



National University

of Computer & Emerging Sciences Peshawar Campus



Student Name: _____

Roll No: _____

Program: BS(CS)

Semester: Spring-2021

Time Allowed: 02 hours

Course: CS218– Data Structures

Examination: Mid Term

Total Marks: 60 Weightage: 30

Date: 28th May, 2021

Instructor Name: Waqas Ali

NOTE: Attempt all questions.

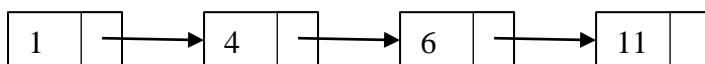
Question No. 1

Attempt Time: 20 min, **Submission Time:** 5 min

Marks: 12

Suppose you have been given a linked list of sorted integers. Write a function (named *sortedInsert*) that inserts a value in the linked list at its **proper position**, such that after inserting the value the list is still sorted. The list can either be in ascending or descending order, your function must work for both types. You can write a separate function to determine whether the linked list is sorted in ascending or descending order. Consider the linked list class is already present.

For Example:



If we want to insert 8 in to the above linked list, the correct position of 8 is between 6 and 11.

Note: You are not allowed to sort the list after insertion, you have to insert the value in its proper position.