



Experiment1.1

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Subject Name: Advance Programming Lab

Subject Code: 21CSP - 314

1. Aim: To implement the concept of Dynamic Array.

2. Objective:

1. Given an array of integers, print its elements in reverse order as a single line of space-separated numbers.
2. Given an array of integers, find the sum of its elements.
3. Alice and Bob each created one problem for HackerRank. A reviewer rates the two challenges, awarding points on a scale from 1 to 100 for three categories: problem clarity, originality, and difficulty. The rating for Alice's challenge is the triplet $a = (a[0], a[1], a[2])$, and the rating for Bob's challenge is the triplet $b = (b[0], b[1], b[2])$.

3. Program and output:

1.

```
import java.util.*;

public class one {

    public static void reverseArray(int arr[]){

        int start = 0, end = arr.length-1;

        while(start < end ){

            int temp = arr[end];

            arr[end] = arr[start];

            arr[start] = temp;

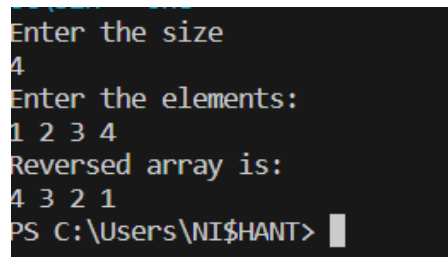
            start++;

        }

    }

}
```

```
        end--;  
    }  
}  
  
public static void main(String[] args) {  
    Scanner sc = new Scanner(System.in);  
  
    System.out.println("Enter the size");  
  
    int n =sc.nextInt();  
  
    int arr[] = new int[n];  
  
    System.out.println("Enter the elements: ");  
    for(int i=0; i<n; i++){  
        arr[i] = sc.nextInt();  
    }  
  
    reverseArray(arr);  
  
    System.out.println("Reversed array is: ");  
    for(int i=0; i<n; i++){  
        System.out.print(arr[i] + " ");  
    }  
}
```



A screenshot of a Java program execution in a command prompt. The program prompts the user to enter the size of an array, which is 4. Then it prompts for the elements, which are 1, 2, 3, and 4. Finally, it displays the reversed array: 4, 3, 2, 1. The command prompt shows the user's location as PS C:\Users\NISHANT>.

```
Enter the size  
4  
Enter the elements:  
1 2 3 4  
Reversed array is:  
4 3 2 1  
PS C:\Users\NISHANT>
```



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```
import java.util.*;

public class two {

    public static int sumArr(int arr[]){

        int sum = 0;

        for(int i=0; i<arr.length; i++){

            sum = sum+arr[i];

        }

        return sum;

    }

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the size");

        int n =sc.nextInt();

        int arr[] = new int[n];

        System.out.println("Enter the elements: ");

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

            arr[i] = sc.nextInt();

        }

        int add =sumArr(arr);

        System.out.println("Sum of element is: " + add);

    }

}
```

```
Enter the size
4
Enter the elements:
1 2 3 5
Sum of element is: 11
PS C:\Users\NISHANT>
```



3.

```
import java.util.*;

public class three{

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter the size of array");

        int n =sc.nextInt();

        int arrA[] = new int[n];

        System.out.println("Enter the elements of Alice: ");

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

            arrA[i] = sc.nextInt();

        }

        int arrB[] = new int[n];

        System.out.println("Enter the elements of Bob: ");

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

            arrB[i] = sc.nextInt();

        }

        int Ascore = 0;

        int Bscore = 0;

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

            if(arrA[i] > arrB[i]){

                Ascore = Ascore+1;

            }

            if(arrA[i] < arrB[i]){

                Bscore = Bscore+1;

            }

        }

    }

}
```

```
        }  
        if(arrA[i] == arrB[i]){  
            Ascore = Ascore;  
            Bscore = Bscore;  
        }  
    }  
    System.out.println("Alice score: " + Ascore);  
    System.out.println("Bob Score: " + Bscore);  
    if(Ascore > Bscore){  
        System.out.println("Alice won");  
    } else if(Ascore < Bscore){  
        System.out.println("Bob won");  
    } else {  
        System.out.println("Draw");  
    }  
}  
}
```

```
Enter the size of array  
4  
Enter the elements of Alice:  
1 2 3 4  
Enter the elements of Bob:  
1 2 3 5  
Alice score: 0  
Bob Score: 1  
Bob won  
PS C:\Users\NI$HANT> █
```