

# **ST. LAWRENCE HIGH SCHOOL**

A Jesuit Christian Minority Institution



## WORKSHEET – 45(ANSWER KEY)

### Topic : <u>Singly Linked list and application of Stacks</u>

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:

- 1. A linear collection of data elements where the linear node is given by means of pointer is called?
  - a) <u>Linked list</u>
  - 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) <u>Pointer to node</u>
  - d) Node
- 3. In Linked List implementation, a node carries information regarding \_\_\_\_\_\_
  - a) Data
  - b) <u>Link</u>
  - 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

15x1=15

- 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
- Find the output of the following prefix expression
  \*+2-2 1/-4 2+-5 3 1
  - a) <u>2</u>
  - b) 12
  - c) 10
  - d) 4
- 9. Using the evaluation of prefix algorithm, evaluate +-9 2 7.
  - a) 10
  - b) 4
  - c) 17
  - d) <u>14</u>
- 10. Which of the following is an example for a postfix expression?
  - a) a\*b(c+d)
  - b) <u>abc\*+de-+</u>
  - 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) <u>7</u>
- 12. If -\*+abcd = 11, find a, b, c, d using evaluation of prefix algorithm.
  - a) a=2, b=3, c=5, d=4
  - b) <u>a=1, b=2, c=5, d=4</u>
  - 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

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