1BM19CS216

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Lab 9:

WAP to implement doubly link list with primitive operations.

a) Create a doubly linked list.
b) Insert a new node to the left of the node.
c) Delete the node based on a specific value
d) Display the contents of the list

Algorithm.

```
struct node {
    struct node *prev;
    int data;
    struct node *next;
};

struct node *head = NULL;

void add_at_begin() {
    struct node *ptr = NULL;
    ptr = (struct node *)malloc (size of (struct node));
printf("Enter the node data:: ");
scanf("%d", &ptr->data);
    ptr->prev = NULL;
    ptr->next = NULL;
if (head == NULL) {
    head = ptr;
}
else {
    ptr->next = head;
```

```
void delete_at_specified_loc()
int i, loc;
if (head == NULL) {
   printf ("empty list \n");
}
else {
   struct node *ptr = head;
  printf ("Enter the location ");
   scanf ("%d", &loc);
   for (i=1; i < loc; i++) {
      ptr = ptr->next;
}
   ptr->prev->next = ptr->next;
   ptr->next->prev = ptr->prev;
    free (ptr);
}
}

void display() {
  if(head == NULL) {
    printf (" Its empty ");
}
else {
   struct node *temp=head;
while (temp != NULL) {
 printf("%d \t", temp->data);
       temp = temp->next;
}
       printf ("\n");
}
```