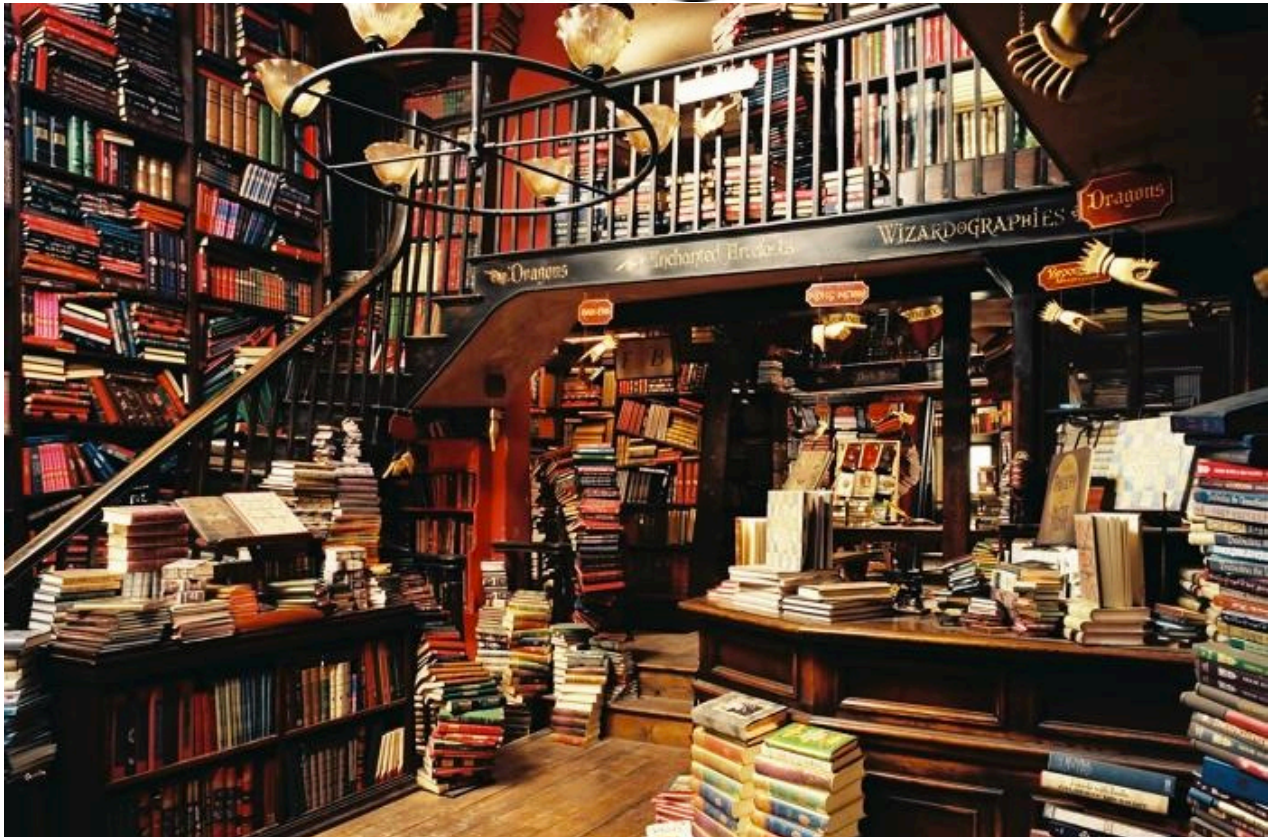


Program 3



ASSIGNMENT DATE:

Friday, March 3, 2017

DUE DATE:

Wednesday, March 22, 2017 (upload to ilearn dropbox folder named Program 3)

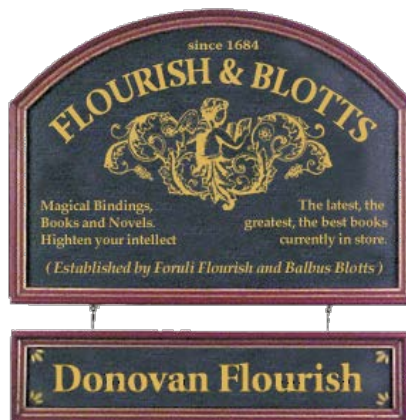
DESCRIPTION:

Foruli Flourish and Balbus Blotts owns a popular bookstore on Diagon Alley called Flourish & Blotts. They would like to know how the store profited last year. They want to know the total profits, average profit per month, the most profitable month, the least profitable month, and also the quarterly profits.

