

COMP 1601 - Programming I  
Assignment #1  
Date Due: 28<sup>th</sup> September, 2017 at 11:00 pm

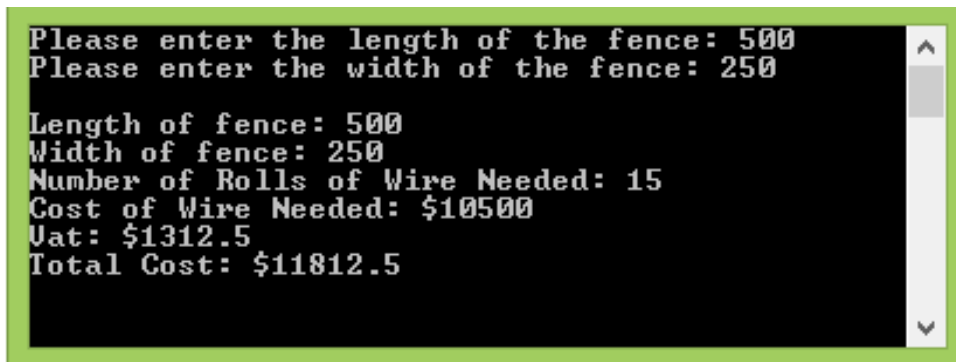
**Instructions:**

- Create a folder. The name of the folder is your UWI student Id number.
- Create and test the programs as detailed below.
- The *names* of the programs should be as indicated in each question.
- All programs must be saved in the folder created above.
- Zip the folder and upload the zipped folder to myeLearning no later than **28th September, 2017 at 11:00 pm.**
- Absolutely no late or emailed submissions will be accepted.

**Question 1**

Write a program, *Fence.cpp*, to calculate and print the amount and total cost of the wire needed to fence a rectangular field. 1 roll of wire of length 100 metres costs \$750. Wire can only be bought in rolls. The program allows the user to enter the length and width of the field in metres and prints the number of rolls of wire needed, the cost of the wire needed, the VAT of 12.5% to be paid and the total cost of the purchase.

A screenshot of the running program is shown below.



```
Please enter the length of the fence: 500
Please enter the width of the fence: 250

Length of fence: 500
Width of fence: 250
Number of Rolls of Wire Needed: 15
Cost of Wire Needed: $10500
Vat: $1312.5
Total Cost: $11812.5
```

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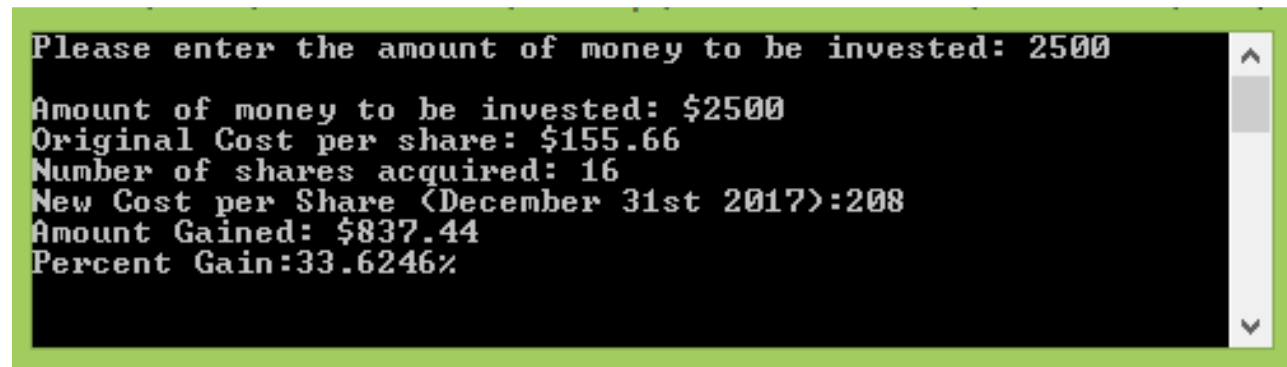
## Question 2

The current cost of one share of Apple Inc. stock is \$161.37. A customer wishes to purchase Apple shares. A fraction of a share cannot be purchased.

Write a program, *Shares.cpp*, to allow the user to enter the amount of money they wish to invest and calculate the number of Apple shares which can be purchased and the profit that will be made on December 31<sup>st</sup> 2017. Express the profit in dollars and cents as well as a percentage.

Assume that the cost of Apple Inc. shares on December 31<sup>st</sup> 2017 increases to \$208.00.

The program operates as follows:



```
Please enter the amount of money to be invested: 2500
Amount of money to be invested: $2500
Original Cost per share: $155.66
Number of shares acquired: 16
New Cost per Share (December 31st 2017):208
Amount Gained: $837.44
Percent Gain:33.6246%
```

## Marking Scheme

For *each* program:

Criteria	Marks
Variable Declarations and Initialization	3
Prompting for and Reading Data	4
Calculations	5
Output	5
Working Program	8
Total Marks Per Program	25

**Total Overall Marks to Be Awarded: 50**