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School of computer application

CA 2st
Of
Advance Data Structure (CAP-680)
Session 2022-2024

Submitted to:

Name: Mr.Ritesh Verma
(Dept of. Computer Science)

Submitted by:

Name: Sanjeev Kumar
Roll no: RDOC14 A26
Course: MCA

Department of Computer Science
Lovely Professional University Jalandhar Punjab (144401)
India

Que-1 Insert value at first node and last node?

```
#include <stdio.h>
#include <stdlib.h>

struct Node {
    int data;
    struct Node *next;
};

struct Node *head = NULL;

// Insert a value at the beginning of the linked list
void insertAtBeginning(int value) {
    struct Node *newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = value;
    newNode->next = head;
    head = newNode;
}

// Insert a value at the end of the linked list
void insertAtEnd(int value) {
    struct Node *newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = value;
    newNode->next = NULL;
    if (head == NULL) {
        head = newNode;
        return;
    }
    struct Node *currentNode = head;
    while (currentNode->next != NULL) {
        currentNode = currentNode->next;
    }
    currentNode->next = newNode;
}

// Main function
int main() {

    insertAtBeginning(5);
    insertAtBeginning(4);
    insertAtBeginning(2);
    insertAtBeginning(1);
    insertAtEnd(6);
    insertAtEnd(7);
```

```
insertAtEnd(9);  
struct Node *currentNode = head;  
while (currentNode != NULL) {  
    printf("%d ", currentNode->data);  
    currentNode = currentNode->next;  
}  
return 0;  
}
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  
  
1 2 4 5 6 7 9 [1] + Done          "/usr/bin/gdb" --inte  
gine-In-m5itpmrg.lgg" 1>"/tmp/Microsoft-MIEngine-Out-4ir5pbkg.t4u"  
alright@alright:~/Desktop/programming/DSA$
```