

Lab 10: Doubly linked list

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a) create a doubly linked list

void create()

```
temp = (struct node*) malloc (1 * size of (struct node));
temp -> prev = NULL;
temp -> next = NULL;
printf("\n Enter the value to the node::");
scanf("%d", &data);
temp -> n = data;
count++;
}
exit create
```

b) Insert node :-

```
void insert_beg () {
    if ln = NULL {
```

```
        create ();
        h = temp;
        temp != h;
    }
```

```
else {
```

```
    create ();
    temp -> next = n;
    h -> prev = temp;
    h = temp;
}
```

exit insert_beg

Program:

c) Deletion of node

```
void delete_at_pos() {
```

```
    int i = 1, pos; printf("pos: "); scanf("%d", &pos);
```

```
    // take input of position (pos)
```

```
    temp = head;
```

```
    if ((pos < 1) || (pos > count + 1)) {
```

```
        {
```

```
            printf("Error\n");
```

```
        }
```

```
    } if (head == NULL)
```

```
    {
```

```
        printf("Error\n");
```

```
    }
```

```
    else {
```

```
        while (i < pos)
```

```
        {
```

```
            temp = temp->next;
```

```
            i++;
```

```
        }
```

```
        if (i == 2)
```

```
            temp = temp->prev->next; temp->next = temp->next->next;
```

```
        if (i == 1)
```

```
            temp = temp->next;
```

```
            free(temp);
```

```
        }
```

```
        count--;
```

```
    }
```

d display

```
void display-beg() {
```

```
    temp2 = n;
```

```
    if (temp2 == NULL)
```

```
    {
```

```
        print error
```

```
    }
```

```
    while (temp2->next != NULL)
```

```
    {
```

```
        printf("%d", temp2->n);
```

```
        temp2 = temp2->next;
```

```
    }
```

```
    printf("%d", temp2->n);
```

```
}
```