

CS2302 - Data Structures

Spring 2020

Exercise - Singly-linked Lists

Consider the class *List* defined in the program *singly_linked_list.py*. Implement the following functions in the *sll_exercise_1.py* program. Starter code and expected results are provided.

1. `first(L)` - that returns the first item in list *L*, or `-math.inf` if *L* is empty
2. `last(L)` - that returns the last item in list *L*, or `-math.inf` if *L* is empty
3. `swap_first_and_last(L)` - that swaps the first and last elements in *L*.
4. `length(L)` - that returns the length of list *L*
5. `sum_list(L)` - that returns the sum of the items in list *L*
6. `max_list(L)` - that returns the maximum item in list *L*, or `-math.inf` if *L* is empty
7. `to_list(L)` - that returns a python list containing the elements in *L*, in the same order as they appear in *L*.
8. `identical(L1,L2)` - that determines if lists *L1* and *L2* are identical (that is, they contain the same elements in the same order).
9. `delete_first(L)` - that deletes the first element in *L* (it does nothing if *L* is empty).