CSE211

DATA STRUCTURES

FALL 2021

ASSIGNMENT 1

Q1 (60pts): Write a **member** function into given IntSLList class which returns the minimum value of a list. Then utilizing this find_min() function, write a **member** C++ function which returns a new list with same content but sorted(ascending order). You should be careful about not changing the original list.

Prototype of your functions should exactly be:

int find_min();

IntSLList sort_list();

Important: Your work should compile & run along with the example main file provided to you. You can compile multiple cpp files using:

```
g++ main.cpp intsllist.cpp
```

Also, make no changes to the given IntSLList class except corresponding areas for your functions. You can use existing functions from the IntSLList class.

Q2 (40pts): You will see that there is a **member** function definition in IntSLList.h named *swap_nodes(int val),* but there is no code associated with it in the .cpp file. Your task is to implement this member function. The function searches the list and finds the nodes with given value and swap the node with first node of the list. For example, if the

contents of the linked list is

0 1 2 3 4

before the function call (*swap_nodes* (2)), it should become

2 1 0 3 4

after the call. The change has to be swapping the nodes not only printing.

You are **not allowed** to call any pre-existing functions from the IntSLList class, but you can check the code and get inspiration. Also, do not forget about corner-cases and memory leaks.