Experiment : 1.1

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Subject Name: Advanced Programming LAB **Subject Code:** 21CSP-259

AIM: *To implement the concept of Array.*

OBJECTIVE:

1) *Given an array, A of N integers, print A's elements in* reverse *order as a single line of space-separated numbers.*
2) *The objective is to develop a program that takes the ratings of two challenges created by Alice and Bob, compares the ratings for each category, calculates their scores, and produces a list representing the comparison points, with Alice's score first and Bob's score second.*
3) *Print the sum of the array's elements as a single integer.*

CODE:

Code 1:

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

void reverse(int arr[],int size){
   int start = 0;
   int end = size-1;

   while(start<end){
      swap(arr[start],arr[end]);
      start++;
      end--;
   }
   cout<<"The reverse array is: ";
   for(int i = 0; i<size;i++){
      cout<<arr[i]<<" ";
   }
```

```
}

int main(){

    int arr[100];
    int size;
    cout<<"Enter the size of array: ";
    cin>>size;
    cout<<"Enter the element: ";
    for(int i=0;i<size;i++){
        cin>>arr[i];
    }

    reverse(arr,size);
}
```

Code 2:

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

int main(){
   int a[100];
   int b[100];
    int size;
    cout<<"Enter the size of array: ";
    cin>>size;
    cout<<"Enter the elements for alice: ";
    for(int i =0;i<size;i++){
        cin>>a[i];
    }

    cout<<"Enter the elements for bob: ";
    for(int i=0;i<size;i++){
        cin>>b[i];
    }
    int aScore=0;
    int bScore=0;
    for(int i=0;i<size;i++){
          if(a[i]>b[i]){
```

```
            aScore = aScore+1;
        }
        if(a[i]<b[i]){
            bScore = bScore+1;
        }
        if(a[i]=b[i]){
            aScore = aScore;
            bScore = bScore;
        }
    }

    cout<<"Alice Score: "<<aScore<<endl;
    cout<<"Bob Score: "<<bScore<<endl;

    if(aScore>bScore){
        cout<<"Alice Won"<<endl;
    }
    else if(aScore==bScore){
        cout<<"Draw"
    }
    else{
        cout<<"Bob won"<<endl;
    }

}
```

Code 3:

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

int main(){

    int arr[100];
    int size;
    cout<<"Enter the size of array: ";
    cin>>size;
    cout<<"Enter the element: ";
    for(int i=0;i<size;i++){
        cin>>arr[i];
```

```
    }
    int sum=0;
    for(int i=0;i<size;i++){
        sum+=arr[i];
    }

    cout<<"Array sum is: "<<sum;
    int finalSum=0;

    while(sum>0){
      int digit = sum%10;
      finalSum+=digit;
      sum = sum/10;
    }
    cout<<"\nFinal Sum: "<<finalSum;

}
```

OUTPUT:

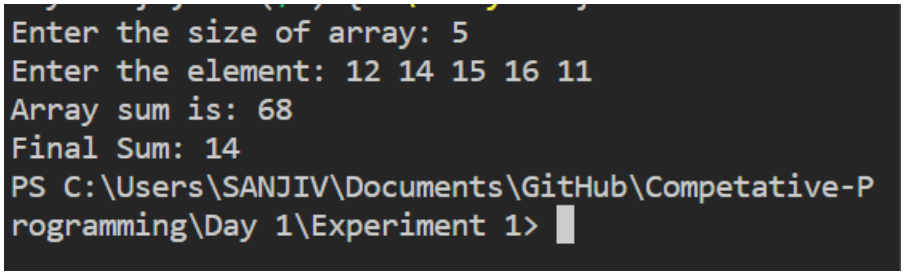
OUTPUT 1

```
Enter the size of array: 5
Enter the element: 4 5 3 2 1
The reverse array is: 1 2 3 5 4
PS C:\Users\SANJIV\Documents\GitHub\Competative-P
rogramming\Day 1\Experiment 1>
```

OUTPUT 2

```
Enter the size of array: 5
Enter the elements for alice: 1 1 1 1 5
Enter the elements for bob: 1 1 1 1 7
Alice Score: 0
Bob Score: 1
Bob won
PS C:\Users\SANJIV\Documents\GitHub\Competative-P
rogramming\Day 1\Experiment 1>
```

OUTPUT 3



LEARNING OUTCOMES:

1. *Learn about array manipulation technique.*
2. *Learn about array conditional logic.*
3. *Learn about algorithm thinking*
4. *Learn about mathematical logic*