

CECS 130-01&02

Assignment 9

Assignment due on or before 9:00 p.m. Tuesday, April 25, 2017

This assignment is a continuation of assignment 8. Use the same vector class and add these parts to it

In vector algebra we define a three dimensional vector v to be a on ordered triple

$$v = (x, y, z)$$

where x , y and z are real numbers. We also define vector addition to be component wise this means that : If $v = (s, t, u)$ and $w = (x, y, z)$ then $v + w = (s+x, t+y, u+z)$.

1. Overload the $+$ symbol to become vector addition.
2. Overload the rational $==$ to yield true if v and w has the same length.
3. Write a generic function that calculates the length for an arbitrary "measurable" type using

If $v = (s, t, u, \dots)$ Then $\text{length}(v) = \sqrt{s^2 + t^2 + \dots}$

Meaning that the length is the square root of the sum of the components squared

4. Write a main function that creates two instances and correctly add using $+$ and $==$, display all three vectors and the length of each of the three vectors

A note about assignments and reports:

Your presentation in your reports and assignments reflects great deal about you, your understanding of the assignment and on how much this course means to you. I try very hard to look at the substance of the report but I will be lying if I said that presentation does not influence my judgment. It would be wise on your part to assume that this true in every course at school and in real life/work. I expect your reports to be well formed and conform to the following rules:

1. All reports have to be submitted as a **PDF** report that contains:
 - 1.1. Title page with your name, assignment number and the day you are actually submitting this report (Not the assignment due date)
 - 1.2. A comprehensive set of snapshots showing the inputs submitted and outputs obtained in the case of a successful output or a failure.
2. A text file that contains all source code, please concatenate all source code in one text file.
3. Make sure that you include as a comment at the top of your file your name and section:

As an example:

```
/* **** */
/* John Q. Public      */
/* CECS 130-11         */
/* Assignment 35        */
/* **** */
```

Failure to do this will cost you points.

4. Please zip both the PDF document with the source code and submit one zip file.
5. Please do not submit your eclipse or bloodshed project or any IDE project that you may be using. I will be compiling and testing your source code from the text file in part 2 above to test running your applications and to verify that they run.

6. Remember that you must only access BlackBoard using section 130-01