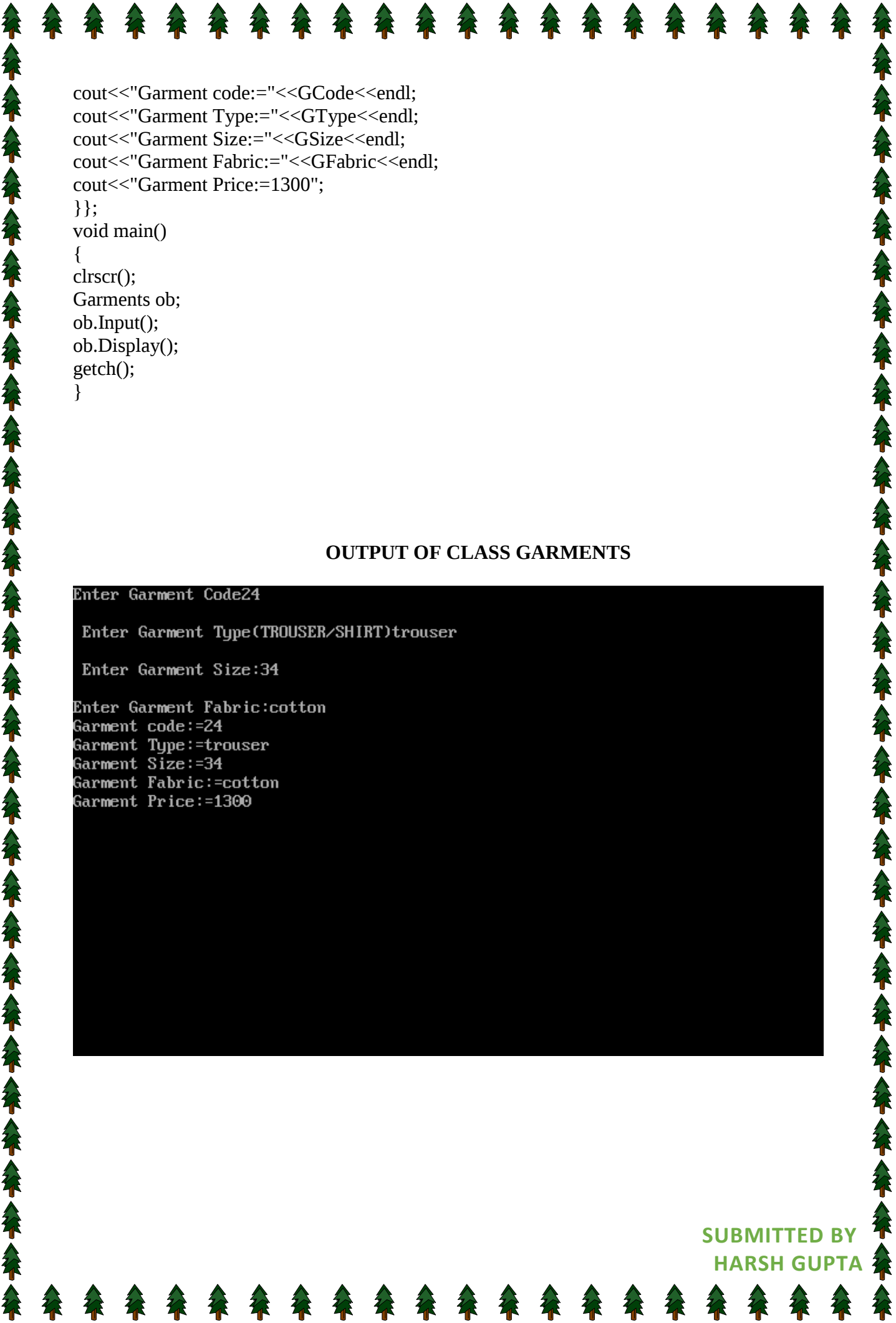


## CLASS GARMENTS

```
/*******define a class*****//
#include<iostream.h>
#include<conio.h>
#include<string.h>
#include<stdio.h>
class Garments
{
    char GCode[15];
    char GType[15];
    int GSize;
    char GFabric[15];
    float GPrice;
void Assign()
{
    if(strcmp(GFabric,"COTTON")==0)
    {
        if(strcmp(GType,"TROUSER")==0)
            GPrice=1300;
        else
            if (strcmp(GType,"SHIRT")==0)
                GPrice=1100;
    }
    else
    {
        if(strcmp(GType,"TROUSER")==0)
            GPrice=1300 - 0.10 *1300;
        else
            if(strcmp(GType,"SHIRT")==0)
                GPrice=1100 -0.10 * 1100;
    }
}
public:
Garments()
{strcpy(GCode,"NOT ALLOTED");
strcpy(GType,"NOT ALLOTED");
strcpy(GFabric,"NOT ALLOTED");
GSize=0;
GPrice=0;
}
void Input()
{cout<<"Enter Garment Code";
cin>>GCode;
cout<<"\n Enter Garment Type(TROUSER/SHIRT)";
cin>>GType;
cout<<"\n Enter Garment Size:";
cin>>GSize;
cout<<"\nEnter Garment Fabric:";
gets(GFabric);
Assign();
}
void Display()
{
```

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```
cout<<"Garment code:="<<GCode<<endl;
cout<<"Garment Type:="<<GType<<endl;
cout<<"Garment Size:="<<GSize<<endl;
cout<<"Garment Fabric:="<<GFabric<<endl;
cout<<"Garment Price:=1300";
}};
void main()
{
clrscr();
Garments ob;
ob.Input();
ob.Display();
getch();
}
```

### OUTPUT OF CLASS GARMENTS

```
Enter Garment Code24
Enter Garment Type(TROUSER/SHIRT)trouser
Enter Garment Size:34
Enter Garment Fabric:cotton
Garment code:=24
Garment Type:=trouser
Garment Size:=34
Garment Fabric:=cotton
Garment Price:=1300
```

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## CLASS RESTRA

