# Searching for a specific node in Doubly Linked List

We just need traverse the list in order to search for a specific element in the list. Perform following operations in order to search a specific operation.

Copy head pointer into a temporary pointer variable ptr.

ptr = head

• declare a local variable I and assign it to 0.

i=0

- Traverse the list until the pointer ptr becomes null. Keep shifting pointer to its next and increasing i by +1.
- Compare each element of the list with the item which is to be searched.
- If the item matched with any node value then the location of that value I will be returned from the function else NULL is returned.

#### Algorithm

```
Step 1: IF HEAD == NULL

WRITE "UNDERFLOW"
GOTO STEP 8
[END OF IF]
Step 2: Set PTR = HEAD
Step 3: Set i = 0
Step 4: Repeat step 5 to 7 while PTR != NULL
Step 5: IF PTR → data = item

return i
[END OF IF]
Step 6: i = i + 1
Step 7: PTR = PTR → next
Step 8: Exit
```

#### C Function

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

void create(int);

void search();
struct node
{
   int data;
   struct node *next;
   struct node *prev;
};
struct node *head;
```

î

```
void main ()
  int choice, item, loc;
   do
     printf("\n1.Create\n2.Search\n3.Exit\n4.Enter your choice?");
     scanf("%d",&choice);
     switch(choice)
        case 1:
        printf("\nEnter the item\n");
        scanf("%d",&item);
        create(item);
        break;
        case 2:
        search();
        case 3:
        exit(0);
        break;
        default:
        printf("\nPlease enter valid choice\n");
  }while(choice != 3);
void create(int item)
 struct node *ptr = (struct node *)malloc(sizeof(struct node));
```

```
if(ptr == NULL)
    printf("\nOVERFLOW");
 else
 if(head==NULL)
    ptr->next = NULL;
    ptr->prev=NULL;
    ptr->data=item;
    head=ptr;
 else
    ptr->data=item;printf("\nPress 0 to insert more ?\n");
    ptr->prev=NULL;
    ptr->next = head;
    head->prev=ptr;
    head=ptr;
  printf("\nNode Inserted\n");
void search()
```

Ú

```
struct node *ptr;
int item,i=0,flag;
ptr = head;
if(ptr == NULL)
  printf("\nEmpty List\n");
}
else
{
  printf("\nEnter item which you want to search?\n");
  scanf("%d",&item);
  while (ptr!=NULL)
  {
     if(ptr->data == item)
       printf("\nitem found at location %d ",i+1);
       flag=0;
       break;
     else
       flag=1;
     i++;
     ptr = ptr -> next;
  if(flag==1)
     printf("\nItem not found\n");
```

ΓŢ

```
}
}
```

#### Output

```
1.Create
2.Search
3.Exit
4.Enter your choice?1
Enter the item
23
Node Inserted
1.Create
2.Search
3.Exit
4.Enter your choice?1
Enter the item
90
Node Inserted
1.Create
2.Search
3.Exit
4.Enter your choice?2
```

Enter item which you want to search? 90

item found at location 1

 $\leftarrow$  prev  $next \rightarrow$ 

#### Please Share









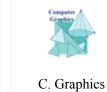


#### **Learn Latest Tutorials**









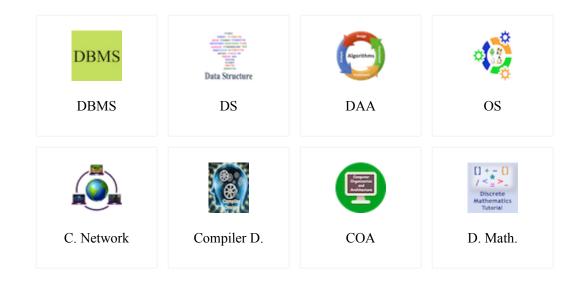




## Preparation



### B.Tech / MCA









C

Cyber Sec.

C







Java

.Net

Python



C++

Programs



Control S.

1. Artificial Intelligence Programs

3. Free Name Search

2. Python Tutorial PDF

4. Bachelor Degrees