Please design, code and debug the following problem:

My 3 friends would like to purchase a 40' sailboat and then sail to Mexico and hang out in San Carlos for one year. Please calculate and display the cost of purchase and preparation for one year of travel.

Initial costs for sailboat:

Sailboat:                       $20,000.00

Sales Tax:                    =price of boat X .0775

Registration:                 45.55

Insurance:                    =price of boat X .01 + 566.88

Preparation for trip:

Haul and paint bottom:   = length of boat X 45

New head sail:                       2,300.00

Life raft:                          3,800.00

Food Provisioning               = number of friends X 1250

Diesel:                                        760.00

Medical Kit:                            666.80

----------------------------

Write a program that does the following:

1.  Declare a variable for each cost and assign the appropriate value or an expression to calculate the value.

2.  Declare a variable for total initial-cost-of-sailboat and assign it an expression that sums up all the initial costs.

3.  Declare a variable for total preparation-costs and assign it an expression that sums up all the preparation costs.

4.  Declare a variable for total costs and assign it an expression that sums up initial and total costs.

4.  Display all the separate costs, the two partial costs and the total.  You must use the variables in the output lines, not just type in the numbers.

Programming Notes:

1.  Make sure to use the proper data type for each variable.

2.  Make the display look neat and professional.  Label each expense.  (Don't worry about rounding off the numbers to two decimal places.  We will cover that in the next chapter.)

3.  Remember to use good programming style - have a header that explains - use comments - use white space to make it all readable.

Pseudocode:

declare all var's

assign values to all known var's

calculate initial total

calculate provisioning total

calculate total costs.

display everything

After you have the program running correctly:

1.  <Save> your code (blue button at the top).

2.  <Download> (turquoise button at the top) your code, rename the file from main.cpp to:  "CISC192\_HWXX\_YourFirstNameYourLastName.  For example, if your name is Jane Doe your first assignment would be named CISC192\_Chapter 1 Programming Assignment\_JaneDoe.cpp.

3.  <Share> your code (gold button at the top) and grab the address of the program.

Please submit this in accordance with the General Homework Instructions <<https://sdccd.instructure.com/courses/2414265/pages/general-homework-instructions>>

1.  the .cpp file that is generated in step 3 above.

2.  the internet address of your program. (Put this into the comment box.)

General Homework Instructions

Integrated Development Environment (IDE):

We will use [onlineGDB.com](http://onlinegdb.com/) <<https://www.onlinegdb.com/online_c++_compiler>>

 <<https://www.onlinegdb.com/online_c++_compiler>> (Links to an external site.) <<https://www.onlinegdb.com/online_c++_compiler>>

 <<https://www.onlinegdb.com/online_c++_compiler>>as our IDE.  All programming assignments must be able to execute in [onlineGDB.com](http://onlinegdb.com/) <<https://www.onlinegdb.com/online_c++_compiler>>

 <<https://www.onlinegdb.com/online_c++_compiler>> (Links to an external site.) <<https://www.onlinegdb.com/online_c++_compiler>>

 <<https://www.onlinegdb.com/online_c++_compiler>>Once completed,  Programming Assignments are submitted for grading from within Canvas.

1.  <Save> your code (blue button at the top).

2.  <Download> (turquoise button at the top) your code, rename (Save As ..) the file from main.cpp to:  "CISC192\_HWXX\_YourFirstNameYourLastName.  For example, if your name is Jane Doe your first assignment would be named CISC192\_Chapter 1 Programming Assignment\_JaneDoe.cpp.

3.  <Share> your code (gold button at the top) and grab the address of the program.

Assignment Submission Requirements

Submit to us in Canvas:

1.  the link to your code in [onlineGDB.com](http://onlinegdb.com/) (use the "Share" icon at the top to generate the link).  Put this into a Comment Box in the submission area of Canvas.

IMPORTANT If you revise the link after submission you must submit an updated CPP file (step 2).  You have unlimited submissions until the deadline.

2.  the C++ source code (\*.cpp file) - upload this file.  The file must have been saved using the naming convention of CISC192\_HWXX\_YourFirstNameYourLastName. For example, if your name is John Smith your first assignment would be named CISC192\_Chapter 1 Programming Assignment\_JohnSmith.cpp. Upload this file through Canvas.

IMPORTANT If you revise the online GDB link after submission you must submit an updated CPP file and vice-versa.

Grading Rules:

1.  Assignment submissions that do not compile or that compile with errors will receive a zero.

2.  Assignment submissions that do not follow assignment requirements/instructions will receive a zero.

If #1 and #2 above do not apply then the points are assigned as follows:

The program correctly executes - results are correct:     85%

The program contains appropriate comments:      5%

The output is labeled and formatted:  5%

The submission package is complete:    5%

Programming Notes:

All assignments require headers with your name, the assignment number, and the date - this means the first few lines of code should be

//your name

//assignment number

//date

You must name your C++ variables correctly.  One word variables are not capped.  Constants should be all caps. Two-word variables have the first lowercase and the second-word uppercase. For example:

TAX = .10;

money = 15.5;

myMoney =  6.75;

Do not use syntax or constructs that we have not yet studied.

Do not use Global variables.  
There should be no variable declarations above int main.

Follow the instructions.