

# iGCSE Computer Science

Unit 1 Programming - Sample test

Total: 34 marks

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Q1.

Write an algorithm to input 1000 numbers. Count how many numbers are positive and how many numbers are zero. Then output the results. [6 marks]

Q2.

A Python program is used to record a shopping list. Write two parts of this program:

- (a) Write an algorithm that prompts a user to enter items for the shopping list, saving it into a list variable called `shopping` by continually asking for a new item to be added, and finishing input when an empty string is entered. [7 marks]
- (b) Write a defined function called `print_list` that receives the shopping list as a parameter, and prints each item in the list as output. [5 marks]

Q3.

The following program is used to calculate the average of a list of numbers.

```
items = [ 32, 27, 60, 49, 92 ]
total = 0
for n in items:
    total = total + n
average = total / len(items)
print(average)
```

- (a) What data type is `items`? [1 mark]
- (b) What data type is `items[0]`? [1 mark]
- (c) What data type is `average`? [1 mark]
- (d) What data type would `average` be if it was calculated using `average = total // len(items)` instead? [1 mark]
- (e) Write the command that would delete the 3rd value from `items` (ie: the number 60)? [2 marks]

Q4.

Rewrite the program from question 3 so that in addition to its existing functionality, it also calculates the range for any given set of `items` (range is defined as the numerical difference between the highest and lowest values). [6 marks]

Q5.

Given the following example variable

```
address = "3 Lai Wo Lane, Fo Tan, Sha Tin, Hong Kong"
```

Write programming code that would split the data based on the presence of the comma to generate the following example printed output

```
3 Lai Wo Lane  
Fo Tan  
Sha Tin  
Hong Kong
```

[4 marks]