ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

WORKSHEET – 42 (ANSWER KEY)

Topic : **Linked lists operations**

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

Chapter: Programming in C: Data Structures   **Date: 21/11/2020**

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

1. Structure is a _____ data type.
   a. Mixed
   b. Built-in
   c. **User-defined**
   d. None of these

2. Which keyword is used to define a structure?
   a. **struct**
   b. structure
   c. Node
   d. struct node

3. Consider the following definition in c programming language

   struct node
   {
     int data;
     struct node * next;
   }
   typedef struct node NODE;
   NODE *ptr;
   Which of the following c code is used to create new node?
   a) **ptr = (NODE*)malloc(sizeof(NODE));**
   b) ptr = (NODE*)malloc(NODE);
   c) ptr = (NODE*)malloc(sizeof(NODE*));
   d) ptr = (NODE)malloc(sizeof(NODE));

4. What is the condition if ptr is NULL, after the code: ptr = (struct node *) malloc(sizeof(struct node *));
   a. **OVERFLOW**
   b. UNDERFLOW
   c. NULL
   d. None of these

5. Which of the following can be used to move a pointer ptr to the last node of a linked list, whose first node is pointed by the pointer start?
   a. ptr = start; while(ptr!=NULL) ptr = ptr ->next;
   b. **ptr = start; while(ptr->next!=NULL) ptr ->next = ptr;**
   c. ptr = start; while(ptr->next!=NULL) ptr = ptr ->next;
   d. ptr = start; while(ptr!=NULL) ptr ->next =ptr;

6. Which of the following can be used to delete the last node, whose first node is pointed by the pointer start?
   a. **ptr = start; while(ptr->next->next!=NULL) ptr = ptr ->next;**
   b. ptr = start; while(ptr->next->data!=NULL) ptr ->next = ptr;
   c. ptr = start; while(ptr->next->next!=NULL) ptr ->next=ptr;
   d. ptr = start; while(ptr->data->next!=NULL) ptr ->next =ptr;

7. What does the following code do?

```
ptr->data = item;
ptr->next = head;
head = ptr;
printf("\nNode inserted\n");
```

   a. **Inserting an item at the beginning of the linked list**
   b. Inserting an item at the end of the linked list
   c. Inserting an item after specified node of the linked list
   d. None of these

8. What does the following code do?

```
temp = head;
while (temp -> next != NULL)
{
    temp = temp -> next;
}
temp->next = ptr;
ptr->next = NULL;
```

   a. Inserting an item at the beginning of the linked list
   b. **Inserting an item at the end of the linked list**
   c. Inserting an item after specified node of the linked list
   d. None of these

9. What is the purpose the below code?

```
ptr = head;
head = ptr->next;
free(ptr);
```

   a. **Deletion of node from the beginning of linked list**
   b. Insertion of node at the beginning of linked list
   c. Deletion of node from the end of linked list
   d. Insertion of node at the end of linked list

10. What is the purpose of the below code?

```
while (ptr!=NULL)
{
    printf("\n%d",ptr->data);
    ptr = ptr -> next;
}
```

   a. Searching an element in linked list
   b. **Traversing in linked list**
   c. Inserting an item in linked list
   d. Deletion of an item in linked list

11. Which function deallocates the memory previously allocated?
   a. calloc()
   b. malloc()
   c. **free()**
   d. dealloc()

12. What is the return type of free()?
    a. int
    b. struct
    c. **void**
    d. char *
13. Which header file is required to use free() in program?
    a. stdio.h
    b. string.h
    c. math.h
    d. **stdlib.h**
14. Which function can be used to compute the **size** of its operand?
    a. **sizeof()**
    b. size()
    c. malloc()
    d. calloc()
15. What does the following node represent?

    struct node

    {

     int data;

     struct node *next;

     struct node *prev;

    }

    a. Single linked list

    b. **Doubly linked list**

    c. Circular linked list

    d. All of these

Phalguni Pramanik