University of Cape Town

Department of Computer Science

Computer Science CSC1010H

Class Test 3

Wednesday, 1 October 2014

Marks: 35

Time: 40 minutes

- Approximate marks per question are shown in brackets
- The use of calculators is permitted

Surname   Initials

NAME:

STUDENT NO: **COURSE CODE:**   CSC

This paper consists of 5 questions and 5 pages (including this cover page).

Mark Allocation							
Question	Marks	Internal	External	Question	Marks	Internal	External
1	3			5	5		
2	12						
3	5						
4	10						
	Total				**Total**		
					Grand Total		
					Final Mark		
Internal Examiner:				**External Examiner:**			

Question 4. **[10 marks]**

a) Create a class called Triangle which has object variables for sides a, b and c. The Triangle class should have a constructor and a string conversion method. It should also have a method which returns the perimeter of the triangle. [7]

```
class Triangle: #1

    def __init__(self,a,b,c): #1
        self.side_a = a
        self.side_b = b    #1 for all assignments
        self.side_c = c

    def __str__(self):  #1
        return str(self.side_a) + "," + str(self.side_b) + "," + str(self.side_c) #1

    def perimeter(self): #1
        return self.side_a + self.side_b + self.side_c #1
```

b) Using the class defined above, write a short code fragment which creates a triangle object with sides 3, 4 and 5, prints out the object perimeter and prints out the object itself. [3]

```
tri = Triangle(3,4,5) #1
print(tri.perimeter()) #1
print(tri) #1
```

Question 5.   **[5 marks]**

a) Consider the following written question, and do a <u>task analysis</u> on the question.

Considering Python loops, contrast for loops and while loops, specifically looking at keywords and their use, i.e. when to use which loop.   [3]

Broad topic: Loops #1

Specific details: for loops, while loops, keywords, use #1

Question/Instruction word: contrast #1

b) In the formal writing process, indicate why referencing is important?   [1]

−To acknowledge the work of others
−To share resources
−To place authors in a field of knowledge
−To show where we got our information from so that it can be verified
−To support our claims with evidence

(any one)

Indicate if the following statements are true or false:

c) In academic writing, personal pronouns like "I", "me" and "we" are frequently used. [1]

False