Name:

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Student Number:

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Please fill in your **Student Number and Name** and **CHECK the CORRECT COURSE.**

Student Number : _____

CSC1017F ☐

CSC1015F ☐

University of Cape Town ~ Department of Computer Science

Computer Science 1015/1017F ~ 2012

Class Test 1

Question	Max	Internal	External
1	6		
2	4		
3	10		
4	10		
TOTAL	**30**		

Marks : 30

Time : 40 minutes

Instructions:

a) Answer all questions.

b) Write your answers in pen in the spaces provided.

c) Show all calculations where applicable.

Question 1 – Multiple Choice [6]

For each of the multiple choice questions below, write down the letter corresponding to the correct answer. Note that all code examples refer to Python version 3.

(a) In Python 3, the expression print("Hello","class",sep='*') will evaluate as:

A. Hello class*

B. 'Hello class'

C. Hello*class

D. Syntax error

_____[1]

(b) `type(1.0)` will evaluate as:

A. NameError: name 'type' is not defined

B. <class 'str'>

C. <class 'int'>

D. <class 'float'> [1]

_____

(c) `-7//2` will evaluate as:

A. -4.0

B. -4

C. -3.0

D. -3 [1]

_____

(d) 10.0*2 will evaluate as:

A. '10.010.0'

B. 20.0

C. 20

D. 200 [1]

_____

(e) "IloveCSC1015F"[1:5] will evaluate as:

A. 'love'

B. 'Ilov'

C. 'loveC'

D. 'IloveC' [1]

_____

(f) "Hannah"[-2:0:-1] will evaluate as:

A. 'anna'

B. ''

C. 'hannaH'

D. Hna [1]

_____

Question 2 [4]

a) Explain, clearly and simply, the difference between the **string** and **integer** data types in Python, using the literals 1 and '1' as an example. [4]

Question 3 [10]

Examine the module, Q3.py, that is listed below:.

```
# module Q3.py
def calc1(value):
    print("Value =",value)
    tmp=value//3
    print("Answer =",tmp)

print("Hello")
x=20
print('x =',x)
calc1(x)
y=x
x=30
print('y =',y)
```

(a) From the module `Q1.py,` give an example of:

1. a variable [1]

_____

2. a function [1]

_____

3. a literal [1]

_____

4. an assignment statement [1]

_____

(b) Write down the **exact output** of the `Q1.py` module when it is run in the Python interpreter (i.e. when you press "Run" in the Wing IDE). [6]

_____

_____

_____

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Question 4 [10]

Examine the module, Q4.py, that is listed below:.

```
# module Q4.py
def munge(val1):
    w=val1*2
    print(w)
    x=val1.upper()
    print(x)
    y=w+x
    if len(y)>10:
        print("won't fit")
    else:
        print(y)
munge("jab")
munge("2134")
```

(a) Write down the **exact output** of `Q4.py` when it is run in the Python interpreter. [6]

(b) Now rewrite the munge function so that it prints the string `val1` with the first and last characters in lowercase and the rest in uppercase. (NOTE: You **do not** need to check that the parameter val1 is a string.) For **example**, invoking the function should work as follows:

```
>>> munge("apples")
aPPLEs
>>> munge("BANANAS")
bANANAs
>>> munge("PeArS")
pEARs
```

[4]