

ECOR 1606 Lab Midterm v10

The true cost of a car bought for X dollars down plus Y dollars a month for N months can be computed using the formulas below:

$$\text{cost} = X + Y \left[\frac{(1+i)^N - 1}{i(1+i)^{N-1}} \right]$$

$$i = I / (12 * 100)$$

where I is the annual interest rate in % (use $I = 5\%$)

Write a program which repeatedly reads in values for X , Y , and N until -1 -1 -1 is entered. For each set of values entered your program should either i) output an error message (if any of the values are less than 0) or ii) output the true cost of the car.

When -1 -1 -1 is entered your program should output:

- i) the average of all computed costs and
- ii) the best (lowest) cost and the corresponding values for X , Y , and N . In the event of a tie either set of values may be output.

Note:

- See supplied file “*1606w11labfinal.cribsheet.pdf*” for a list of available C-- / C++ functions.

If you think any of the above is unclear, run the sample executable provided. We will **not** clarify or explain the question. You may wish to refer to supplied file “*1606w11.midtermlabmarking.pdf*” for further details on the lab midterm test.

You may write your program using C-- or C++. If you choose C++, use supplied file “*framework.cpp*” as your starting point and call your program “*midv10.cpp*”. If you choose C--, call your program “*midv10.cmm*” and when you are finished select “Create a C++ Program” from the File menu to save it as a C++ program called “*midv10.cpp*”.

Submit “*midv10.cpp*” using the **lab test** version of the submit program by the end of your lab period.