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Assignment: PF Lab 7

Sec: H

Task 1.

Input

```
#include<iostream>
using namespace std;
int main()
{
    int size;
    cout<<"Enter a size of array: ";
    cin>>size;

    int a[size];
    for( int i=0; i<size; i++)
    {
        cout<<"Enter value number "<<i+1<<" : ";
        cin>>a[i];
    }

    cout<<"Numbers in reverse order are: "<<endl;
    for(int i=size-1; i>=0 ; i--)
        cout<<a[i]<<" ";
}

return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 1.exe
Enter a size of array: 5
Enter value number 1 : 67
Enter value number 2 : 56
Enter value number 3 : 43
Enter value number 4 : 54
Enter value number 5 : 62
Numbers in reverse order are:
62 54 43 56 67
-----
Process exited after 6.737 seconds with return value 0
Press any key to continue . . .
```

TASK 2.

Input

```
#include<iostream>

using namespace std;

int main()
{
    int size, sum=0;
    cout<<"Enter a size of array: ";
    cin>>size;

    int a[size];
    for( int i=0; i<size; i++)
    {
        cout<<"Enter value number "<<i+1<<" : ";
        cin>>a[i];
    }

    for(int i=0; i<size ; i++)
        sum+=a[i];
    cout<<"\nThe sum of given numbers is "<<sum<<endl;
    return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 2.exe
Enter a size of array: 5
Enter value number 1 : 34
Enter value number 2 : 53
Enter value number 3 : 58
Enter value number 4 : 96
Enter value number 5 : 56

The sum of given numbers is 297
-----
Process exited after 7.778 seconds with return value 0
Press any key to continue . . .
```

TASK 3.

INPUT

```
#include<iostream>
using namespace std;
int main()
{
    int sum=0;
    int average[10]={5,10,15,20,25,30,35,40,45,50};

    cout<<"The values of the array are: ";
    for(int i=0; i<10; i++)
        cout<<average[i]<<" ";
```

```
cout<<endl;
for(int i=0; i<10 ; i++)
    sum+=average[i];

cout<<"\nThe average is "<<sum/10<<endl;

return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 3.exe
The values of the array are: 5 10 15 20 25 30 35 40 45 50
The average is 27
-----
Process exited after 0.04168 seconds with return value 0
Press any key to continue . . .
```

TASK 4

INPUT

```
#include<iostream>
using namespace std;
int main()
{
    int num[5]={19,86,32,43,45}, n[5];
    cout<<"The elements of first array are: \n";
```

```
    for(int i=0; i<5; i++)
        cout<<num[i]<<" ";
    cout<<endl<<endl;
    cout<<"The elements of second array are: \n";
    for(int i=0; i<5; i++)
    {
        n[i]=num[i];
        cout<<n[i]<<" ";
    }
    return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 4.exe
The elements of first array are:
19 86 32 43 45

The elements of second array are:
19 86 32 43 45
-----
Process exited after 0.1378 seconds with return value 0
Press any key to continue . . .
```

TASK 5

INPUT

```
#include<iostream>
using namespace std;
int main()
{
    int size;
    cout<<"Enter a size of array: ";
    cin>>size;

    int a[size];
    for( int i=0; i<size; i++)
    {
        cout<<"Enter value number "<<i+1<<" : ";
        cin>>a[i];
    }

    cout<<"The even numbers are: \n";
    for(int i=0; i<size ; i++)
    {
        if(a[i]%2==0)
            cout<<a[i]<<" ";
    }

    return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 5.exe
Enter a size of array: 6
Enter value number 1 : 45
Enter value number 2 : 34
Enter value number 3 : 33
Enter value number 4 : 37
Enter value number 5 : 67
Enter value number 6 : 60
The even numbers are:
34 60
-----
Process exited after 12.13 seconds with return value 0
Press any key to continue . . .
```

TASK 6.

