**Assignment No:- 1.1**

**Title:- Implementation of Program based on Arrays.**

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**Roll No:-56**

#include<iostream.h>

#include<conio.h>

class LIST\_**56**

{

private:

int \*A,s,n,i,ele;

public:

LIST\_**56** (int);

void ADD\_END(int ele);

void ADD\_BEG(int ele);

void ADD\_POS(int ele,int pos);

int DEL\_BEG();

int DEL\_POS(int pos);

int DEL\_END();

void LIST\_ALL();

};

LIST\_**56**::LIST\_**56** (int par)

{

n=0; s=par;

A=new int[s+1];

}

void LIST\_**56**::ADD\_END(int ele)

{

if(n==s)

{

cout<<"List is full"<<endl;

}

else

{

A[n+1]=ele;

}

n++;

}

void LIST\_**56**::ADD\_BEG(int ele)

{

if(n==s)

{

cout<<"List is full"<<endl;

}

else

{

for(i=n;i>=1;i--)

{

A[i+1]=A[i];

}

A[1]=ele;

}

n++;

}

void LIST\_**56**::ADD\_POS(int ele,int pos)

{

if(n==s)

{

cout<<"List is full"<<endl;

}

if(pos>=1 && pos<=n+1)

{

for(i=s;i>=pos;i--)

{

A[i]=A[i-1];

}

A[pos]=ele;

n++;

}

else{

cout<<"Invalid position"<<endl;

}

}

int LIST\_**56**::DEL\_BEG()

{

if(n==0)

cout<<"List is empty"<<endl;

else

{

ele=A[1];

for(i=2;i<=n;i++)

{

A[i-1]=A[i];

}

n=n-1;

cout<<ele<<"is deleted";

}

}

int LIST\_**56**::DEL\_POS(int pos)

{

if(n==0)

cout<<"List is empty"<<endl;

else

{

ele=A[pos];

for(i=pos;i<n;i++)

A[i]=A[i+1];

n--;

cout<<ele<<"is deleted";

}

}

int LIST\_**56**::DEL\_END()

{

if(n==0)

{

cout<<"list is empty";

return NULL;

}

int ele=A[n];

n=n-1;

return ele;

}

void LIST\_**56**::LIST\_ALL()

{

cout<<"List elements are"<<endl;

if(n==0)

cout<<"list is empty"<<endl;

else

{

for(i=1;i<=n;i++)

{

cout<<A[i]<<"\t";

}

}

}

void MENU()

{

LIST\_**56** obj(10);

int opt,ele,pos;

do

{

cout<<"\n\n Choose to-----\t";

cout<<"\n1.Add at end";

cout<<"\n2.Add at begining";

cout<<"\n3.Add at position";

cout<<"\n4.Delete fron begining";

cout<<"\n5.Delete from position";

cout<<"\n6.Delete from end";

cout<<"\n7.List all elements";

cout<<"\n8.EXIT ";

cout<<"\n9.Enter your choice : "<<endl;

cin>>opt;

switch(opt)

{

case 1:

cout<<"Enter element to add at end"<<endl;

cin>>ele;

obj.ADD\_END(ele);

break;

case 2:

cout<<"Enter element to add at begin"<<endl;

cin>>ele;

obj.ADD\_BEG(ele);

break;

case 3:

cout<<"Enter element to add at position"<<endl;

cin>>ele;

cout<<"Enter position";

cin>>pos;

obj.ADD\_POS(ele,pos);

break;

case 4:

ele=obj.DEL\_BEG();

break;

case 5:

cout<<"Enter position"<<endl;

cin>>pos;

ele=obj.DEL\_POS(pos);

break;

case 6:

ele=obj.DEL\_END();

break;

case 7:

obj.LIST\_ALL();

break;

case 8:

return;

break;

case 9:

default:

cout<<"Invalid option";

}

}while(1);

}

void main()

{

clrscr();

MENU();

getch();

}