

# Homework Assignment 5-B

For this Assignment you will attach ONE file, your program file (the .cpp file). DO NOT cut and paste your code into the Add Comments section of the Assignment or email your program, your program will NOT be graded and you will receive a zero for the assignment.

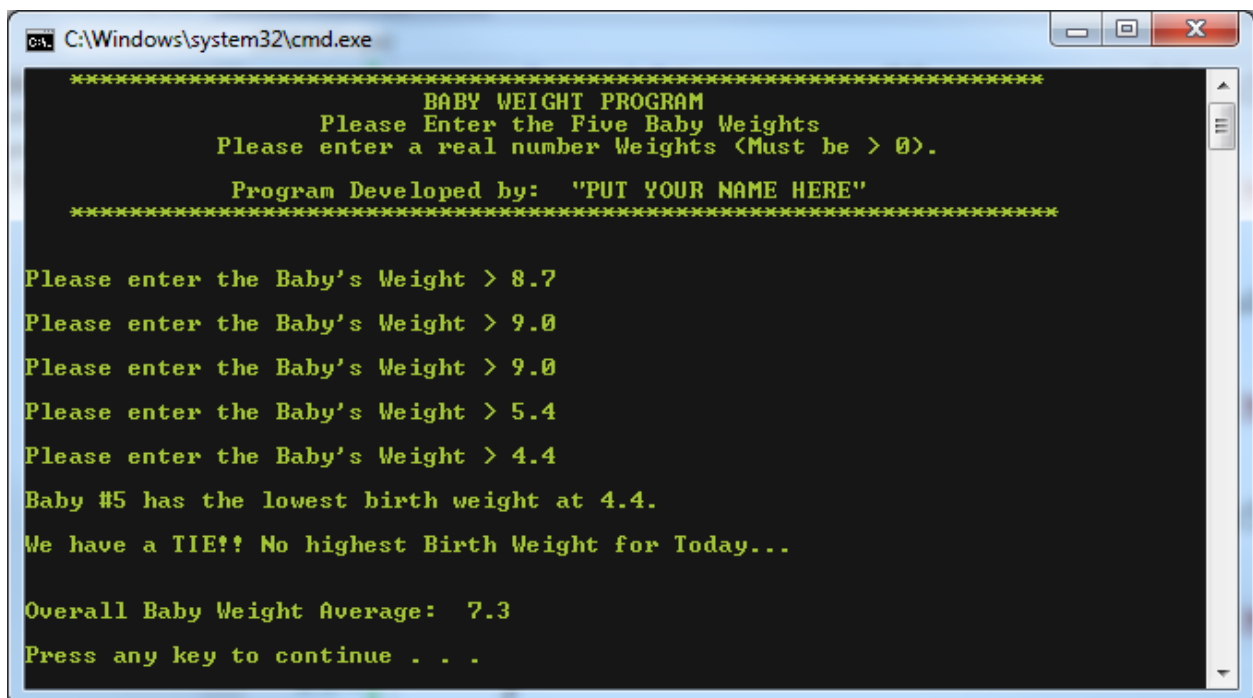
**If program does not compile you will automatically lose -10.**

**PROBLEM:** Hospital Baby Weights. (20 pts)

Write a program that allows you to enter five baby weights. Your program will determine which baby's weight was the lowest, which was the highest and what the average baby's weight was. Your program MUST validate the baby's weight (see Input Validation below). If there is a Tie for the lowest birth or highest birth weight then display a message saying that there is no lowest or highest for Today.

**Input Validation:** The program must check to see if the user enters a valid baby weight. A number greater than zero must be entered. If the user does not enter a valid value, display an error message and continue to ask the user to enter the value again until a valid value is entered.

**SAMPLE OUTPUT:**



```

C:\Windows\system32\cmd.exe
*****
                BABY WEIGHT PROGRAM
            Please Enter the Five Baby Weights
            Please enter a real number Weights <Must be > 0>.

            Program Developed by: "PUT YOUR NAME HERE"
            *****

Please enter the Baby's Weight > 8.7
Please enter the Baby's Weight > 9.0
Please enter the Baby's Weight > 9.0
Please enter the Baby's Weight > 5.4
Please enter the Baby's Weight > 4.4
Baby #5 has the lowest birth weight at 4.4.
We have a TIE!! No highest Birth Weight for Today...

Overall Baby Weight Average:  7.3
Press any key to continue . . .
```

```

C:\Windows\system32\cmd.exe

*****
BABY WEIGHT PROGRAM
Please Enter the Five Baby Weights
Please enter a real number Weights <Must be > 0>.

Program Developed by: "PUT YOUR NAME HERE"
*****

Please enter the Baby's Weight > 0
Invalid weight...weight must be greater than 0
Please enter Baby's Weight > 4.5

Please enter the Baby's Weight > 4.5
Please enter the Baby's Weight > 5.0
Please enter the Baby's Weight > 6.0
Please enter the Baby's Weight > 4.0

Baby #5 has the lowest birth weight at 4.
Baby #4 has the highest birth weight at 6.
Overall Baby Weight Average: 4.8
Press any key to continue . . .