INPUT

```
#include<iostream>
using namespace std;
int main()
{
    int size;
    cout<<"Enter a size of array: ";
    cin>>size;
    cout<<endl;

    int a[size];
```

```

        for( int i=0; i<size; i++)
        {
            cout<<"Enter value number "<<i+1<<" : ";
            cin>>a[i];
        }

        cout<<"The values on the odd indices are: \n";
        for(int i=0; i<size; i++)
        {
            if(i%2!=0)
                cout<<a[i]<<" ";
        }

    return 0;
}

```

OUTPUT

 E:\LAB tasks Pf\Lab 7\Lab 7 task 6.exe

```

Enter a size of array: 7

Enter value number 1 : 34
Enter value number 2 : 45
Enter value number 3 : 56
Enter value number 4 : 67
Enter value number 5 : 78
Enter value number 6 : 89
Enter value number 7 : 90
The values on the odd indices are:
45 67 89
-----
Process exited after 7.648 seconds with return value 0
Press any key to continue . . .

```

Task 7.

Input

```
#include<iostream>
using namespace std;
int main()
{
    int size;
    cout<<"Enter a size of array: ";
    cin>>size;

    int a[size], b[size]; // array1 and array 2
    for( int i=0; i<size; i++)
    {
        cout<<"Enter value number "<<i+1<<" : ";
        cin>>a[i];
    }

    cout<<"The elements of first array are: \n";
    for(int i=0; i<size; i++)
        cout<<a[i]<<" ";

    cout<<endl<<endl;
    cout<<"The elements of second array are: \n";
    for(int i=size-1; i>=0; i--)
    {
        b[i]=a[i];
```

```
    cout<<b[i]<<" ";
```

```
}
```

```
return 0;
```

```
}
```

Output

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 7.exe
```

```
Enter a size of array: 5
Enter value number 1 : 45
Enter value number 2 : 56
Enter value number 3 : 67
Enter value number 4 : 78
Enter value number 5 : 89
The elements of first array are:
45 56 67 78 89

The elements of second array are:
89 78 67 56 45
-----
Process exited after 4.64 seconds with return value 0
Press any key to continue . . .
```

Task 8.

Input

```
#include<iostream>
using namespace std;
int main()
{
```

```
int arr1[5]={19,86,32,43,45},  
arr2[5]={23,34,23,12,15},sum[5];  
  
cout<<"The elements of first array are: \n";  
  
for(int i=0; i<5; i++)  
    cout<<arr1[i]<<" ";  
  
cout<<endl<<endl;  
cout<<"The elements of second array are: \n";  
  
for(int i=0; i<5; i++)  
    cout<<arr2[i]<<" ";  
  
for(int i=0; i<5;i++)  
    sum[i]=arr1[i]+arr2[i];  
  
cout<<endl<<endl;  
cout<<"The sum of both arrays: \n";  
for(int i=0; i<5; i++)  
    cout<<sum[i]<<" ";  
  
return 0;  
}
```

Output

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 8.exe
The elements of first array are:
19 86 32 43 45

The elements of second array are:
23 34 23 12 15

The sum of both arrays:
42 120 55 55 60
-----
Process exited after 0.05657 seconds with return value 0
Press any key to continue . . .
```

Task 9

Input

```
#include<iostream>
using namespace std;
int main()
{
    int N=5, M=6;          // any integers
    int arr1[N]={19,86,32,43,45},
arr2[M]={23,34,23,12,15,20},arr3[N+M];
    cout<<"The values of first array are: \n";
    for(int i=0; i<N; i++)
        cout<<arr1[i]<<endl;
    cout<<"The values of second array are: \n";
    for(int i=0; i<M; i++)
        cout<<arr2[i]<<endl;
    cout<<"The sum of both arrays is: \n";
    for(int i=0; i<N+M; i++)
        cout<<arr3[i]<<endl;
```

```
cout<<arr1[i]<<" ";
cout<<endl<<endl;
cout<<"The values of second array are: \n";
for(int i=0; i<M; i++)
    cout<<arr2[i]<<" ";
for( int i=0; i<N;i++)
    arr3[i]=arr1[i];
for( int i=0; i<M;i++)
    arr3[5+i]=arr2[i];
cout<<endl<<endl;
cout<<"The values of third array are: \n";
for(int i=0; i<N+M; i++)
    cout<<arr3[i]<<" ";
return 0;
}
return 0;
}
```