For this assignment I will not be giving as much direction on the actual implementation of the code so that you will improve your problem solving skills. I will, however, give you sample output and some rules you must follow.

RULES:

- You must have the following files to implement this program:
 - **bookstore.cpp**
 - **bookstore.h**
 - **functions.cpp**
- You must have a minimum of three arrays (defined in the main function in driver.cpp)
 - **profit array** – holds the profit amount for each month. Each month is an element in this array.
 - **monthNames array** – holds the name of each month – you may initialize this array at the top of the main function.
 - **quarterlyProfit array** – holds the total profit amount for each quarter
- You must have a minimum of six functions
 - **main function** – defined in bookstore.cpp. All results (starting with horizontal dashes in sample output) must be printed in the main function....not in any of the other functions.
 - **getprofit function** – defined in functions.cpp, prototype in bookstore.h. Allows user to enter in the profits for each month into the profit array. Input validation: you must not allow a profit that is less than zero.
 - **getquarterly function** – defined in functions.cpp, prototype in bookstore.h. calculates the total profit for each quarter. A quarter is three months (January + February + March is the 1st quarter).
 - **gettotal function** – defined in functions.cpp, prototype in bookstore.h. Accumulates a running total of the profit array and returns this value back to the main function.
 - **getmax function** – defined in functions.cpp, prototype in bookstore.h. Finds the month with the largest profit (in the profit array), returns both the profit amount for this month and the name of the month. Hint: you will need to use a reference variable!
 - **getmin function** - defined in functions.cpp, prototype in bookstore.h. Finds the month with the smallest profit (in the profit array), returns both the profit amount for this month and the name of the month. Hint: you will need to use a reference variable!
- You may not have any global variables – even if they are constant. This is so you must practice sending data to/from functions!
- The user must be able to run the program as many times as they wish.
- All dollar amounts must be printed in the results with a dollar sign (\$) and printed to two numbers after the decimal point. The output also must be in a neat, easy-to-read format. Use stream manipulators
- You must have a comment block at the top of your program as well as a comment above each function telling the function name & purpose.
- You must indent your code properly.



SAMPLE OUTPUT:

```
C:\Windows\System32\cmd.exe - a

Welcome to Flourish and Blotts Bookstore!

Enter the profit for month1: $568.96
Enter the profit for month2: $5456.35
Enter the profit for month3: $7285.36
Enter the profit for month4: $1589.36
Enter the profit for month5: $-25
I'm sorry, you must enter a profit greater than zero.
Enter the profit for month5: $250
Enter the profit for month6: $264486.36
Enter the profit for month7: $8563.32
Enter the profit for month8: $5214.41
Enter the profit for month9: $9645.36
Enter the profit for month10: $987414.45
Enter the profit for month11: $986.35
Enter the profit for month12: $5486.31

-----
TOTAL PROFITS FOR YEAR:          $ 1296946.59
YEARLY AVERAGE PROFIT:         $  108078.88
MONTH WITH LARGEST PROFIT:      October totaling $987414.45
MONTH WITH SMALLEST PROFIT:     May totaling $250.00
-----

          QUARTERLY PROFITS
January - March          $   13310.67
April - June             $  266325.72
July - September        $   23423.09
October - December      $   993887.11
-----

Would you like to run the program again? (Y/N)
y
```



```
C:\Windows\System32\cmd.exe

Welcome to Flourish and Blotts Bookstore!

Enter the profit for month1: $5486.36
Enter the profit for month2: $1522.25
Enter the profit for month3: $8448.36
Enter the profit for month4: $56889.36
Enter the profit for month5: $152.25
Enter the profit for month6: $86868.36
Enter the profit for month7: $456846.36
Enter the profit for month8: $1522.25
Enter the profit for month9: $77
Enter the profit for month10: $145
Enter the profit for month11: $15868
Enter the profit for month12: $153.63

-----

TOTAL PROFITS FOR YEAR:      $   633979.18
YEARLY AVERAGE PROFIT:     $    52831.60
MONTH WITH LARGEST PROFIT:   July totaling $456846.36
MONTH WITH SMALLEST PROFIT: September totaling $77.00

-----

                QUARTERLY PROFITS
January - March      $    15456.97
April - June        $    143909.97
July - September    $    458445.61
October - December  $     16166.63

-----

Would you like to run the program again? (Y/N)
n

C:\Users\acrockett\Desktop\CSC2100 Spring 2017\PROGRAMS\PROGRAM 3>
```

