

Experiment 1

Student Name:Rajiv Paul

UID:20BCS1812

Branch: CSE

Section/Group: 20BCS_WM_702(A)

Semester: 5th

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Subject Name: Competitive Coding

Subject Code: 20CSP-314

1.Aim/Overview of the practical:

Array Data Structures

1. To reverse the elements of an array.

2. Task to be done/ Which logistics used:

To write a program to reverse the elements of an array.

3. Steps for experiment/practical/Code:

```
import java.util.*;
```

```
public class Solution {
```

```
    public static void main(String[] args) {
```


```
        Scanner S = new Scanner(System.in);
```

```
        int N = S.nextInt();
```

```
        int[] arr = new int[N];
```

```
for (int i = 0; i < N; i++) {  
    arr[i]=S.nextInt();  
}  
  
for(int i = N-1; i>=0;i--){  
    System.out.print(arr[i]+" ");  
}  
}
```

4. Result/Output/Writing Summary:

 **Sample Test case 0**

Input (stdin)

Download

1	4
2	1 4 3 2

Your Output (stdout)

1	2 3 4 1
---	---------

Expected Output

Download

1	2 3 4 1
---	---------

1. Aim/Overview of the practical:

Array Data Structures

2. To find the sum of the elements of an array.

2. Task to be done/ Which logistics used:

To write a program to find the sum of the elements of an array.

3. Steps for experiment/practical/Code:

```
import java.util.*;

public class array_sum {

    public static void main(String[] args) {

        Scanner S = new Scanner(System.in);

        int n= S.nextInt();

        int [] ar = new int[n];

        int sum=0;

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

            sum+=S.nextInt();

        }

        System.out.print(sum);

    }

}
```

4. Result/Output/Writing Summary:

✓

Test case 0

✓

Test case 1

🔒

✓

Test case 2

🔒

Compiler Message

Success

Input (stdin)

Download

1

6

2

1 2 3 4 10 11

Expected Output

Download

1

31

1. Aim/Overview of the practical:

Array Data Structures

3. To compare the triplet and determine their respective comparison points.

2. Task to be done/ Which logistics used:

To write a program to compare the triplet and determine their respective comparison points.







3. Steps for experiment/practical/Code:

```
import java.util.*;

public class Compare_the_triplet {
    public static void main(String[] args) {
        Scanner I = new Scanner(System.in);
        int []alice = new int[3];
        int []bob = new int[3];
        int a=0,b=0;
        for (int i=0;i<3;i++){
            alice[i]=I.nextInt();
        }
        for (int i=0;i<3;i++){
            bob[i]=I.nextInt();
        }
        for(int i=0;i<3;i++){
            if(alice[i]>bob[i]){
                a++;
            }
        }
    }
}
```

```
}  
  
else if (bob[i]>alice[i]){  
    b++;  
}  
  
}  
  
System.out.println(a+" "+b);  
  
}  
  
}  
  
}
```

4. Result/Output/Writing Summary:

✓ Test case 0	Compiler Message	
✓ Test case 1 	Success	
✓ Test case 2 	Input (stdin)	Download
✓ Test case 3 	1 5 6 7 2 3 6 10	
✓ Test case 4 	Expected Output	Download
✓ Test case 5 	1 1 1	
✓ Test case 6 		

1. Aim/Overview of the practical:

Array Data Structures

4. To calculate the absolute difference between the sums of its diagonals of a square matrix.

2. Task to be done/ Which logistics used:

To write a program to calculate the absolute difference between the sums of its diagonals of a square matrix.

3. Steps for experiment/practical/Code:

```
import java.io.*;
```

```
import java.math.*;
```

```
import java.security.*;
```

```
import java.text.*;
```

```
import java.util.*;
```

```
public class Diagonal_Difference {  
    public static void main(String[] args) {  
        Scanner s= new Scanner(System.in);  
        int n= s.nextInt();  
        int arr[][] = new int[n][n];  
        int D1=0, D2=0;  
        for(int i =0;i<n;i++){  
            for (int j=0; j<n;j++){  
                arr[i][j]= s.nextInt();  
                if(i==j){
```

```
        D1+=arr[i][j];
    }
    if(i== n-j-1){
        D2+=arr[i][j];
    }
}

}

System.out.println(Math.abs(D1-D2));

}

}
```

4. Result/Output/Writing Summary:

Test Case	Status	Compiler Message	Input (stdin)	Expected Output
Test case 0	✓	Success		
Test case 1	✓			
Test case 2	✓			
Test case 3	✓			
Test case 4	✓			
Test case 5	✓			
Test case 6	✓			

Input (stdin)

1	3
2	11 2 4
3	4 5 6
4	10 8 -12

Expected Output

1	15
---	----

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			