**Discussion 1**

The following Pseudocode read in 10 students’ scores and calculate the average.

Initialize student\_counter to zero

While student\_counter is less than or equal to ten

Input the next score

Add the score into the total

EndWhile

Set the class average to the total divided by ten

There are some errors in the above Pseudocode. Please indicate where the errors are and how to correct them.

Initialize student\_counter to zero

Initialize total to zero

While student\_counter is less than or equal to ten

Input the next score

Add the score into the total

Student\_counter increases by one

EndWhile

Set the class average to the total divided by ten

**Discussion 2**

Fill in the blanks to complete the following Pseudocode to read in 10 students’ scores and calculate the number of passes and failures.

Initialize passes to zero

Initialize failures to zero

Initialize student\_counter to one

Initialize passing mark to x

While student\_counter is less than or equal to ten

Input the next score

if score more than x:

passes += 1

else:

failures += 1

add one to student\_counter

EndWhile

**Discussion 3**

Write the FizzBuzz algorithm using pseudocode.

FizzBuzz is a standard interview problem. The Problem state:

* Write a code that prints each number from 1 to 20 on a new line.
* Print “Fizz” if the number is the multiple of 3.
* Print “Buzz” if the number is multiple of 5
* For number which is multiple of both 3 and 5 print “FizzBuzz”

Initialize counter = 0

While counter < 20:

If counter % 3 = 0

Print(“fizz”)

Elif counter % 5 = 0

Print(“buzz”)

Elif counter % 3 =0 and counter % 5 =0

Print(“fizzbuzz”)

The ***sample run*** is as follows:

1

2

Fizz

4

Buzz

Fizz

7

8

Fizz

Buzz

11

Fizz

13

14

FizzBuzz

16

17

Fizz

19

Buzz

**Discussion 4**

For each of the following, discuss what the outcome will be if they are executed by a Python interpreter (e.g.IDLE3) in the sequence shown.

**c = 10**

**7 = a**

**a = d**

**a = c + 1**

**a + c = c**

**3 + a**

**7up = 10**

**import = 1003**

**b = math.pi \* c**

**int = 500**

**a \*\* 3**

**a,b,c = c,1,a**

**b,c,a = a,b**

**c = b = a = 7**

**print( A )**

**print( "b\*b + a\*a = c\*c" )**

**print( ‘A’ )**

**print( "c" = 1 )**

**Discussion 5**

Write a program that asks the user for the number of boys and that of girls in a class. The program should calculate and display the percentage of boys and girls in the class. A sample run is as follows:

**Enter the number of boys: 65**

**Enter the number of girls: 77**

**Boys: 46%**

**Girls: 54%**

1. Design the algorithm and use flowchart to present.
2. Write the Python program.
3. boys = 0
4. girls = 0
5. boys = int(input("What is the number of boys? "))
6. girls = int(input("What is the number of girls? "))
7. total = boys + girls
8. print("Boys: ", int((boys/total)\*100), "%")
9. print("Girls: ", int((girls/total)\*100), "%")