Bahria University,

Karachi Campus

Bahria University
Discovering Knowledge

COURSE: CSC -113 Computing Programming lab
TERM: SPRING 2020, CLASS: BCE- 2A

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Submitted By:

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Submitted To:

- **Creating an array of 10 to 20 integers and identify which numbers are even or odd numbers and also print their location?**

```
7  ********************************************************************************/
8
9  #include<iostream>
10 using namespace std;
11
12 int main() {
13    int arr[10], i;
14
15     cout << "Enter 10 Numbers :";
16     for (i = 0; i < 10; i++) {
17         cin >> arr[i];
18     }
19     cout << " Even Numbers :"<<endl;
20     for (i = 0; i < 10; i++) {
21         if (arr[i] % 2 == 0)
22     cout<< " Even number :"<< arr[i] << " "<<endl;
23     }
24     cout << "Odd Numbers :"<<endl;
25     for (i = 0; i < 10; i++) {
26         if (arr[i] % 2 != 0)
27     cout<< " Odd number :" << arr[i] << " "<<endl;
28     }
29
30     return 0;
31 }
```

```
Enter 10 Numbers :1
2
3
4
5
6
7
8
9
10
 Even Numbers :
 Even number :2
 Even number :4
 Even number :6
 Even number :8
 Even number :10
Odd Numbers :
 Odd number :1
 Odd number :3
 Odd number :5
 Odd number :7
 Odd number :9


...Program finished with exit code 0
```

- **Make a program in C++ in which take 5 numbers from user and then give sum and avg. of them. Using arrays.**

```cpp
#include<iostream>
using namespace std;

int main() {
      int n, i;
    float arr[i], sum=0, average;

    cout << "Enter the size of the array : ";
    cin >> n;
    cout << "Enter the elements of the array : "<<endl;
    for (i = 0; i < n; i++)
    cin >> arr[i];
    for (i = 0; i < n; i++)
    {
        sum += arr[i];
    }
    cout << "Sum of array elements"<<" = " << sum<<endl;
    average = sum / n;
    cout << "Average of array elements" <<" = " << average<<endl;

    return 0;
}
```

input

```
Enter the elements of the array :
5
6
7
Sum of array elements = 18
Average of array elements = 6


...Program finished with exit code 0
Press ENTER to exit console.
```

- **Make a program in C++ in which take 5 numbers from user and then give max and min value. Using arrays.**

```cpp
#include<iostream>
using namespace std;
int main ()
{
    int arr[10], n, i, max, min;
    cout << "Enter the size of the array : ";
    cin >> n;
    cout << "Enter the elements of the array : ";
    for (i = 0; i < n; i++)
        cin >> arr[i];
    max = arr[0];
    for (i = 0; i < n; i++)
    {
        if (max < arr[i])
            max = arr[i];
    }
    min = arr[0];
    for (i = 0; i < n; i++)
    {
        if (min > arr[i])
            min = arr[i];
    }
    cout << "Max Value : " << max<<endl;
    cout << "Mini Value : " << min<<endl;
    return 0;
```

input

```
Enter the size of the array : 3
Enter the elements of the array : 1
2
5
Max Value : 5
Mini Value : 1
```

- **Write a C++ program that ask user to enter 10 integer values. Store those values in one dimension array. Create another array of same size, and store the values of first array in reverse order.**

```cpp
#include<iostream>
using namespace std;

int main()
{
    int Arr[100],n,temp,i,j;
    cout<<"Enter size of array: ";
    cin>>n;
    for(i=0;i<n;i++)
    {
        cout<<"Enter element of array:"<<i+1<<":";
        cin>>Arr[i];
    }
    for(i=0,j=n-1;i<n/2;i++,j--)
    {
        temp=Arr[i];
        Arr[i]=Arr[j];
        Arr[j]=temp;
    }
    cout<<"Reverse array:"<<endl;

    for(i=0;i<n;i++)
        cout<<Arr[i]<<" ";
       return 0;
}
```

input

```
Enter size of array: 2
Enter element of array:1:5
Enter element of array:2:6
Reverse array:
6 5

...Program finished with exit code 0
Press ENTER to exit console.
```

- **Write a C++ program to calculate the sum of each row, column, left diagonal and right diagonal of a two-dimensional (2D) array of size RxC. for example:**

```cpp
#include <iostream>
using namespace std;
int main()
{ int Arr[5][5];
    int row, col, sum = 0, d1sum=0, d2sum=0;
    cout<<"Enter elements in matrix of size "<<5<<" x "<<5<<"\n";
    for(row=0; row<5; row++)
    { for(col=0; col<5; col++)
        {cin>>Arr[row][col];} }
    for(row=0; row<5; row++)
    { sum = 0;
        for(col=0; col<5; col++)
        { sum += Arr[row][col];}
        cout<<"Sum of elements of row "<<row+1<<" = "<<sum<<"\n";
    }for(row=0; row<5; row++)
    {sum = 0;
        for(col=0; col<5; col++)
        { sum += Arr[col][row];}
        cout<<"Sum of elements of column "<<row+1<<" = "<<sum<<endl;
    }   for(row=0;row<5;++row)
        for(col=0;col<5;++col)
        {if(row==col)
                d1sum+=Arr[row][col];
            if(row+col==(5-1))
                d2sum+=Arr[row][col];}
    for(row = 0; row < 5; row++)
    {for(col = 0; col < row; col++)
        {cout << col;}}
    cout<<"\n Sum of left diagonal is "<<"="<<d1sum<<endl;
    cout<<"Sum of right diagonal is "<<"="<<d2sum<<endl;
    return 0;}
```

```
Enter elements in matrix of size 5 x 5
6
4
6
8
9
3
5
7
8
9
2
4
8
9
3
6
8
5
3
2
7
8
9
4
6
Sum of elements of row 1 = 33
Sum of elements of row 2 = 32
Sum of elements of row 3 = 26
Sum of elements of row 4 = 24
Sum of elements of row 5 = 34
Sum of elements of column 1 = 24
Sum of elements of column 2 = 29
Sum of elements of column 3 = 35
Sum of elements of column 4 = 32
Sum of elements of column 5 = 29
0010120123
 Sum of left diagonal is =28
Sum of right diagonal is =40
```