1 and 2

```
#include<bits/stdc++.h>
using  namespace  std;
int main(){
int  n=100,i;
int a[n];
for(i=0;i<n;i++){
    cin>>a[i];
}
cout<<"All  Odd and  Even number of the given  array  is
: "<<endl;
 for(i=0;i<n;i++){
   if(a[i]%2!=0){
    cout<<a[i]<<" is  a  Odd Number"<<endl;

   }
   if(a[i]%2==0){
    cout<<a[i]<<" is  a  Even Number"<<endl;

   }

}
return  0;
}
```

1 and 3

```
#include<bits/stdc++.h>
using  namespace  std;
```

```
int  main()
{
    int n=100,i,j;
    int  a[n][n];
    for(i=0; i<n; i++)
    {
        for(j=0; j<n; j++)
        {
            cin>>a[i][j];
        }
    }
    for(i=0; i<n; i++)
    {
        for(j=0; j<n; j++)
        {
            if(a[i][j]%5==0 && a[i][j]%10==0 ){
                cout<<a[i][j]<<" is Multiple by 5 and
10"<<endl;
            }
        }
    }
    return 0;
}
```

4 with one dimension

```
#include<bits/stdc++.h>
using  namespace  std;
int main(){
int  n =10;
int  a[n],i;
```

```
for(i=0;i<n;i++){
    cin>>a[i];
}
cout<<"Enter the  finding  number = ";
int  f;
cin>>f;
for(i=0;i<n;i++){
        if(a[i]==f){
            cout<<"Found"<<endl;
            return 0;
        }
}
cout<<"Not Found";
return 0;
}
```

4 with two diamantine

```
#include<bits/stdc++.h>
using  namespace  std;
int main(){
int  n =10;
int  a[n][n],i,j;
for(i=0;i<n;i++){
for(j=0;j<n;j++)
    cin>>a[i][j];
}
cout<<"Enter the  finding  number = ";
int  f;
```

```
cin>>f;
for(i=0;i<n;i++){
for(j=0;j<n;j++)
        if(a[i][j]==f){
            cout<<"Found"<<endl;
            return 0;
        }
}
cout<<"Not Found";
return 0;
}
```

5

```
#include<bits/stdc++.h>
using  namespace  std;
int  main()
{
    int n=3,i,j,sum=0,sum1=0,sum2=0;
    int  a[n][n];
    for(i=0; i<n; i++)
    {
        for(j=0; j<n; j++)
        {
            cin>>a[i][j];
        }
    }
    for(i=0; i<n; i++)
    {
```

```
        for(j=0; j<n; j++)
        {
            if(i==j){
                sum+=a[i][j];
            }
            else if((i+j)==n-1){
                    sum1+=a[i][j];
                }
            else if ((i+j)!=n-1 && i!=j ){
                sum2+=a[i][j];
            }

        }
    }
    cout<<"The summation  of 1st  and  2nd Diagonal
Numbers : "<<sum+sum1<<endl;
    cout<<"The summation  NOn-Diagonal Numbers :
"<<sum2<<endl;
    return 0;
}
```

6

```
#include<iostream>
using namespace std;
int main ()
{
    int r1, c1, r2, c2, i, j, k;

    cout << "Enter number of rows and columns of matrix
A : ";
```

```
    cin >> r1 >> c1;
    cout << "Enter number of rows and columns of matrix
B : ";
    cin >> r2 >> c2;
    int A[r1][c1], B[r2][c2], C[r1][c2];
    if (c1 != r2)
    {
        cout << "Matrices cannot be multiplied!";
        exit(0);
    }
    cout << "Enter elements of matrix A : ";
    for (i = 0; i < r1; i++)
        for (j = 0; j < c1; j++)
            cin >> A[i][j];
    cout << "Enter elements of matrix B : ";
    for (i = 0; i < r2; i++)
        for (j = 0; j < c2; j++)
            cin >> B[i][j];
    for (i = 0; i < r1; i++)
    {
        for (j = 0; j < c2; j++)
        {
            C[i][j] = 0;
            for (k = 0; k < r2; k++)
            {
                C[i][j] += A[i][k] * B[k][j];
            }
        }
    }
    cout << "Product of matrices\n";
    for (i = 0; i < r1; i++)
    {
```

```
        for (j = 0; j < c2; j++)
            cout << C[i][j] << "  ";
        cout << "\n";
    }
    return 0;
}
```

7

```
#include<bits/stdc++.h>
using  namespace  std;
int main(){
int  n=100,i;
int a[n],ar[n],suma[n+n];
cout<<"Input the 1st array  is "<<endl;
for(i=0;i<n;i++){
    cout<<"Enter arr["<<i<<"] ";
    cin>>a[i];
    cout<<endl;
}
cout<<"Input the 2nd array  is "<<endl;

for(i=0;i<n;i++){
    cout<<"Enter arr["<<i<<"] ";
    cin>>ar[i];
    cout<<endl;
}

for(i=0;i<n;i++){
    suma[i]=a[i];
```

```
}
for(i=n;i<n+n;i++){
    suma[i]=ar[i-4];
}
cout<<"Merging  two one-dimensional arrays is : "<<endl;
for(i=0;i<n+n;i++){
    cout<<"Merging["<<i<<"]"<<suma[i]<<endl;
}


return  0;
}
```

8

```
#include<bits/stdc++.h>
using  namespace  std;
int main(){
int  n=100,i;
int a[n];
for(i=0;i<n;i++){
    cin>>a[i];
}
 int nn = sizeof(a) / sizeof(a[0]);
 sort(a,a + nn);
 cout<<"After  Shorting  all  Value of  array "<<endl;
 for(i=0;i<n;i++){
cout<<a[i]<<" ";
}
return  0;
}
```