BRAC University
Department of Computer Science and Engineering
CSE 220: Data Structures

Task 1
Implement a recursive algorithm to find factorial of *n*.

Task 2
Implement a recursive algorithm to find the *n*-th Fibonacci number.

Task 3
Print all the elements of a given array recursively.

Task 4
Implement a recursive algorithm that takes a decimal number *n* and converts *n* to its corresponding (you may return as a string) binary number.

Task 5
Implement a recursive algorithm to find the m^n.

Task 6
Implement a recursive algorithm to add all the elements of a non-dummy headed singly linked linear list. Only head of the list will be given as parameter where you may assume every node can contain only integer as its element.
Note: you'll need a Singly Node class for this code.

Task 7
Implement a recursive algorithm which will print all the elements of a non-dummy headed singly linked linear list in reversed order.
Example: if the linked list contains 10, 20, 30 and 40, the method will print
40
30
20
10
Note: you'll need a Singly Node class for this code.

Task 8
Implement selection sort recursively to sort an array of integers.

Task 9
Implement insertion sort recursively to sort an array of integers.

Task 10
Implement selection sort recursively to sort a non-dummy headed singly linear linked list.

Task 11
Implement insertion sort recursively to sort a non-dummy headed doubly linear linked list.