```

```

C:\Windows\system32\cmd.exe

*****
BABY WEIGHT PROGRAM
Please Enter the Five Baby Weights
Please enter a real number Weights <Must be > 0>.

Program Developed by: "PUT YOUR NAME HERE"
*****

Please enter the Baby's Weight > 4.0
Please enter the Baby's Weight > 5.0
Please enter the Baby's Weight > 3.7
Please enter the Baby's Weight > 3.9
Please enter the Baby's Weight > 3.7

We have a TIE!! No Lowest Birth Weight for Today...

Baby #2 has the highest birth weight at 5.
Overall Baby Weight Average: 4.06

```

**PSEUDO-CODE for main function:**

- A. Declare and Initialize Variables to Store Baby Weights and Average
- B. Call welcome() to display the program description
- C. Call getBabyWeight () for baby1
- D. Call getBabyWeight () for baby2
- E. Call getBabyWeight () for baby3
- F. Call getBabyWeight () for baby4

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- G. Call `getBabyWeight ()` for `baby5`
- H. Call `findLowest (baby1, baby2, baby3, baby4, baby5)`
- I. Call `findHighest(baby1, baby2, baby3, baby4, baby5)`
- J. Call `weightAverage (baby1, baby2, baby3, baby4, baby5)` - Don't forget to capture the returned value
- K. Output the Average Baby Weight

### CONSTRAINTS:

- NO GLOBAL VARIABLES ALLOWED. (Automatic -10)
- You must use: `int main()`
- **No Arrays or Vectors**
- The program must use local variables. (2 pts)
- All functions MUST be called by `main`. (3 pts)
- Output must be formatted properly and correct. (3 pts)
- Include a comment at the beginning of the program stating the purpose of the program, your name, the date, and your class (1pt is for code organization and use of whitespace). (3 pts)
- This program MUST use the following functions: (9 pts)

NAME YOUR FUNCTIONS AS SHOWN BELOW (- 10 if not named correctly ):

`void getBabyWeight(double &)` - (2 pts) is passed the weight of the baby by reference. This function must ask the user for the baby's weight. You must validate the input for baby's weight (See Input Validation above). This function returns no value.

`void findLowest (double, double , double , double, double)` - (2 pts) is passed the five baby weights and finds the lowest weight and displays this value. The output must be formatted properly.

`void findHighest (double, double , double , double, double)` - (2 pts) is passed the five baby's weights and finds the highest weight and displays this value. The output must be formatted properly.

`void welcome()` - (1 pts) is NOT passed any values and returns no value. This function outputs a description of the program and the developer's name (i.e. YOUR name). Your function MUST display the following text and fill in your name as the developer's name (i.e. replace "PUT YOUR NAME HERE" with your name).

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### BABY WEIGHT PROGRAM

Please Enter the Five Baby Weights

Please enter a real number Weights (Must be > 0).

Program Developed by: "PUT YOUR NAME HERE"

\*\*\*\*\*

double weightAverage(double , double , double, double, double) - (2 pts) The five baby weights are passed to this function and the function averages the weights, the average calculation is then RETURNED to main. The average result is then OUPUT in the main function.

### WRITE THE PROGRAM:

Write the program according to your *Algorithm or Pseudo Code* for the Problem above.

### CHECK THE PROGRAM:

- Does the program meet the Constraints stated above?
- Is the program displaying the correct output?
- Is the program formatted correctly?

### SUBMISSION INSTRUCTIONS:

Submit your files as one attachment using the Attach Files option within the Assignment Files section of your Assignment which is located under the associated Module Folder in Blackboard within the Module Assessments Folder within the Homework Folder (*not the email system*). Use the "Browse My Computer" button on the Assignment page to attach your files.

### Assignment Files section in Blackboard.

#### ASSIGNMENT FILES

Attach Files

Browse My Computer

Browse Content Collection

Any Assignments that are emailed will not be graded and will receive a zero.