Q1

#include <iostream>

using namespace std;

int b[100];

int n;

int i = 0;

void create(int)

{

int d = 0;

for (i = 0; i < n; i++)

{

cout << "enter the value:" << endl;

cin >> d;

b[i] = d;

}

cout << "the array is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

void search(int a)

{

int c = 0;

for (i = 0; i < n; i++)

{

if (b[i] == a)

{

c++;

break;

}

}

if (c == 1)

{

cout << "element found" << endl;

}

else

{

cout << "not found" << endl;

}

}

void sort(int b[])

{

int temp = 0;

for (int i = 0; i < n; i++)

{

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

{

if (b[i] > b[j])

{

temp = b[i];

b[i] = b[j];

b[j] = temp;

}

}

}

cout << "sorted array is" << endl;

for (int i = 0; i < n; i++)

{

cout << b[i]<<endl;

}

}

void insert(int g, int r)

{

if (r < n)

{

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

{

b[i] = b[i - 1];

}

b[r] = g;

n++;

cout << "the array is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

else

{

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

{

b[i] = b[i - 1];

}

b[r] = g;

n++;

cout << "the array is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

cout << "value of n is: " << n << endl;

}

void del(int a)

{

int c = 0;

int d = 0;

for (i = 0; i < n; i++)

{

if (b[i] == a)

{

c++;

d = i;

break;

}

}

cout << "the index of item to be deleted is" << d << endl;

if (c == 1)

{

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

{

b[i] = b[i + 1];

}

n--;

cout << "the list after deletion is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

else

{

cout << "element not found in array" << endl;

}

}

void size()

{

cout << "the size of the array is:" << n << endl;

}

int main()

{

int a;

int i;

int g;

cout << "enter the no of elements" << endl;

cin >> n;

create(n);

while(g>1){

cout << "which function you want to perform:" << endl

<< "1.search" << endl

<< "2.sort" << endl

<< "3.insert" << endl

<< "4.delete" << endl

<< "5.size of array" << endl;

cin >> a;

switch (a)

{

case 1:

int a;

cout << "enter the element to be found:" << endl;

cin >> a;

search(a);

break;

case 2:

sort(b);

break;

case 3:

int s, v, t;

cout << "enter the element :" << endl;

cin >> s;

cout << "press 1 if you want to add at continous index" << endl;

cin >> v;

if (v == 1)

{

t = n;

}

else

{

cout << "enter the index for :" << endl;

cin >> t;

}

insert(s, t);

break;

case 4:

int k;

cout << "enter the element :" << endl;

cin >> k;

del(k);

break;

case 5:

size();

break;

default:

cout << "out of range" << endl;

break;

}

cout<<"do you want to perform any other action? press 1 to do so"<<endl;

cin>>i;

if(i==1){

g++;

}

else{

g=0;

}

}

return 0;

}

Q2

#include<iostream>

using namespace std;

int n;

int i=0;

int b[100];

void create(int)

{

int d = 0;

for (i = 0; i < n; i++)

{

cout << "enter the value:" << endl;

cin >> d;

b[i] = d;

}

cout << "the array is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

void del(int a)

{

int c = 0;

int d = 0;

for (i = 0; i < n; i++)

{

if (b[i] == a)

{

c++;

d = i;

break;

}

}

cout << "the index of item to be deleted is" << d << endl;

if (c == 1)

{

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

{

b[i] = b[i + 1];

}

n--;

cout << "the list after deletion is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

else

{

cout << "element not found in array" << endl;

}

}

int main(){

int a;

int g;

int k;

cout << "enter the no of elements" << endl;

cin >> n;

create(n);

cout << "enter the element :" << endl;

cin >> k;

del(k);

return 0;

}

Q3

#include <iostream>

using namespace std;

int b[100];

int n;

int i = 0;

void create(int)

{

int d = 0;

for (i = 0; i < n; i++)

{

cout << "enter the value:" << endl;

cin >> d;

b[i] = d;

}

cout << "the array is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

void sort(int b[])

{

int temp = 0;

for (int i = 0; i < n; i++)

{

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

{

if (b[i] > b[j])

{

temp = b[i];

b[i] = b[j];

b[j] = temp;

}

}

}

cout << "sorted array is" << endl;

for (int i = 0; i < n; i++)

{

cout << b[i]<<endl;

}

}

int main()

{

int a;

int i;

int g;

cout << "enter the no of elements" << endl;

cin >> n;

create(n);

sort(b);

}

Q4

#include<iostream>

using namespace std;

int n;

int i=0;

int b[100];

void create(int)

{

int d = 0;

for (i = 0; i < n; i++)

{

cout << "enter the value:" << endl;

cin >> d;

b[i] = d;

}

cout << "the array is:" << endl;

for (i = 0; i < n; i++)

{

cout << b[i] << endl;

}

}

void sort(int b[])

{

int temp = 0;

for (int i = 0; i < n; i++)

{

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

{

if (b[i] > b[j])

{

temp = b[i];

b[i] = b[j];

b[j] = temp;

}

}

}

cout<<"THE MAXIMUM NUMBER IS: "<<b[n-1]<<endl;

cout<<"THE MINIMUM NUMBER IS: "<<b[0]<<endl;

}

int main()

{

int a;

int i;

int g;

cout << "enter the no of elements" << endl;

cin >> n;

create(n);

sort(b);

return 0;

}

Q5(A)

#include<iostream>

using namespace std;

int main(){

int a[100][100];

int n;

cout<<"ENTER THE NUMBER OF ELEMENTS: "<<endl;

cin>>n;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

cin>>a[i][j];

}

cout<<" "<<endl;

}

cout<<"THE MATRIX IS: "<<endl;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

cout<<a[i][j];

cout<<" ";

}

cout<<" "<<endl;

}

cout<<"THE DIAGONAL ELEMENTS OF THE ARRAYS IS: "<<endl;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

if(i==j){

cout<<a[i][j];

}

}

cout<<" "<<endl;

}

cout<<"THE LOWER DIAGONAL ELEMENTS OF THE ARRAYS IS: "<<endl;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

if(i>j){

cout<<a[i][j]<<" ";

}

}

cout<<" "<<endl;

}

cout<<"THE UPPER DIAGONAL ELEMENTS OF THE ARRAYS IS: "<<endl;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

if(i<j){

cout<<a[i][j]<<" ";

}

}

cout<<" "<<endl;

}

return 0;

}

Q5(B)

#include<iostream>

using namespace std;

int main(){

int a[100][100];

int n;

int s=0;

cout<<"ENTER THE NUMBER OF ELEMENTS: "<<endl;

cin>>n;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

cin>>a[i][j];

}

cout<<" "<<endl;

}

cout<<"THE MATRIX IS: "<<endl;

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

cout<<a[i][j];

cout<<" ";

}

cout<<" "<<endl;

}

for(int i=0;i<n;i++){

for(int j=0;j<n;j++){

s=s+a[i][j];

cout<<" ";

}

cout<<"SUM OF ROW "<<i+1<<" "<<"IS:"<<" "<<s<<endl;

cout<<" "<<endl;

s=0;

}

for(int j=0;j<n;j++){

for(int i=0;i<n;i++){

s=s+a[i][j];

cout<<" ";

}

cout<<"SUM OF COLUMN "<<j+1<<" "<<"IS:"<<" "<<s<<endl;

cout<<" "<<endl;

s=0;

}

return 0;

}