Output

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 9.exe
The values of first array are:
19 86 32 43 45

The values of second array are:
23 34 23 12 15 20

The values of third array are:
19 86 32 43 45 23 34 23 12 15 20
-----
Process exited after 0.03403 seconds with return value 0
Press any key to continue . . .
```

Task 10

Input

```
#include <iostream>
using namespace std;
int main ()
{
    int size;
```

```

        cout<<"input the number of students for which records are
to be entered: ";
        cin>>size;

        int
aPF[size],aMath[size],aEnglish[size],aPS[size],Totalmarks[size];
        string aName[size];
        float percentage[size];
        char grade[size];

        cout<<"Enter the names of all students:\n";
        for(int i=0; i<size; i++)
            cin>>aName[i];



        for(int i=0; i<size; i++)
        {
            cout<<"Enter marks of Programing of "<<aName[i]<<" :
";
            cin>>aPF[i];
        }

        cout<<endl;
        for(int i=0; i<size; i++)
        {
            cout<<"Enter marks of Math of "<<aName[i]<<" : ";
            cin>>aMath[i];
        }

        cout<<endl;
        for(int i=0; i<size; i++)
        {
            cout<<"Enter marks of English of "<<aName[i]<<" : ";

```

```

    cin>>aEnglish[i];

}

cout<<endl;
for(int i=0; i<size; i++)
{
    cout<<"Enter marks of PS of "<<aName[i]<<" : ";
    cin>>aPS[i];
}

for(int i=0; i<size; i++)
Totalmarks[i]=aPF[i]+aMath[i]+aEnglish[i]+aPS[i];
cout<<endl;

for(int i=0; i<size; i++)
percentage[i]=Totalmarks[i]*100.0/400;

cout<<endl;
for(int i=0; i<size; i++)
{
    if(percentage[i]>=80 &&percentage[i]<=100)
        grade[i]='A';

    else if(percentage[i]>=70 &&percentage[i]<80)
        grade[i]='B';

    else if(percentage[i]>=60 &&percentage[i]<70)
        grade[i]='C';

    else if(percentage[i]<60)
        grade[i]='F';
}

```

```

    }

    for(int i=0; i<=90; i++)
        cout<<"=";

    cout<<endl;
    cout<<"Name\tProgramming      Math      English      P.S
Total Obtained      Percentage      Grade\n";
}

for(int i=0; i<=90; i++)
    cout<<"=";
    cout<<endl;

for(int i=0; i<size; i++)
    cout<<aName[i]<<"      "<<aPF[i]<<"\t\t  "<<aMath[i]<<"\t
"<<aEnglish[i]<<"\t      "<<aPS[i]<<"\t\t
"<<Totalmarks[i]<<"\t\t"<<percentage[i]<<"\t      "<<grade[i]<<"\n";

for(int i=0; i<=90; i++)
    cout<<"=";

return 0;
}

```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 10.exe
input the number of students for which records are to be entered: 3
Enter the names of all students:
Ali
Ahmed
Aslam
Enter marks of Programming of Ali : 67
Enter marks of Programming of Ahmed : 78
Enter marks of Programming of Aslam : 59

Enter marks of Math of Ali : 89
Enter marks of Math of Ahmed : 80
Enter marks of Math of Aslam : 70

Enter marks of English of Ali : 78
Enter marks of English of Ahmed : 89
Enter marks of English of Aslam : 91

Enter marks of PS of Ali : 78
Enter marks of PS of Ahmed : 98
Enter marks of PS of Aslam : 67

=====
Name    Programming      Math      English      P.S      Total Obtained      Percentage      Grade
=====
Ali      67              89        78          78        312            78             B
Ahmed    78              80        89          98        345            86.25           A
Aslam    59              70        91          67        287            71.75           B
=====
```

