CIS 212: Project #2B
Assigned: October 4, 2018
Due: October 11, 2018
(which means submitted by 6am on October 12, 2018)
Worth 3% of your grade

Assignment:

1) Write a C program that sorts 100 numbers in an array.
2) You can sort however you want.
    a. https://en.wikipedia.org/wiki/Bubble_sort if you need ideas. Also see the Python code below.
    b. You should not use any subroutines from the C library. (Don't use qsort, for example)
3) Your program should have the exact same output as mine.
    a. 10 numbers per row, 10 rows
    b. Note I used "tab" to do whitespaces. That makes it pretty. You should too.
4) You can confirm this:
    a. Download my "correct_output" file
    b. Run your program as "./a.out > my_output"
    c. Run the diff program to difference the two:
        i. diff /path/to/correct_output /path/to/my_output
        ii. And put the proper paths in the place of /path/to
    d. If diff gives no output, they are identical.

This project will be graded by:

1) Running the diff program against your output (as per above)
2) Inspection of your code

If the diff program shows any difference, you will get less than half credit.

What should you upload?: Just a single file, which is your C source code.

Here is a Python version to do the sorting (not the printing):

Here is a Python solution to 2B:

```
>>> A=[252, 657, 268, 402, 950, 66, 391, 285, 133, 577, 649, 166, 987, 314, 954, 214, 920, 230,
904, 801, 40, 552, 369, 682, 202, 712, 395, 517, 755, 603, 134, 385, 428, 941, 443, 477, 95, 647,
687, 737, 673, 19, 325, 697, 577, 181, 45, 964, 267, 600, 858, 145, 781, 760, 949, 508, 673, 717,
446, 634, 635, 679, 466, 474, 916, 855, 216, 899, 804, 159, 237, 625, 963, 388, 437, 682, 821,
325, 805, 876, 968, 414, 190, 434, 902, 794, 752, 729, 77, 243, 705, 953, 765, 637, 765, 158,
166, 599, 70, 927]
>>> for i in range(100):
...   low_val=A[i]
...   low_idx=i
...   for j in range(i+1,100):
```

```
...      if (A[j]<low_val):
...          low_val=A[j]
...          low_idx=j
...    tmp=A[i]
...    A[i]=low_val
...    A[low_idx]=tmp
...
>>> A
[19, 40, 45, 66, 70, 77, 95, 133, 134, 145, 158, 159, 166, 166, 181, 190, 202, 214, 216, 230, 237,
243, 252, 267, 268, 285, 314, 325, 325, 369, 385, 388, 391, 395, 402, 414, 428, 434, 437, 443,
446, 466, 474, 477, 508, 517, 552, 577, 577, 599, 600, 603, 625, 634, 635, 637, 647, 649, 657,
673, 673, 679, 682, 682, 687, 697, 705, 712, 717, 729, 737, 752, 755, 760, 765, 765, 781, 794,
801, 804, 805, 821, 855, 858, 876, 899, 902, 904, 916, 920, 927, 941, 949, 950, 953, 954, 963,
964, 968, 987]
>>>
```