

## Program to Illustrate Lined implementation of Stack

```
#include<stdio.h>
#include<conio.h>
#include<alloc.h>
typedef struct stacktype
    {
        int info;
        struct stacktype *next;
    }stack;
void push(stack **,int);
void pop(stack**);
void peek(stack**);
void destroy(stack**);
void push(stack **t,int d)
{
    stack *node=(stack*) malloc(sizeof(stack));
    if(node==(stack*)NULL)
    {
        printf("\nMemory not allocated");
        return;
    }
    node->info=d;
    node->next>(*t);
    (*t)=node;
```

```
}  
void pop(stack** t)  
{  
    stack *node=(stack*)(*t);  
    if(node==(stack*)NULL)  
    {  
        printf("\nStack is empty");  
        return;  
    }  
    printf("\n%d is deleted",node->info);  
    (*t)=node->next;  
    free(node);  
}  
void peek(stack* t)  
{  
    if(t==(stack*)NULL)  
    {  
        printf("\nStack is empty");  
        return;  
    }  
    printf("\n%d is at stack top",t->info);  
}  
void destroy(stack** t)  
{
```

```
stack *node=(*t);
if((*t)!= (stack*)NULL)
{
(*t)=node->next;
free(node);
destroy(t);
}
(*t)=(stack*)NULL;
}
void main()
{
stack *top=(stack*)NULL;
int data,ch;
do{
clrscr();
printf("\nFollowing operations can be done on stack:\t");
printf("\n1.\tPush an element at stack top");
printf("\n2.\tPop an element from stack top");
printf("\n3.\tPeek an element at stack top");
printf("\n4.\tExit");
printf("\nEnter your choice:\t");
scanf("%d",&ch);
switch(ch)
{
```

```
case 1: printf("\nEnter the data :\t");
        scanf("%i",&data);
        push(&top,data);
        break;
case 2: pop(&top);
        break;
case 3: peek(top);
        break;
case 4: destroy(&top); return;
default: printf("\nYou have entered wrong choice");
        break;
}
getch();
}while(ch!=4);
}
```