CS330 - Computer Organization & Assembly Language
Assignment # 4

Individual Work Only

Problem:

Write a program in C that implements both Selection Sort and Insertion Sort. Use the dereference syntax to access array elements: *(myarr + i). Take either user input or file input to construct an array to test with.

Examples:

```python
def insertionSort(arr):
    for i in range(1, len(arr)):
        key = arr[i]
        j = i-1
        while j >= 0 and key < arr[j]:
                arr[j + 1] = arr[j]
                j -= 1
        arr[j + 1] = key


def selectionSort( itemsList ):
    n = len( itemsList )
    for i in range( n - 1 ):
        minValueIndex = i
        for j in range( i + 1, n ):
            if itemsList[j] < itemsList[minValueIndex]:
                minValueIndex = j
        if minValueIndex != i :
            temp = itemsList[i]
            itemsList[i] = itemsList[minValueIndex]
            itemsList[minValueIndex] = temp
    return itemsList
```

TURN IN:
- asgn4.c containing all functions, compilable and documented.
- File containing array, if applicable
- Makefile
- Independent completion form
- All in a .zip file

RUBRIC:
- 25%: Working Insertion Sort
- 25%: Working Selection Sort
- 10%: Using *(arr + i) syntax to access all array elements in both functions
- 10%: Take array from user input.
- 30%: Document all code

- Comments must be thorough and correct but not redundant.

- Explain both what you're doing and why you're doing it.

- 10% bonus: Read the array from a file using C functions. (replaces user input requirement)
- Code that does not compile will result in an automatic zero.