```
/*******define a class Restra*****//
#include<iostream.h>
#include<conio.h>
#include<stdio.h>
#include<string.h>
class Restra
{
private: int foodcode;
        char food[30];
        char ftype[30];
        char sticker[30];
void Getsticker()
{
    if(strcmpi(ftype,"vegetarian")==0)
        strcpy(sticker,"green");
    else
        if(strcmpi(ftype,"contain egg")==0)
            strcpy(sticker,"yellow");
    else
        if(strcmpi(ftype,"non-vegetarian")==0)
            strcpy(sticker,"non-vegetarian");
}
public: void getfood()
    {
        cout<<"Enter foodcode:";
        cin>>foodcode;
        cout<<"\n Enter food";
        gets(food);
        cout<<"\n Enter foodtype";
        gets(ftype);
        Getsticker();
    }
    void Dispfood()
    {
        cout<<"\n foodcode="<<foodcode;
        cout<<"\n food="<<food;
        cout<<"\n foodtype="<<ftype;
        cout<<"\n sticker="<<sticker;
    }
};
void main()
{
    clrscr();
    Restra ob;
    ob.getfood();
    ob.Dispfood();
    getch();
}
```

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}

## OUTPUT OF CLASS RESTRA

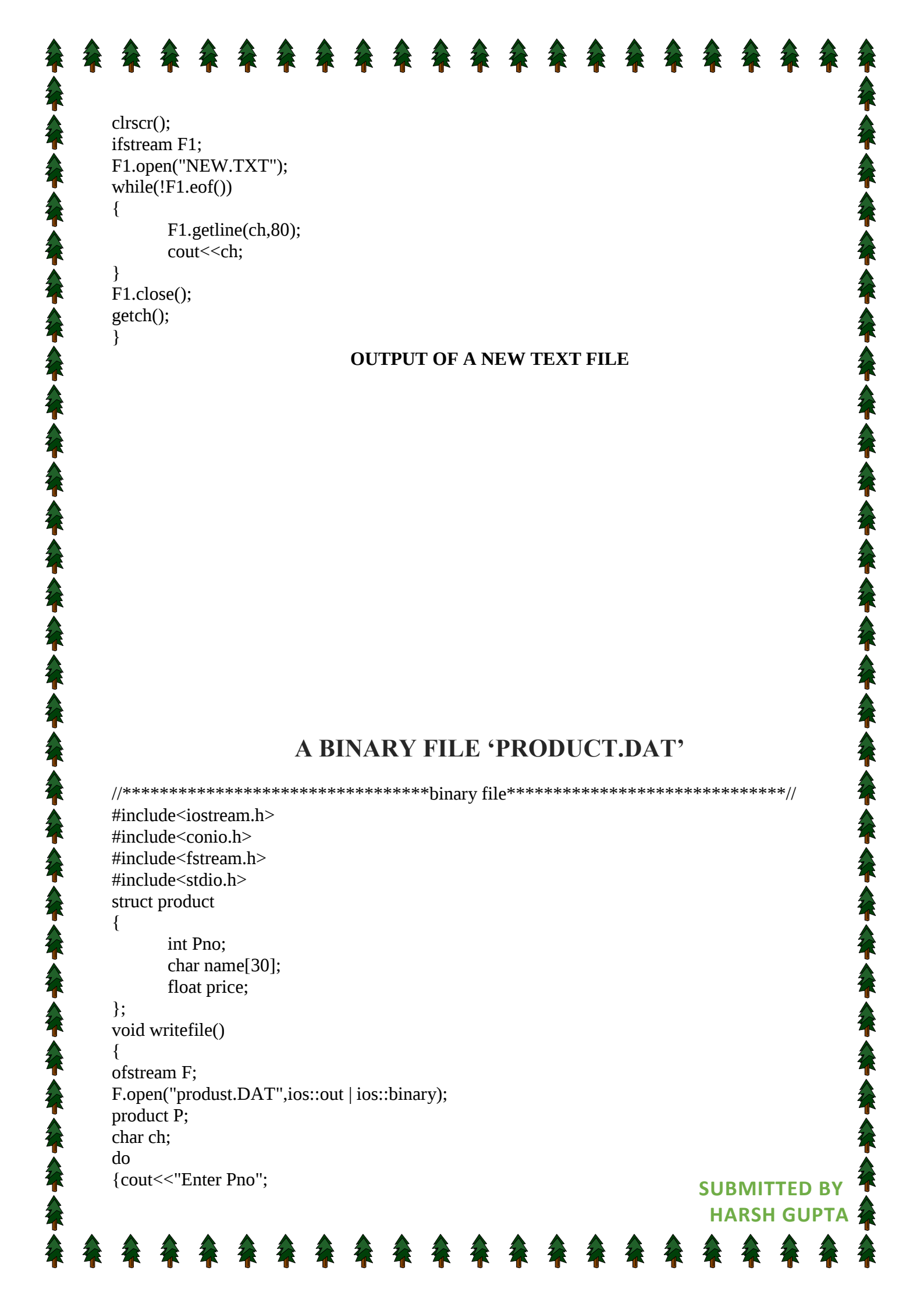
```
Enter foodcode:23
Enter foodburger
Enter foodtypevegetarian
foodcode=23
food=burger
foodtype=vegetarian
sticker=green
```

## A NEW BINARY FILE

```
/*******create a text file*****//
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
#include<stdio.h>
void main()
{
clrscr();
ofstream F;
F.open("NEW.TXT");
char ch[80],ch1;
do
{
cout<<"Enter any line to write on file";
gets(ch);
F<<ch;
cout<<"ENTER Y/N to write more data";
cin>>ch1;
}
while(ch1=='y' || ch1=='Y');

F.close();
```

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```
clrscr();
ifstream F1;
F1.open("NEW.TXT");
while(!F1.eof())
{
    F1.getline(ch,80);
    cout<<ch;
}
F1.close();
getch();
}
```

### OUTPUT OF A NEW TEXT FILE

### A BINARY FILE 'PRODUCT.DAT'

```
/*******binary file*****//
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
#include<stdio.h>
struct product
{
    int Pno;
    char name[30];
    float price;
};
void writefile()
{
    ofstream F;
    F.open("product.DAT",ios::out | ios::binary);
    product P;
    char ch;
    do
    {cout<<"Enter Pno";
```

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```

cin>>P.Pno;
cout<<"\n enter product name";
gets(P.name);
cout<<"\n Enter price ";
cin>>P.price;
F.write((char*)&P,sizeof(P));
cout<<"enter Y/N to write more data";
cin>>ch;
}while(ch=='y'||ch=='Y');
F.close();
}
void readfile()
{
ifstream F;
F.open("product.DAT",ios::in | ios::binary);
product P;
while(!F.eof())
{
F.read((char*)&P,sizeof(P));
if(P.price>100)
{
cout<<"\n P.no="<<P.Pno;
cout<<"\n name="<<P.name;
cout<<"\n price="<<P.price;}
}
F.close();
}
void main()
{
clrscr();
writefile();
readfile();
getch();
}

```

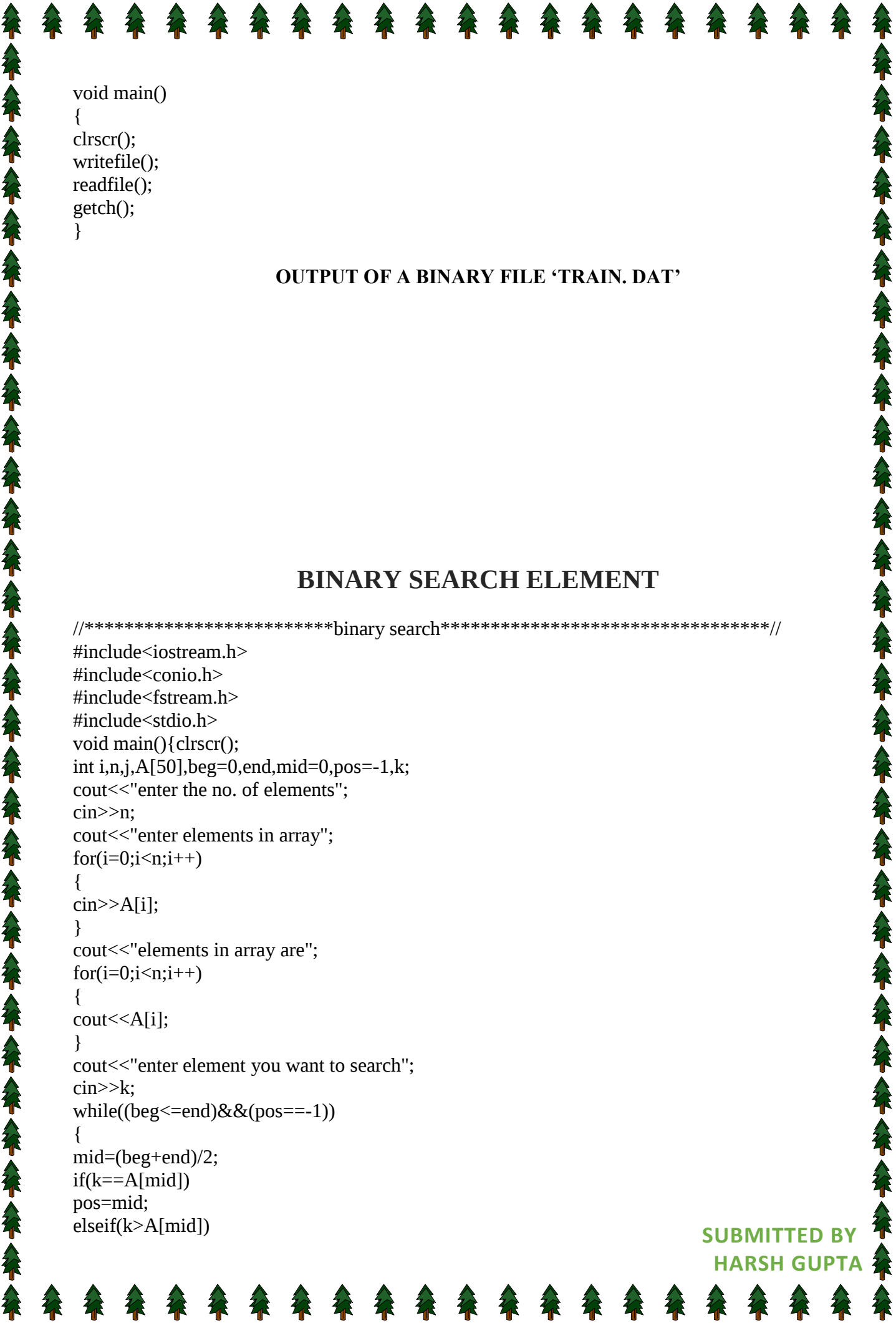
**OUTPUT OF A BINARY FILE 'PRODUCT.DAT'**

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## A BINARY FILE 'TRAIN. DAT'

