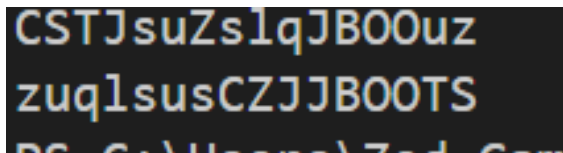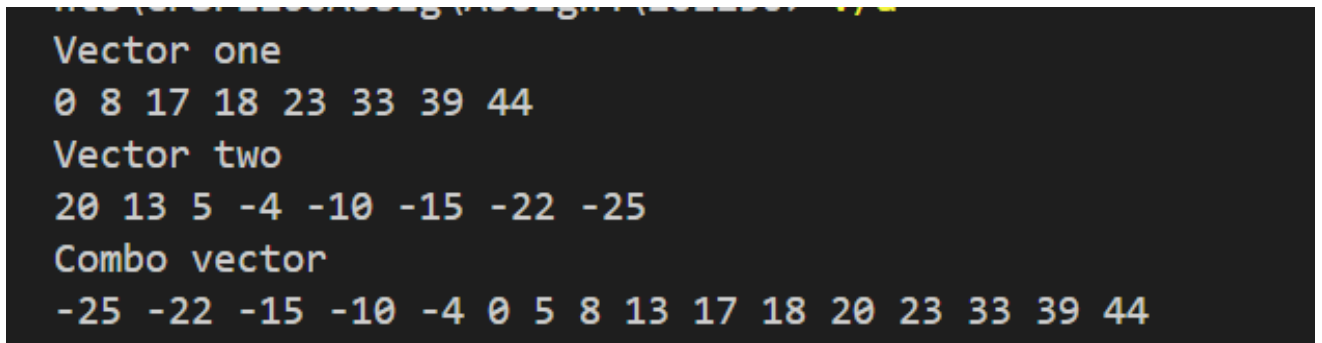# Assignment 4

Program 1

Write a c++ program that will generate a string of 16 random upper and lower case characters. Then your program should print out that string. Then your program should organize the string so that all the lower case letters come before the upper case letter and then print out the modified string. Write a text file that justifies your design decisions and what you think the running time of your algorithm is.

```
CSTJsuZslqJBOOuz
zuqlsusCZJJBOOTS
```

Program 2

Write a c++ program that will generate two vectors of 8 random ints. The first vector should be in ascending order and the second should be in descending order. Then your program should print out the vectors. Then your program should combine the two vectors to create a new vector that contains the values of the other two vectors in non-descending order. Write a text file that justifies your design decisions and what you think the running time of your algorithm is.

```
Vector one
0 8 17 18 23 33 39 44
Vector two
20 13 5 -4 -10 -15 -22 -25
Combo vector
-25 -22 -15 -10 -4 0 5 8 13 17 18 20 23 33 39 44
```

Submissions

Make sure that your code is neat and is well commented

Check that all of your programs work the way they are intended to work by running them with different inputs

Submit to D2L a zip/archive file containing the .cpp and .txt you have written and all other files needed to run your program