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LAB-9

```
struct node
{
    int data;
    struct node * prev;
    struct node * next;
};
struct node * head = NULL;
void insert_bft()
{
    int listele;
    struct node * newnode, *temp;
    printf("Enter the element in the list before
     which you want to insert newnode \n");
    scanf("%d", &listele);
    newnode = (struct node *) malloc (sizeof(struct node));
    printf("Enter the new node data\n");
    scanf("%d", &newnode->data);
    new_node->next = NULL;
    new_node->prev = NULL;
    if(head == NULL)
    {
        printf("Empty list\n");
        return;
    }
    if(head->data == listele)
    {
        new_node->next = head;
        head->prev = new_node;
        head = new_node;
        return;
    }
```

```
while (temp->next->data != listele)
{
    temp = temp->next;
    if (temp == NULL)
    {
        printf("Element is not found in list");
        return;
    }
}
new_node->next = temp->next;
temp->next = new_node;
new_node->prev = temp;
new_node->next->prev = new_node;
}
```

```
void insert_end()
{
  struct node *new_node, *temp;
  new_node = (struct node*)malloc(sizeof(struct node));
  printf("Enter the item\n");
  scanf("%d", &new_node->data);
  new_node->next = NULL;
  new_node->prev = NULL;
  if(head == NULL)
  {
      head = new_node;
  }
  else
  {
      temp = head;
      while(temp->next != NULL)
        temp = temp->next;
      temp->next = new_node;
      new_node->prev = temp;
  }
}
void del()
{
  struct node *temp;
  int de;
  if(head == NULL)
  {
      printf("Empty list\n");
      return;
  }
```

```
printf("Enter the element to be deleted");
scanf("%d", &de);
temp = head;
while(temp->data != de)
{
    temp = temp->next;
    if(temp == NULL)
    {
        printf("Element is not in the list\n");
        break;
    }
}
if(temp == head)
{
    head = head->next;
}
else if(temp->next == NULL)
{
    temp = temp->prev;
    temp->next = NULL;
}
else
{
    temp->prev->next = temp->next;
    temp->next->prev = temp->prev;
}
```

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