```
/*******binary file*****//
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
#include<stdio.h>
class train
{
    int tno;
    char destination[20];
public: void input()
{
    cin>>tno>>destination;
}
void output()
{
    cout<<"\n tno="<<tno;
    cout<<"\n destination="<<destination;
};
void writefile()
{
    ofstream F;
    F.open("train.DAT",ios::out | ios::binary);
    train T;
    char ch;
    do
    {
        cout<<"Enter tno and destination";
        T.input();
        F.write((char*)&T,sizeof(T));
        cout<<"enter Y/N to write more data";
        cin>>ch;
    }
    while(ch=='y'||ch=='Y');
    F.close();
}
void writefile()
{
    ofstream F;
    F.open("train.DAT",ios::in|ios::binary);
    train T;
    char ch;
    while (F.read((char*)&T,sizeof(T)))
    {
        T.output();
    }while(ch=='y'||ch=='Y');
    F.close();
}
```

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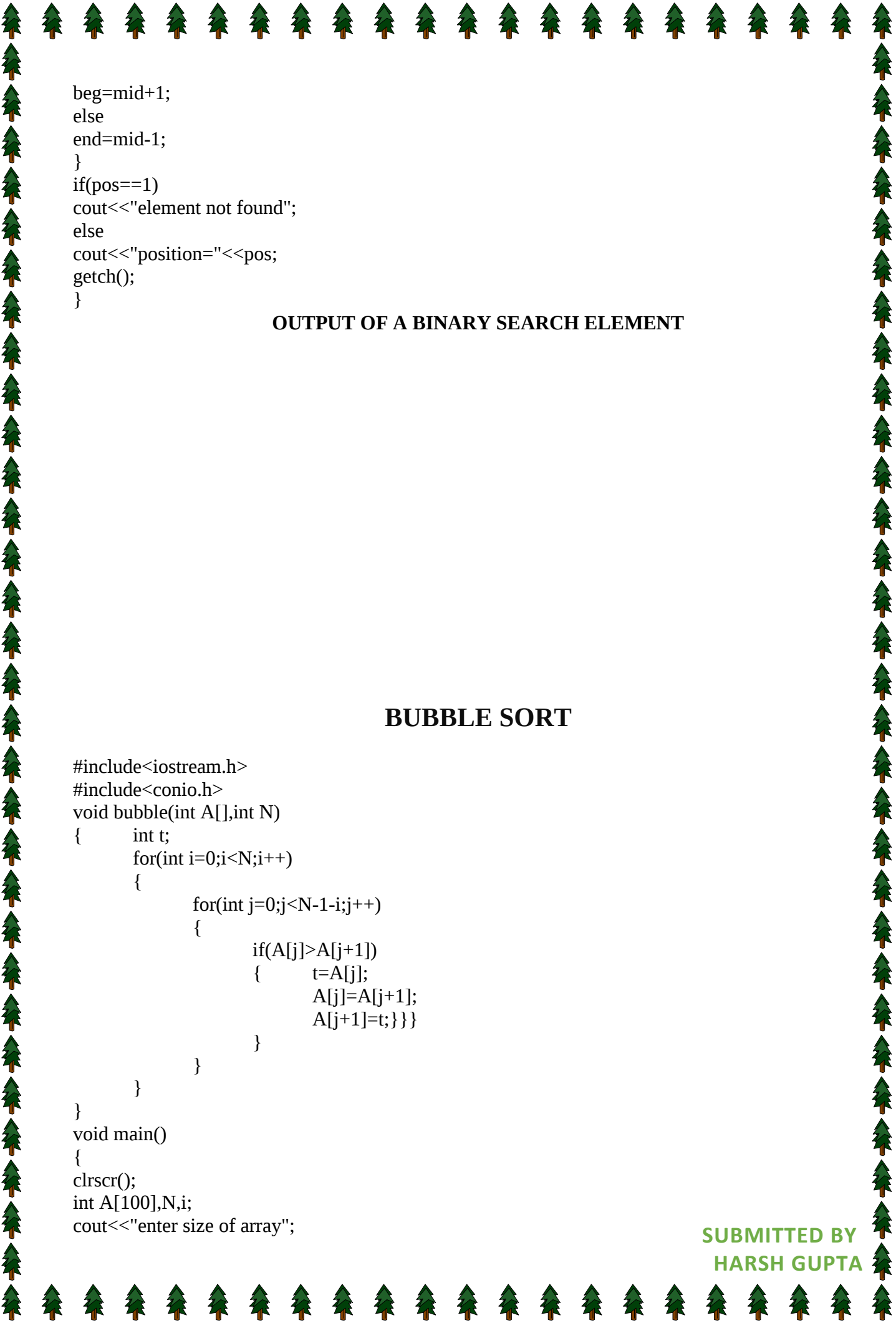
```
void main()
{
clrscr();
writefile();
readfile();
getch();
}
```

**OUTPUT OF A BINARY FILE 'TRAIN. DAT'**

## **BINARY SEARCH ELEMENT**

```
/*******binary search*****//
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
#include<stdio.h>
void main(){clrscr();
int i,n,j,A[50],beg=0,end,mid=0,pos=-1,k;
cout<<"enter the no. of elements";
cin>>n;
cout<<"enter elements in array";
for(i=0;i<n;i++)
{
cin>>A[i];
}
cout<<"elements in array are";
for(i=0;i<n;i++)
{
cout<<A[i];
}
cout<<"enter element you want to search";
cin>>k;
while((beg<=end)&&(pos== -1))
{
mid=(beg+end)/2;
if(k==A[mid])
pos=mid;
elseif(k>A[mid])
```

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```
beg=mid+1;
else
end=mid-1;
}
if(pos==1)
cout<<"element not found";
else
cout<<"position="<<pos;
getch();
}
```

### OUTPUT OF A BINARY SEARCH ELEMENT

## BUBBLE SORT

```
#include<iostream.h>
#include<conio.h>
void bubble(int A[],int N)
{
    int t;
    for(int i=0;i<N;i++)
    {
        for(int j=0;j<N-1-i;j++)
        {
            if(A[j]>A[j+1])
            {
                t=A[j];
                A[j]=A[j+1];
                A[j+1]=t;}}
    }
}
void main()
{
    clrscr();
    int A[100],N,i;
    cout<<"enter size of array";
```

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```
cin>>N;
cout<<"\n enter elements in array";
for(i=0;i<N;i++)
{
cin>>A[i];
}
cout<<"\n array elements are";
for(i=0;i<N;i++)
{
cout<<A[i]<<"\t";
}
bubble(A,N);
cout<<"\n array after sorting";
for(i=0;i<N;i++)
{
cout<<A[i]<<"\t";
}
getch();
}
```

### OUTPUT OF BUBBLE SORT

```
enter size of array5
enter elements in array 6 4 8 2 9
array elements are6    4    8    2    9
array after sorting2  4    6    8    9    _
```

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## SELECTION SORT

```
#include<iostream.h>
#include<conio.h>
void selection(int A[],int N)
{
    int i,j,t,small,pos;
    for(i=0;i<N;i++)
    {
        small=A[i];
        pos=i;
        for(j=i+1;j<N;j++)
        {
            if(A[j]<small)
            {
                small=A[j];
                pos=j;
            }
        }
        t=A[i];
        A[i]=A[pos];
        A[pos]=t;
    }
}

void main()
{
    clrscr();
    int A[100],N,i;
    cout<<"Enter size of array(max 100)";
    cin>>N;
    cout<<"\n Enter elements in array";
    for(i=0;i<N;i++)
    {
        cin>>A[i];
    }
    cout<<"\n elements in array are";
    for(i=0;i<N;i++)
    {
        cout<<A[i]<<"\t";
    }
    selection(A,N);
    cout<<"\n array after selection";
    for(i=0;i<N;i++)
    {
        cout<<A[i]<<"\t";
    }
    getch();
}
```

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## OUTPUT OF SELECTION SORT

