
Current 3
```

C.
```
Current 0
Current 1
Current 2
Current 3
Current 4
```

D. *Nothing, there is a syntax error*

3. What will be displayed to the output after the following code is executed:

```
for letter in "Python":
    print("letter:",letter)
```

A. `Python`

B. `letter`

C. `letter:,letter`

D.
```
letter: P
letter: y
letter: t
letter: h
letter: o
letter: n
```

4. What will be displayed to the output after the following code is executed:

```
area = 7
if area < 7:
    print("The area is too small")
elif area > 7:
    print("The area too big")
else:
    print("The area is ",area)
```

A. *Nothing as there's a syntax error, you have to convert* `area` *to a string before printing it.*

B. `The area is too small`

C. `The area is too big`

D. `The area is 7`

5. Consider a program with the following statement:

```
x = 4 + 5 * (10 - 15) // 5 + 2
```

What value will be assigned to the variable x when the code is executed?

A. -5

B. 1

C. -1

D. 5

6. Consider the following program:

```
answer = input("Do you want to run me again? ")
while answer == 'y':
   print(answer)
```

What will appear on the screen when the code is executed if the user enters '**y**' ?

A. y

B. answer

C. y
   y
   y
   y
   y
   (*y is continuously displayed until the program is stopped*)

D. *nothing – there's a syntax error!*

7. Consider a program with the following elements:

```
number = int(input("Type a whole number less than 10: "))

if number < 10:
    print("The number is too small")
else:
    print("The number is fine")
    print("Done")
```

What will appear on the screen if the user enters **`10`** when the code is executed?

A.
```
The number is too small
Done
```
B.
```
The number is fine
Done
```
C.
```
The number is too small
```
D.
```
The number is too small
The number is fine
Done
```

8. Consider a program with the following elements:

```
myString = "1" + "2" + "3"
print(myString * 3)
```

What will appear on the screen when the code is executed?

Hint: *Remember the + operator has a different effect when its operands are strings, and the * operator has a different effect when its left-hand operand is a string*

A. 6

B. 18

C. 369

D. 123123123

9. We normally say Python is a(n) _____ language when it is executed:

A. compiled
B. interpreted
C. interpolated
D. compromised

10. Consider the following program code (line numbers are added to assist with determining where changes should be made). There are no syntax errors, but it does not have a good ***programming style***. The program can be improved in 4 aspects.

Identify the aspects from the list of choices that follow the code (choose 4).
Note incorrect choices will incur a deduction (so do not select all options)

```
1       # Calculate the area of a circle based on the formula:
2       # area = radius * radius * 3.14
3       # Author: David Herbert
4
5       pi = 3.1415
6       b = float(input("Enter the circle radius: "))
7       Area = b * b * pi
8       print(Area)
```

A. The comments at the start (lines 1 to 3) should use triple quotes (''') instead of single-line (#) comments

B. `pi` is a constant, so the variable name (lines 5 and 7) should be all uppercase (`PI`)

C. The variable `b` (lines 6 and 7) is not a very descriptive name, it should be radius

D. There should not be a blank line (line 4)

E. The final output is not very informative (line 8), it should include more detail instead of just a number

F. The calculation of area (line 7) should use the exponentiation operator to square b (`b**2`) and not multiplication (`b*b`)

G. The result from the input for radius (line 6) should be stored in a variable first before it is then converted to a float using the float function in an additional line of code

H. The `Area` variable (lines 7 and 8) should start with a lowercase a (`area`)