

# Program on Linkedlist

```
#include <iostream>
using namespace std;
struct Node
{
    int data;
    struct Node *next;
};
struct Node* top = NULL;
void push(int val)
{
    struct Node* newnode = (struct Node*) malloc(sizeof(struct Node));
    newnode->data = val;
    newnode->next = top;
    top = newnode;
}
void pop()
{
    if(top==NULL)
        cout<<"Stack Underflow"<<endl;
    else
    {
        cout<<"The popped element is "<< top->data <<endl;
        top = top->next;
    }
}
void display()
{
    struct Node* ptr;
    if(top==NULL)
        cout<<"stack is empty";
    else {
        ptr = top;
        cout<<"Stack elements are: ";
        while (ptr != NULL) {
            cout<< ptr->data <<" ";
            ptr = ptr->next;
        }
    }
    cout<<endl;
}
int main()
{
    int ch, val;
    cout<<"1) Push in stack"<<endl;
    cout<<"2) Pop from stack"<<endl;
    cout<<"3) Display stack"<<endl;
    cout<<"4) Exit"<<endl;
    do {
        cout<<"Enter choice: "<<endl;
        cin>>ch;
        switch(ch)
        {
            case 1:
            {
                cout<<"Enter value to be pushed:"<<endl;
```

```

cin>>val;
push(val);
break;
}
case 2:
{
pop();
break;
}
case 3:
{
display();
break;
}
case 4: {
cout<<"Exit"<<endl;
break;
}
default: {
cout<<"Invalid Choice"<<endl;
}
}
}while(ch!=4);
return 0;
}

```

## OUTPUT:

```

1) Push in stack
2) Pop from stack
3) Display stack
4) Exit
Enter choice:
1
Enter value to be pushed:
10
Enter choice:
1
Enter value to be pushed:
20
Enter choice:
1
Enter value to be pushed:
30
Enter choice:
3
Stack elements are: 30 20 10
Enter choice:
2
The popped element is 30
Enter choice:
3
Stack elements are: 20 10
Enter choice:
4
Exit

```