```
Enter size of array(max 100) 5
```

```
Enter elements in array 5 7 3 9 2
```

```
elements in array are5 7      3      9      2
```

```
array after selection2 3      5      7      9      _
```

## DIAGONAL SUM

```
#include<iostream.h>
#include<conio.h>
void dsum(int A[100][100],int m)
{
    int i,j,s1=0,s2=0;
    for(i=0;i<m;i++)
    {
        for(j=0;j<m;j++)
        {
            if(i==j)
                s1=s1+A[i][j];
            if(i+j==m-1)
                s2=s2+A[i][j];}
    }
    cout<<"\n "<<"sum of left dagonal="<<s1;
    cout<<"\n"<<"sum of right diagonal="<<s2;
}
void main()
{
    clrscr();
    int A[100][100],m,i,j;
    cout<<"enter order of matrix";
```

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```
cin>>m;
cout<<"enter elements in a matrix";
for(i=0;i<m;i++)
{
for(j=0;j<m;j++)
{
cin>>A[i][j];
}
}
cout<<"\n elements are =";
for(i=0;i<m;i++)
{
cout<<"\n";
for(j=0;j<m;j++)
{
cout<<A[i][j]<<"\t";
}
}
dsum (A,m);
getch();
}
```

### OUTPUT OF DIAGONAL SUM

### COLUMN SUM

```
#include<iostream.h>
#include<conio.h>
void columnsum(int A[10][10],int M,int N)
{
int s;
for(int j=0;j<N;j++)
{
s=0;
for(int i=0;i<M;i++)
```

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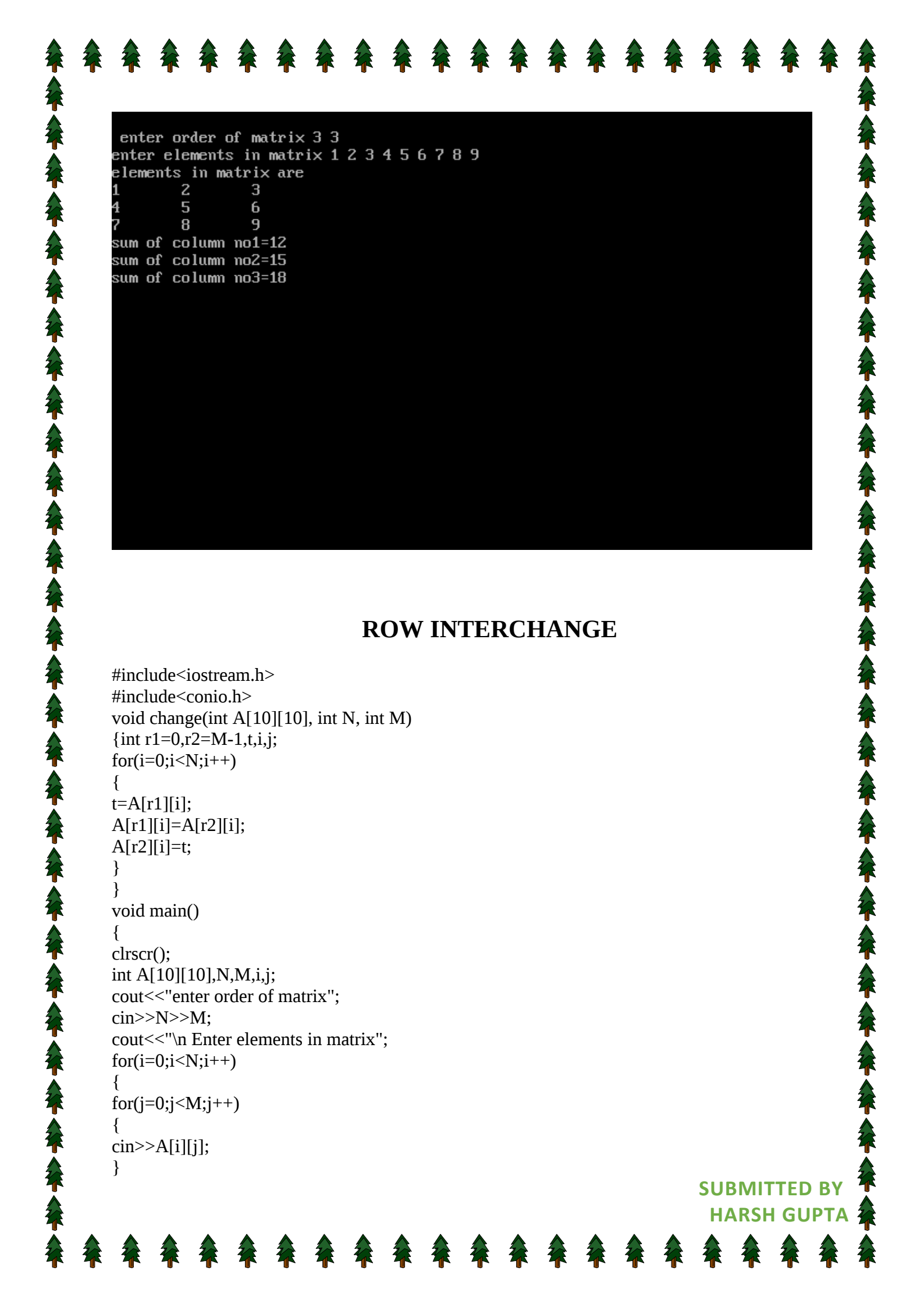
```

        {      s=s+A[i][j];
        }
        cout<<"\nsum of column no"<<j+1<<"="<<s;
    }
}
void main()
{
    clrscr();
    int A[10][10],i,j,M,N;
    cout<<"\n enter order of matrix";
    cin>>M>>N;
    cout<<"\nenter elements in matrix";
    for(i=0;i<M;i++)
    {
        for(j=0;j<N;j++)
        {
            cin>>A[i][j];
        }
    }
    cout<<"\nelements in matrix are";
    for(i=0;i<M;i++)
    {
        cout<<"\n";
        for(j=0;j<N;j++)
        {
            cout<<A[i][j]<<"\t";
        }
    }
    columnsum(A,M,N);
    getch();
}

```

**OUTPUT OF COLUMN SUM**

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```
enter order of matrix 3 3
enter elements in matrix 1 2 3 4 5 6 7 8 9
elements in matrix are
1      2      3
4      5      6
7      8      9
sum of column no1=12
sum of column no2=15
sum of column no3=18
```

## ROW INTERCHANGE

```
#include<iostream.h>
#include<conio.h>
void change(int A[10][10], int N, int M)
{int r1=0,r2=M-1,t,i,j;
for(i=0;i<N;i++)
{
t=A[r1][i];
A[r1][i]=A[r2][i];
A[r2][i]=t;
}
}
void main()
{
clrscr();
int A[10][10],N,M,i,j;
cout<<"enter order of matrix";
cin>>N>>M;
cout<<"\n Enter elements in matrix";
for(i=0;i<N;i++)
{
for(j=0;j<M;j++)
{
cin>>A[i][j];
}
}
```

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```
}
cout<<"\n Elements in matrix are";
for(i=0;i<N;i++)
{cout<<"\n";
for(j=0;j<M;j++)
{
cout<<A[i][j]<<"\t";
}
}
change(A,M,N);
cout<<"\n matrix after change is";
for(i=0;i<N;i++)
{cout<<"\n";
for(j=0;j<M;j++)
{
cout<<A[i][j]<<"\t";}}
getch();
}
```

### OUTPUT OF ROW INTERCHANGE

```
enter order of matrix 3 3

Enter elements in matrix 1 2 3 4 5 6 7 8 9

Elements in matrix are
1      2      3
4      5      6
7      8      9
matrix after change is
7      8      9
4      5      6
1      2      3      -
```

