Program 1 to demonstrate operations on Doubly Linked List

```
#include<stdio.h>
#include<alloc.h>
#include<conio.h>
typedef struct NodeType
{
int info;
struct NodeType *next,*prev;
}Node;
void main()
{
Node *head,*tail,*toadd,*todel,*todisp;
int no,i,data;
clrscr();
head=tail=(Node *)NULL;
printf("\nCreate a doubly linked list by adding number of nodes, how many? ");
scanf("%i",&no);
for(i=1;i<=no;i++)
{
toadd=(Node *)malloc(sizeof(Node));
if(toadd==(Node *)NULL)
{
printf("\nMemory allocation error! node not created in memory");
return;
}
printf("\nEnter the data for node information:\t");
scanf("%i",&data);
toadd->info=data;
if(head==(Node *)NULL)
```

```
{
toadd->prev=toadd->next=(Node*)NULL;
head=tail=toadd;
}
else
{
toadd->prev=tail;
toadd->next=(Node *)NULL;
toadd->prev->next=toadd;
tail=toadd;
}
}
printf("\nElements in input order\n");
todisp=head;
while(todisp!=(Node *)NULL)
{
printf("\n%d",todisp->info);
todisp=todisp->next;
}
printf("\nElements in reverse input order\n");
todisp=tail;
while(todisp!=(Node *)NULL)
{
printf("\n%d",todisp->info);
todisp=todisp->prev;
}

todel=head;
while(todel!=(Node *)NULL)
```

```
{
printf("\nNode of %d information is being deleted",todel->info);
head=todel->next;
free(todel);
todel=head;
}
head=tail=(Node *)NULL;
}
```