ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

FOR GOD AND COUNTRY

WORKSHEET – 45

Topic : Singly Linked list and application of Stacks

Subject: COMPUTER SCIENCE **Class - 12** **F.M:15**

Chapter: Programming in C: Data Structures **Date: 30/11/2020**

Choose the correct answer for each question: 15x1=15

1. A linear collection of data elements where the linear node is given by means of pointer is called?
   a) Linked list
   b) Node list
   c) Primitive list
   d) Unordered list
2. In linked list each node contain minimum of two fields. One field is data field to store the data second field is?
   a) Pointer to character
   b) Pointer to integer
   c) Pointer to node
   d) Node
3. In Linked List implementation, a node carries information regarding _____
   a) Data
   b) Link
   c) Data and Link
   d) Node
4. Given pointer to a node X in a singly linked list. Only one pointer is given, pointer to head node is not given, can we delete the node X from given linked list?
   a) Possible if X is not last node
   b) Possible if size of linked list is even
   c) Possible if size of linked list is odd
   d) Possible if X is not first node
5. You are given pointers to first and last nodes of a singly linked list, which of the following operations are dependent on the length of the linked list?
   a) Delete the first element
   b) Insert a new element as a first element
   c) Delete the last element of the list
   d) Add a new element at the end of the list
6. Which of the following is not a disadvantage to the usage of array?
   a) Fixed size
   b) There are chances of wastage of memory space if elements inserted in an array are lesser than the allocated size
   c) Insertion based on position
   d) Accessing elements at specified positions

7. Which of these is not an application of linked list?
   a) To implement file systems
   b) For separate chaining in hash-tables
   c) To implement non-binary trees
   d) Random Access of elements
8. Find the output of the following prefix expression
   *+2-2 1/-4 2+-5 3 1
   a) 2
   b) 12
   c) 10
   d) 4
9. Using the evaluation of prefix algorithm, evaluate +-9 2 7.
   a) 10
   b) 4
   c) 17
   d) 14
10. Which of the following is an example for a postfix expression?
    a) a*b(c+d)
    b) abc*+de-+
    c) +ab
    d) a+b-c
11. What is the result of the given postfix expression? abc*+ where a=1, b=2, c=3.
    a) 4
    b) 5
    c) 6
    d) 7
12. If -*+abcd = 11, find a, b, c, d using evaluation of prefix algorithm.
    a) a=2, b=3, c=5, d=4
    b) a=1, b=2, c=5, d=4
    c) a=5, b=4, c=7,d=5
    d) a=1, b=2, c=3, d=4
13. What is the result of the following postfix expression?
    ab*cd*+ where a=2,b=2,c=3,d=4.
    a) 16
    b) 12
    c) 14
    d) 10
14. Evaluate the postfix expression ab + cd/- where a=5, b=4, c=9, d=3.
    a) 23
    b) 15
    c) 6
    d) 10
15. Which of the following points is/are not true about Linked List data structure when it is compared with array?
    a) Arrays have better cache locality that can make them better in terms of performance
    b) It is easy to insert and delete elements in Linked List
    c) Random access is not allowed in a typical implementation of Linked Lists
    d) Access of elements in linked list takes less time than compared to arrays