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## COPY MATRIX INTO AN ARRAY

```
#include<iostream.h>
#include<conio.h>
void copy(int A[100][100],int m,int n)
{
    int i,j,B[50],k=0;
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            B[k]=A[i][j] ;
            k++;
        }
    }
    cout<<"\n elements in array are";
    for(k=0;k<m*n;k++)
    {
        cout<<B[k]<<"\t";
    }
}
void main()
{
    clrscr();
    int A[100][100],m,n,i,j ,B,k;
    cout<<"enter order of matrix";
    cin>>m>>n;
    cout<<"enter elements in a matrix";
    for(i=0;i<m;i++)
    {
        for(j=0;j<n;j++)
        {
            cin>>A[i][j];
        }
    }
    cout<<"\n elements are";
    for(i=0;i<m;i++)
    { cout<<"\n";
        for(j=0;j<n;j++)
        {
            cout<<A[i][j]<<"\t";
        }
    }
    copy (A,m,n);
    getch();
}
```

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## OUTPUT OF COPY MATRIX INTO AN ARRAY

```
enter order of matrix 3 3
enter elements in a matrix 1 2 3 4 5 6 7 8 9

elements are
1      2      3
4      5      6
7      8      9
elements in array are 1 2      3      4      5      6      7      8
9
```

## ORDER DETERMINATION OF MATRIX

```
#include<iostream.h>
#include<conio.h>
void order(int A[100][100],int m)
{
    int i,j,B=0;
    for(i=0;i<m-1;i++)
    {
        for(j=0;j<m;j++)
        {
            if(i==j&&A[i][j]<A[i+1][j+1] )
            B=1;
            break;
        }
    }
    if(B==0)
        cout<<"order is not ascending";
    else
```

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```
        cout<<"order is ascending";
    }
    void main()
    {
        clrscr();
        int A[100][100],m,i,j;
        cout<<"enter order of matrix";
        cin>>m;
        cout<<"enter elements in a matrix";
        for(i=0;i<m;i++)
        {
            for(j=0;j<m;j++)
            {
                cin>>A[i][j];}
            }
        cout<<"\n elements are";
        for(i=0;i<m;i++)
        {
            cout<<"\n";
            for(j=0;j<m;j++)
            {
                cout<<A[i][j]<<"\t";
            }
        }
        order (A,m);
        getch();}
```

#### OUTPUT OF ORDER DETERMINATION OF MATRIX

```
enter order of matrix3
enter elements in a matrix1 2 3 4 5 6 7 8 9

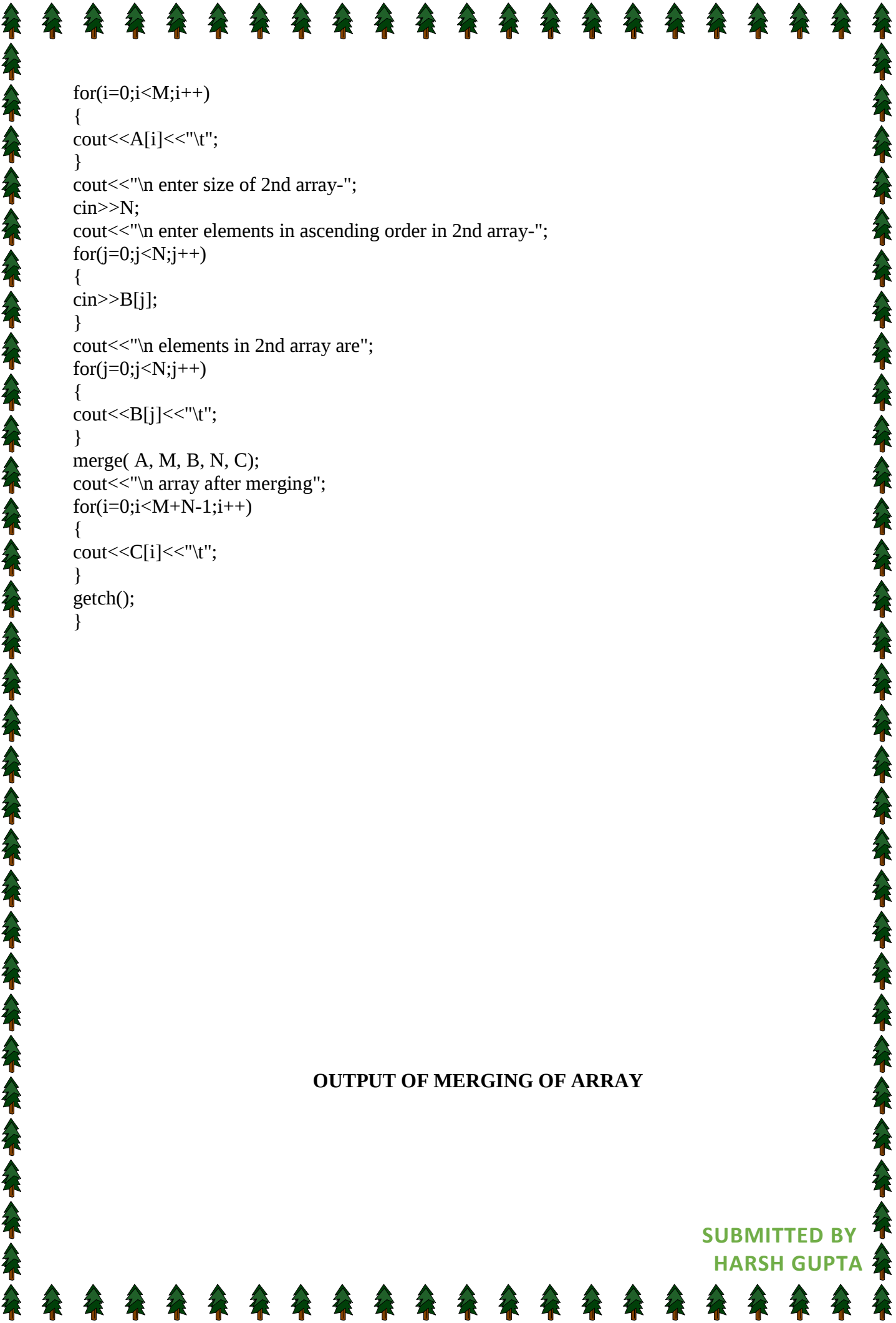
elements are
1      2      3
4      5      6
7      8      9      order is ascending
```

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## MERGING OF ARRAY

```
#include<iostream.h>
#include<conio.h>
void merge(int A[],int M,int B[],int N,int C[])
{
    int i,j,k;
    i=0;j=0;k=0;
    while(i<M && j<N)
    {
        if(A[i]<B[j])
        {
            C[k]=A[i];
            i++;
            k++;
        }
        else
        {
            C[k]=B[j];
            j++;
            k++;
        }
    }
    if(i>=M)
    while(j<N)
    {
        C[k]=B[j];
        j++;
        k++;
    }
    if(j>=N)
    while(i<M)
    {
        C[k]=A[i];
        i++;
        k++;
    }
}
void main()
{
    clrscr();
    int A[100],B[100],C[100],M,N,i,j;
    cout<<"enter size of 1st array-";
    cin>>M;
    cout<<"enter elements in ascending order in 1st array-";
    for(i=0;i<M;i++)
    {
        cin>>A[i];
    }
    cout<<"\n elements in 1st array are";
```

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```
for(i=0;i<M;i++)
{
cout<<A[i]<<"\t";
}
cout<<"\n enter size of 2nd array-";
cin>>N;
cout<<"\n enter elements in ascending order in 2nd array-";
for(j=0;j<N;j++)
{
cin>>B[j];
}
cout<<"\n elements in 2nd array are";
for(j=0;j<N;j++)
{
cout<<B[j]<<"\t";
}
merge( A, M, B, N, C);
cout<<"\n array after merging";
for(i=0;i<M+N-1;i++)
{
cout<<C[i]<<"\t";
}
getch();
}
```