Task 11

Input

```
#include <iostream>
using namespace std;
int main ()
{
    int size, smallest;
    cout<<"Enter size if an array : ";
    cin>>size;

    cout<<"Enter number "<<1<<" : ";
    cin>>smallest;

    int arr[size];
    for(int i=1; i<size; i++)
    {
        cout<<"Enter number "<<i+1<<" : ";
        cin>>arr[i];

        if(arr[i]<smallest)
            smallest=arr[i];
    }

    cout<<endl<<"The smallest number is "<<smallest;

    return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 11.exe
Enter size if an array : 5
Enter number 1 : 67
Enter number 2 : 54
Enter number 3 : 34
Enter number 4 : 59
Enter number 5 : 98

The smallest number is 34
-----
Process exited after 7.972 seconds with return value 0
Press any key to continue . . .
```

Task 12

Input

```
#include <iostream>

using namespace std;

int main ()
{
    int size, largest;
    cout<<"Enter size of an array : ";
    cin>>size;

    cout<<"Enter number "<<1<<" : ";
    cin>>largest;

    int arr[size];
```

```
for(int i=1; i<size; i++)  
{  
    cout<<"Enter number "<<i+1<<" : ";  
    cin>>arr[i];  
  
    if(arr[i]>largest)  
        largest=arr[i];  
  
}  
cout<<endl<<"The largest number is "<<largest;  
  
return 0;  
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 12.exe  
Enter size of an array : 12  
Enter number 1 : 65  
Enter number 2 : 99  
Enter number 3 : 45  
Enter number 4 : 34  
Enter number 5 : 20  
Enter number 6 : 56  
Enter number 7 : 67  
Enter number 8 : 56  
Enter number 9 : 990  
Enter number 10 : 67  
Enter number 11 : 56  
Enter number 12 : 45  
  
The largest number is 990  
-----  
Process exited after 17.13 seconds with return value 0  
Press any key to continue . . .
```

Task 13

Input

```
#include<iostream>
using namespace std;
int main()
{
    int size, search, temp;
    bool found=false;
    cout<<"Enter a size of array: ";
    cin>>size;

    int arr[size];
    for( int i=0; i<size; i++)
    {
        cout<<"Enter value number "<<i+1<<" : ";
        cin>>arr[i];
    }

    cout<<"Enter the value you want to search from this array
: ";
    cin>>search;

    for(int i=0; i<size ; i++)
    {
```

```
if(arr[i]==search)
{
    temp=i;
    found=true;
    break;
}

}

if(found)
cout<<search<<" is present in the array at index "<<temp;
else
cout<<search<<" is not present in the array...\\n\\n";

return 0;
}
```

OUTPUT

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 13.exe
Enter a size of array: 8
Enter value number 1 : 34
Enter value number 2 : 45
Enter value number 3 : 54
Enter value number 4 : 34
Enter value number 5 : 56
Enter value number 6 : 87
Enter value number 7 : 65
Enter value number 8 : 78
Enter the value you want to search from this array : 34
34 is present in the array at index 0
-----
Process exited after 18.53 seconds with return value 0
Press any key to continue . . .
```

```
E:\LAB tasks Pf\Lab 7\Lab 7 task 13.exe
Enter a size of array: 5
Enter value number 1 : 34
Enter value number 2 : 45
Enter value number 3 : 34
Enter value number 4 : 54
Enter value number 5 : 87
Enter the value you want to search from this array : 8
8 is not present in the array...
-----
Process exited after 6.794 seconds with return value 0
Press any key to continue . . .
```

The End