

CS 1713
Introduction to Computer Programming II
Recitation 5

1. (100 pts) Write a program to find the *closest pair* of numbers entered by the user. Closest pair is the pair of numbers whose difference is *minimum* among all the pairs. Consider the following set as an example {8, 2, 17, 4, 25, 32, 20}. Closest pair in this set is 2 and 4 with difference of 2. All the other pairs have differences > 2 . If you add 24 to this set to get {8, 2, 17, 4, 25, 32, 20, 24}, then closest pair is 24 and 25 with difference of 1. All the other pairs have differences > 1 . If there is more than 1 pair with same difference, return the first one. Have a loop in your program to read the numbers and use -1 to quit the loop. Use an array of size 50 to insert the numbers. Use input redirection to test your program. Note that your program reads from the user using *scanf* and input redirection feeds the file contents to your program. You don't have to use any file operations in your program. Consider the following file *a.txt*

8 2 17 4 25 32 20 -1

Sample output for this recitation using input redirection is as follows

```
fox01> recitation5 < a.txt
Closest pair: 2 and 4, Difference: 2
```

Name your program *recitation5.c*

Submit your program electronically using the blackboard system