**OUTPUT OF MERGING OF ARRAY**

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```

enter size of 1st array-5
enter elements in ascending order in 1st array-1 2 3 4 5

elements in 1st array are1    2    3    4    5
enter size of 2nd array-5

enter elements in ascending order in 2nd array- 6 7 8 9 10

elements in 2nd array are6    7    8    9    10
array after merging1    2    3    4    5    6    7    8
9

```

## REVERSE ARRAY

```

//*****REVERSE ARRAY*****
#include<iostream.h>
#include<conio.h>
void reverse(int A[], int N)
{
    int i,t,j=N-1;
    for(i=0;i<N/2;i++)
    {
        t=A[i];
        A[i]=A[j];
        A[j]=t;
        j--;
    }
}
void main()
{
    clrscr();
    int A[100],N,i;
    cout<<"\n Enter size of array-";
    cin>>N;
    cout<<"\n Enter elements in array";
    for(i=0;i<N;i++)
    {
        cin>>A[i];
    }
}

```

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```
}  
cout<<"\n Elements in array are\n ";  
for(i=0;i<N;i++)  
{  
cout<<A[i]<<"\t";  
}  
reverse(A,N);  
cout<<"\n REVERSE ARRAY IS";  
for(i=0;i<N;i++)  
{  
cout<<A[i]<<"\t";  
}  
getch();  
}
```

### OUTPUT OF REVERSE ARRAY

```
Enter size of array-5  
Enter elements in array1 2 3 4 5  
Elements in array are  
1      2      3      4      5  
REVERSE ARRAY IS5      4      3      2      1
```

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## ORDER DETERMINATION OF AN ARRAY

```
#include<iostream.h>
#include<conio.h>
void order(int A[],int m)
{
    int i,c1=0,c2=0;
    for(i=0;i<m-1;i++)
    {
        if(A[i]>A[i+1])
            c1++;
        else
            if(A[i]<A[i+1])
                c2++;
    }
    if(c1==m-1)
        cout<<"\n Array  is in DSC order";
    else
        if(c2==m-1)
            cout<<"\n Array is in ASC order";
        else
            cout<<"\n Array is in no order";
    }
    void main()
    {
        clrscr();
        int A[100],m,i;
        cout<<"enter order of array";
        cin>>m;
        cout<<"enter elements in a array";
        for(i=0;i<m;i++)
        {
            cin>>A[i];
        }
        cout<<"\n elements are =";
        for(i=0;i<m;i++)
        {
            cout<<A[i]<<"\t";
        }
        order(A,m);
        getch();}
```

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## OUTPUT OF ORDER DETERMINATION OF AN ARRAY

```
enter order of array 5
enter elements in a array 1 2 3 4 5

elements are =1      2      3      4      5
Array is in ASC order
```

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## LINKED STACK

```
#include<iostream.h>
#include<conio.h>
#include<process.h>
struct Node
{
    int info;
    Node *Next;
};
Node *ptr,*cpt,*top;
void create()
{
    char ch;
    cout<<"\n\n\t\t\t CREATION OF STACK USING LINKED LIST \n";
    ptr=new Node;
    cout<<"\n\nENTER NEW NODE INFORMATION";
    cin>>ptr->info;
    ptr->Next=NULL;
    do
    {
        cpt=new Node;
        cout<<"\n ENTER INFORMATION IN NEXT NODE";
        cin>>cpt->info;
        cpt->Next=ptr;
        ptr=cpt;
        cout<<"\nWANT TO ENTER MORE NODE PRESS Y OR N";
        ch=getch();
    }while(ch=='y'||ch=='Y');
    top=ptr;
}
void PUSH()
{
    cout<<"\n\t\t\t INSERTION OF A NEW NODE IN STACK";
    ptr = new Node;
    cout<<"\nENTER INFORMATION IN NEW NODE";
    cin>>ptr-> info;
    ptr->Next=NULL;
    ptr->Next=top;
    top = ptr;
}
void POP()
{
    cout<<"\n\t\t\t DELETION OF A NODE FROM STACK";
    if( top == NULL)
    {
        cout<<" UNDERFLOW";
        exit(0);
    }
    ptr = top;
```

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```
top=top->Next;
delete ptr;
}

void display()
{
    if(top==NULL)
    {
        cout<<"EMPTY STACK";
        exit(0);
    }
    ptr=top;
    cout<<"\n STACK ELEMENTS ARE\n";
    while(ptr!=NULL)
    {
        cout<<ptr->info<<"\t";
        ptr=ptr->Next;
    }
}

void main()
{
    clrscr();
    cout<<"\n\t\t PROGRAM TO IMPLEMENT STACK USING LINKED LIST\n";
    create();
    display();
    clrscr();
    PUSH();
    display();
    clrscr();
    POP();
    display();
    getch();
}
```

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## OUTPUT OF LINKED STACK

```
PROGRAM TO IMPLEMENT STACK USING LINKED LIST

CREATION OF STACK USING LINKED LIST

ENTER NEW NODE INFORMATION123
ENTER INFORMATION IN NEXT NODE123
WANT TO ENTER MORE NODE PRESS Y OR N_
```

## LINKED QUEUE

```
#include<iostream.h>
#include<conio.h>
#include<process.h>
struct node
{
    int info;
    node*next;
};
node *ptr,*cpt,*front,*rear;
void create()
{
    char ch;
    cout<<"\n\n\t\t\t\t\tCREATIN OF LINKED QUEUE";
    ptr=new node;
```

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```

cout<<"\n\nENTER NEW NODE INFORMATION";
cin>>ptr->info;
front=ptr;
do
{
cpt=new node;
cout<<"\n ENTER INFORMATION OF NEW NODE";
cin>>cpt->info;
cpt->next=NULL;
ptr->next=cpt;
ptr=cpt;
cout<<"\n WANT TO ENTER MORE NODE PRESS Y OR N";
ch=getch();
}
while(ch=='y'||ch=='Y');
rear=ptr;
}
void insert()
{
cout<<"\n\t\t\tINSERTION OF A NEW NODE IN QUEUE";
ptr=new node;
cout<<"\n ENTER INFORMATION IN NEW NODE";
cin>>ptr->info;
ptr->next=NULL;
if(rear==NULL)
{
front=ptr;
rear=ptr;
}
else
{
rear->next=ptr;
rear=ptr;
}
}
void delete()
{
cout<<"\n\t\t\tDELETION OF A NODE FROM QUEUE";
if(front==NULL)
{
cout<<"underflow";
exit(0);
}
ptr=front;
if(front==rear)
{
front=NULL;
rear=NULL;
}
else

```

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```
{
front=front->next;
}
delete ptr;
}
void display()
{
if(front==NULL)
{
cout<<"EMPTY QUEUE";
}
else
{
ptr=front;
cout<<"\n QUEUE ELEMENTS ARE\n";
while(ptr!=NULL)
{
cout<<ptr->info<<"\t";
ptr=ptr->next;
}
}
getch();
}
void main()
{
clrscr();
cout<<"\n\t\t\tPROGRAM TO IMPLEMENT QUEUE USING LINKED LIST\n";
create();
display();
clrscr();
insert();
display();
clrscr();
delete();
display();
getch();
}
```

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## OUTPUT OF LINKED QUEUE

