EXTERNAL PRACTICAL

DS LAB

Name: Divyansh Jha

Class: BCA M2

Enrol No: 07713702021

Date: 3 August 2022

Q1) Write a program in c language to create a linked list and show the maximum and minimum value in the list.

Code:

```
#include <stdio.h>
#include <stdlib.h>
struct node{
int data;
struct node *next;
   };
struct node *head, *tail = NULL;
void addNode(int data) {
struct node *newNode = (struct node*)malloc(sizeof(struct node));
newNode->data = data;
newNode->next = NULL;
if(head == NULL) {
 head = newNode;
 tail = newNode;
```

```
 }
else {
tail->next = newNode;
tail = newNode;
}
}
void minNode() {
 struct node *current = head;
int min;
if(head == NULL) {
printf("List is empty \n");
}
else {
 min = head->data;


 while(current != NULL){
if(min > current->data) {
min = current->data;
}
current= current->next;
}
printf("Minimum value in the list: %d\n", min);
}
}
void maxNode() {
struct node *current = head;
int max;
```

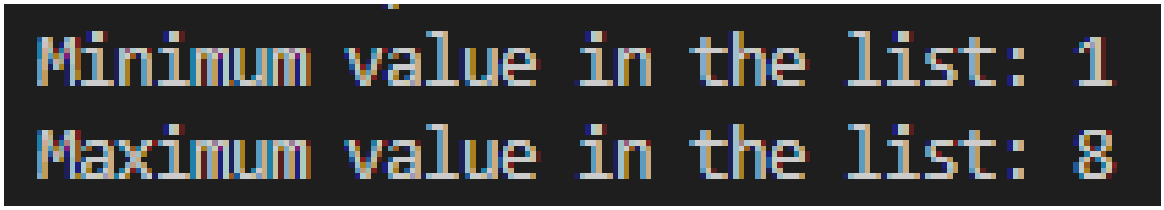
```
if(head == NULL) {
printf("List is empty \n");
}
else {
max = head->data;


while(current != NULL){
if(max < current->data) {
max = current->data;
}
current = current->next;
}
printf("Maximum value in the list: %d\n", max);
}
}


int main()
{
addNode(5);
addNode(8);
addNode(1);
addNode(6);
minNode();
maxNode();
return 0;
```

```
}
```

Output:



Q2. Write a program to delete elements from an array from beginning and end.

Code:

```
#include <stdio.h>


int num = 10;
int arr[10];
void printarr(){
   for (int i = 0; i < num; i++)
   {
      printf("%d\n",arr[i]);
   }

}


void deletebeg(){
      for (int i = 0; i < num; i++)
      {
         arr[i] = arr[i+1];
      }
```

```
        printf("Array after deletion: \n");
        num--;
        printarr();
    }


void deletelast(){
    num--;
    printf("Array after deletion from last: \n");
    printarr();
}


int main(){


    printf("Enter 10 elements for the array: ");
    for (int i = 0; i < num; i++)
    {
        scanf("%d",&arr[i]);
    }


    int ch = -1;
    while (1)
    {
        printf("\n\nEnter 0 to exit.\nEnter 1 to delete element from beginning.\nEnter 2 to delete element from last.\n\nEnter your choice: ");
        scanf("%d",&ch);
        switch (ch)
```

```
        {
        case 0:
            break;
        case 1:
            deletebeg();
            break;
        case 2:
            deletelast();
            break;
        default:
            break;
        }
    }


    return 0;
}
```

Output:

```
Enter 10 elements for the array: 10
11
12
13
14
15
16
17
18
19


Enter 0 to exit.
Enter 1 to delete element from beginning.
Enter 2 to delete element from last.

Enter your choice: 1
Array after deletion:
11
12
13
14
15
16
17
18
19


Enter 0 to exit.
Enter 1 to delete element from beginning.
Enter 2 to delete element from last.

Enter your choice: 2
Array after deletion from last:
11
12
13
14
15
16
17
18


Enter 0 to exit.
Enter 1 to delete element from beginning.
Enter 2 to delete element from last.
```