```
PROGRAM TO IMPLEMENT QUEUE USING LINKED LIST

CREATIN OF LINKED QUEUE

ENTER NEW NODE INFORMATION
123

ENTER INFORMATION OF NEW NODE123

WANT TO ENTER MORE NODE PRESS Y OR N_
```

## LINEAR STACK

```
#include<iostream.h>
#include<conio.h>
#include<process.h>
class stack
{
    private: int s[100],top;
    public: stack()
    {
        top=-1;
    }
    void create(); void display(); void push(); void pop();
};
void stack::create()
```

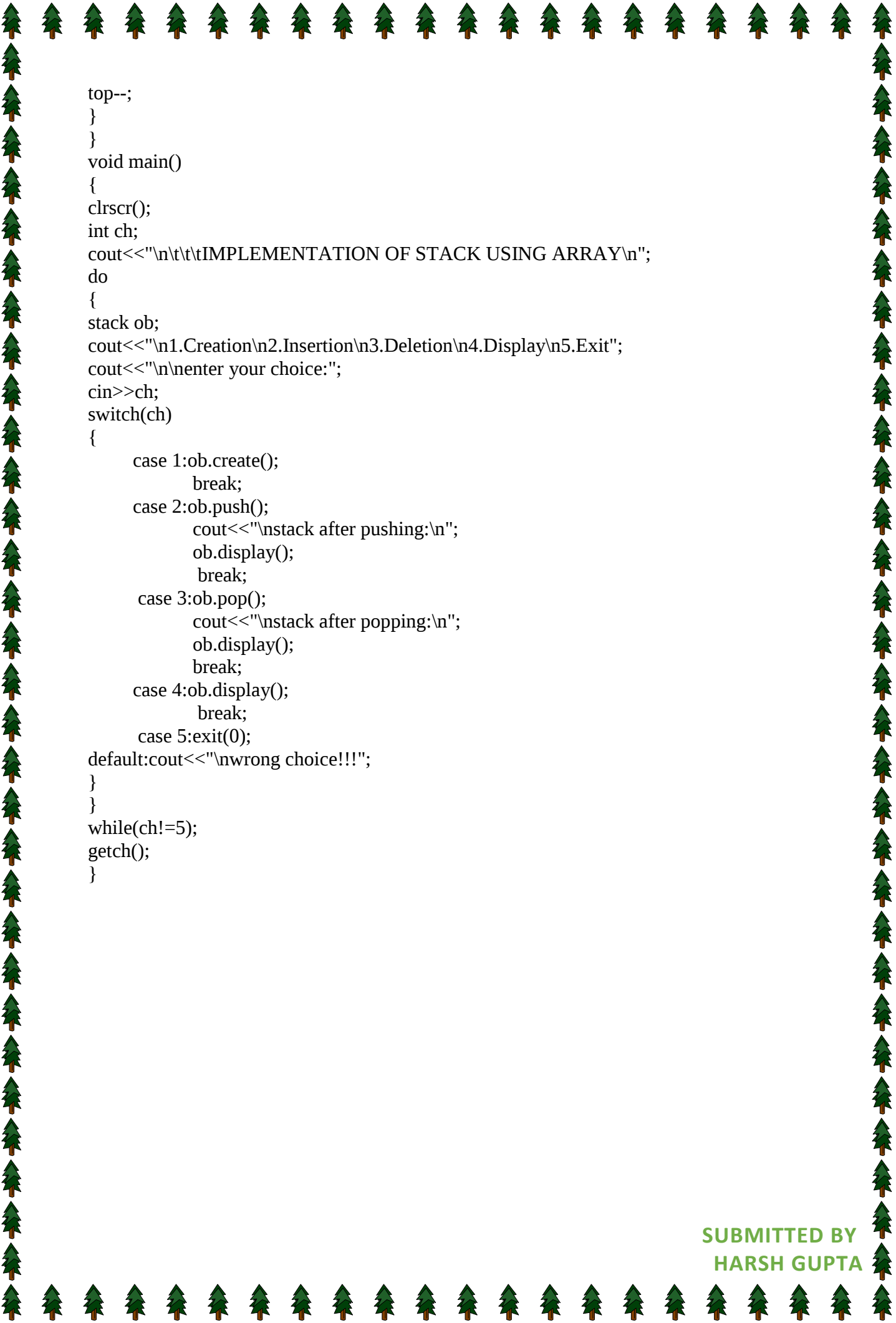
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```

{
char ch;
int x;
do
{
if(top==99)
{
cout<<"\n overflow.\n";
exit(0);
}
cout<<"\n\n enter data: ";
cin>>x;
top++;
s[top]=x;
cout<<"\n want to enter more data:";
ch=getch();
}
while (ch=='y'||ch=='Y');
void stack::display()
{
if(top==-1)
{
cout<<"\n underflow.\n";
exit(0);
}
cout<<"\n stack elements are :\n\n";
for(int i=top;i>=0;i--)
cout<<s[i]<<"\t";
}
void stack::push()
{
int x;
if(top==99)
{
cout<<"\n overflow.\n";
exit(0);
}
cout<<"\n enter the elements to be entered:";
cin>>x;
top++;
s[top]=x;
}
void stack::pop()
{
if(top==-1)
cout<<"\n underflow.\n";
else
{
s[top]='\0';
}
}
}

```

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```
top--;
}
}
void main()
{
clrscr();
int ch;
cout<<"\n\t\t\tIMPLEMENTATION OF STACK USING ARRAY\n";
do
{
stack ob;
cout<<"\n1.Creation\n2.Insertion\n3.Deletion\n4.Display\n5.Exit";
cout<<"\n\nenter your choice:";
cin>>ch;
switch(ch)
{
case 1:ob.create();
break;
case 2:ob.push();
cout<<"\nstack after pushing:\n";
ob.display();
break;
case 3:ob.pop();
cout<<"\nstack after popping:\n";
ob.display();
break;
case 4:ob.display();
break;
case 5:exit(0);
default:cout<<"\nwrong choice!!!";
}
}
while(ch!=5);
getch();
}
```

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## OUTPUT OF LINEAR STACK

```
IMPLEMENTATION OF STACK USING ARRAY

1.Creation
2.Insertion
3.Deletion
4.Display
5.Exit

enter your choice:1

enter data: 12

want to enter more data:
```

## LINEAR QUEUE

```
#include<iostream.h>
#include<conio.h>
#include<process.h>
class queue
{
private: int q[100],front,rear;
public: queue()
{
front=rear=-1;
}
void create();
void display();
void Insert();
void DELETE();
};
void queue::create()
```

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```

{
char ch;
int x;
do
{
if(rear==99)
{
cout<<"\noverflow.\n";
exit(0);
}
cout<<"\n\nenter data:";
cin>>x;
if(front==-1&&rear==-1)
{
front++;
rear++;
}
else
{
rear++;
}
q[rear]=x;
cout<<"\nwant to enter more data:";
ch=getch();
}
while(ch=='y'||ch=='Y');
void queue::display()
{
if(front==-1)
{
cout<<"\nqueue is empty";
exit(0);
}
cout<<"\nqueue elements are:\n\n";
for(int i=front;i<=rear;i++)
cout<<q[i]<<"\t";
}
void queue::Insert()
{
int x;
cout<<"\n Enter element to be entered:";
cin>>x;
if(rear==99)
{
cout<<"overflow";
exit(0);
}
if(rear==-1)
{

```

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```

rear++;
front++;
}
q[rear]=x;
}
void queue::DELETE()
{
if(front==-1)
{
cout<<"\nunderflow.\n";
exit(0);
}
if(front==rear)
{
q[front]='\0';
front=-1;
rear=-1;
}
else
{
q[front]='\0';
front++;
}
}
void main()
{
while(1)
{
clrscr();
int ch;
queue ob;
cout<<"\n\t\t\tIMPLEMENTATION OF QUEUE BY ARRAY\n";
cout<<"\n1.Creation\n2.Insertion\n3.Deletion\n4.Display\n5.Exit";
cout<<"\n\nenter your choice:";
cin>>ch;
switch(ch)
{
case 1: ob.create();
        getch();
        break;
case 2: ob.Insert();
        cout<<"\nqueue after insertion:\n";
        ob.display();
        getch();
        break;
case 3: ob.DELETE();
        cout<<"\nqueue after deletion of elements:\n";
        ob.display();
        getch();
        break;

```

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```
        case 5: exit(0);
                break;
default: cout<<"\nwrong choice!!!";
}
}
getch();
}
```

### OUTPUT OF LINEAR QUEUE

```
IMPLEMENTATION OF QUEUE BY ARRAY

1.Creation
2.Insertion
3.Deletion
4.Display
5.Exit

enter your choice:1

enter data:12

want to enter more data:
```

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# SQL FILES

Table: Personalities

| Name               | Country     | Age | Sex | Field          |
|--------------------|-------------|-----|-----|----------------|
| Hilary Clinton     | U.S.A.      | 60  | F   | Politics       |
| Amitabh Bachchan   | India       | 65  | M   | Acting         |
| Michael Schumacher | Germany     | 39  | M   | Sports         |
| Aishwarya Rai      | India       | 34  | F   | Acting         |
| L.N. Mittal        | U.K.        | 58  | M   | Business       |
| Roger Federer      | Switzerland | 26  | M   | Sports         |
| Vijay Mallaya      | India       | 53  | M   | Business       |
| Shah Rukh Khan     | India       | 42  | M   | Acting         |
| Kiran Bedi         | India       | 59  | F   | Civil Services |
| Abdul Kalam        | India       | 76  | M   | Education      |

**Query 1) Display the names of distinct countries from table personalities.**

Command

```
SELECT DISTINCT Country
FROM Personalities;
```

Output

| DISTINCT Country |
|------------------|
| U.S.A.           |
| India            |
| Germany          |
| U.K.             |
| Switzerland      |

**Query 2) List the maximum and minimum age from Personalities.**

Command

```
SELECT MAX(Age), MIN(Age) FROM Personalities;
```

Output

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| MAX(Age) | MIN(Age) |
|----------|----------|
| 76       | 26       |

**Query 3) Display number of distinct field available from table personalities.**

Command

SELECT COUNT (DISTINCT Field) FROM Personalities;

Output

| COUNT (DISTINCT Field) |
|------------------------|
| 6                      |

**Query 4) Display name of all personalities who does not belong to India from table personalities.**

Command

SELECT NAME  
FROM Personalities  
WHERE Country != "INDIA";

Output

| Name               |
|--------------------|
| Hilary Clinton     |
| Michael Schumacher |
| L.N. Mittal        |
| Roger Federer      |

**Query 5) Display name, age of all Female personalities from table personalities.**

Command

SELECT Name, Sex  
FROM Personalities  
WHERE Sex = "F";

Output

| NAME           | SEX |
|----------------|-----|
| Hilary Clinton | 60  |
| Aishwarya Rai  | 34  |
| Kiran Bedi     | 59  |

**Table : FURNITURE**

| ITEM NAME    | TYPE         | DATE OF STOCK | PRICE | DISCOUNT |
|--------------|--------------|---------------|-------|----------|
| White lotus  | Double bed   | 23/02/02      | 30000 | 25       |
| Pink feather | Baby cot     | 20/01/02      | 7000  | 20       |
| Dolphin      | Baby Cot     | 19/02/02      | 9500  | 20       |
| Decent       | Office Table | 01/01/02      | 25000 | 30       |
| Comfort zone | Double Bed   | 12/01/02      | 25000 | 25       |

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|                 |              |          |       |    |
|-----------------|--------------|----------|-------|----|
| Donald          | Baby cot     | 24/02/02 | 6500  | 15 |
| Royal Finish    | Office table | 20/02/02 | 18000 | 30 |
| Royal tiger     | Sofa         | 22/02/02 | 31000 | 30 |
| Econo sitting   | Sofa         | 13/12/01 | 9500  | 25 |
| Eating Paradise | Dining Table | 19/02/02 | 11500 | 25 |

**Query 1) To show all information about the baby cots from the Furniture table .**

Command

```
SELECT *
FROM FURNITURE
WHERE TYPE = "Baby cot";
```

Output

| ITEM NAME    | TYPE     | DATEOFSTOCK | PRICE | DISCOUNT |
|--------------|----------|-------------|-------|----------|
| Pink feather | Baby cot | 20/01/02    | 7000  | 20       |
| Dolphin      | Baby Cot | 19/02/02    | 9500  | 20       |
| Donald       | Baby cot | 24/02/02    | 6500  | 15       |

**Query 2) To list the ITEM NAME which are priced at more than 15000 from the FURNITURE Table.**

Command

```
SELECT ITEM NAME
FROM FURNITURE
WHERE PRICE > 15000;
```

Output

| ITEM NAME       |
|-----------------|
| White lotus     |
| Decent          |
| Comfort zone    |
| Royal Finish    |
| Royal tiger     |
| Eating Paradise |

**Query 3) To list the ITEM NAME and TYPE of those items, in which DATEOFSTOCK before 22/01/02 from FURNITURE in descending order of ITEM NAME.**

Command

```
SELECT ITEMNAME, TYPE
FROM FURNITURE
WHERE DATEOFSTOCK < {22/01/02}
ORDER BY ITEMNAME desc;
```

Output

| ITEM NAME     | TYPE         |
|---------------|--------------|
| Pink feather  | Baby cot     |
| Econo sitting | Sofa         |
| Decent        | Office Table |
| Comfort zone  | Double Bed   |

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Query 4) To display ITEMNAME and DATEOFSTOCK of those items in which t  
DISCOUNT percentage is more than 25 from FURNITURE Table.

Command

```
SELECT ITEMNAME, DATEOFSTOCK
FROM FURNITURE
WHERE DISCOUNT >25;
```

Output

| ITEM NAME    | DATEOFSTOCK |
|--------------|-------------|
| Decent       | 01/01/02    |
| Royal Finish | 20/02/02    |
| Royal Tiger  | 22/02/02    |

Query 5) To count the number of items, whose TYPE is “Sofa” from FURNITURE Table.

Command

```
SELECT COUNT (*)
FROM FURNITURE
WHERE TYPE = “Sofa”;
```

Output

| COUNT (*) |
|-----------|
| 2         |

**Table : PRODUCT**

| P_ID | ProductName   | Manufacturer | Price |
|------|---------------|--------------|-------|
| TPO1 | Talcom Powder | LAK          | 40    |
| FWO5 | Face Wash     | ABC          | 45    |
| BSO1 | Bath Shop     | ABC          | 55    |
| SHO6 | Shampoo       | XYZ          | 120   |
| FW12 | Face Wash     | XYZ          | 95    |

**Table : CLIENT**

| C_ID | CilentName    | City     | P_ID |
|------|---------------|----------|------|
| 01   | Cosmetic Shop | Delhi    | FW05 |
| 06   | Tatal Health  | Mumbai   | BS01 |
| 12   | Live Life     | Delhi    | SH06 |
| 15   | Pretty Woman  | Delhi    | FW12 |
| 16   | Dreams        | Banglore | TP01 |

Query 1) To display the details of those Clients whose City is Delhi.

Command

```
SELECT * FROM CLIENT
WHERE CITY = “Delhi”;
```

Output

| C_ID | CilentName    | City  | P_ID |
|------|---------------|-------|------|
| 01   | Cosmetic Shop | Delhi | FW05 |
| 12   | Live Life     | Delhi | SH06 |
| 15   | Pretty Woman  | Delhi | FW12 |

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**Query 2) To display the details of Products whose price is in the range of 50 to 100 (Both val included)**

Command

```
SELECT *  
FROM PRODUCT WHERE PRICE BETWEEN 50 AND 100;
```

Output

| P_ID | ProductName | Manufacturer | Price |
|------|-------------|--------------|-------|
| BSO1 | Bath Shop   | ABC          | 55    |
| FW12 | Face Wash   | XYZ          | 95    |

**Query 3) To display the Client Name, City from Table client , and Product Name and Pri from table Product, with their corresponding matching P\_ID.**

Command

```
SELECT ClientName, City, ProductName, Price  
FROM CLIENT, PRODUCT WHERE CLIENT.P_ID = PRODUCT.P_ID;
```

Output

| CILENTNAME    | CITY     | PRODUCT NAME  | PRICE |
|---------------|----------|---------------|-------|
| Cosmetic Shop | Delhi    | Face Wash     | 45    |
| Tatal Health  | Mumbai   | Bath Shop     | 55    |
| Live Life     | Delhi    | Shampoo       | 120   |
| Pretty Woman  | Delhi    | Face Wash     | 95    |
| Dreams        | Banglore | Talcom Powder | 40    |

**Query 4) To display the MAXIMUM PRICE offered by each manufacturer:**

Command

```
SELECT Manufacturer, MAX (Price)  
FROM PRODUCT GROUP BY Manufacturer;
```

Output

| Manufacturer | MAX(Price) |
|--------------|------------|
| LAK          | 40         |
| ABC          | 55         |
| XYZ          | 120        |

**Query 5) Write a command to count No. of Manufacturers.**

Command

```
SELECT COUNT (DISTINCT Manufacturer) FROM PRODUCT;
```

Output

| COUNT (DISTINCT Manufacturer) |
|-------------------------------|
| 3                             |

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