# Practical No:19

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**Objective:**  WAP to find the diagonal elements of the matrix.

# Code :

import java.util.Scanner;

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\* DiagonalAddition

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public class DiagonalAddition {

public static void main(String[] args) {

Scanner sc= new Scanner(System.in);

int n;

System.out.print("Enter the number of rows: ");

n= sc.nextInt();

int arr[][]= new int[n][n];

int sum=0;

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

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

System.out.print("Enter arr["+ i+"]["+ j+ "]: ");

arr[i][j]= sc.nextInt();

if(i==j){

sum+=arr[i][j];

}

}

}

System.out.println("The matrix is: ");

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

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

System.out.print(arr[i][j] + "\t");

}

System.out.println();

}

System.out.println("The sum of diagonal elements is: "+ sum);

sc.close();

}

}

# Output:

PS E:\03 Semester\Java\Assignments\Assignment\_09\_dec26\_diagAdd> cd "e:\03 Semester\Java\Assignments\Assignment\_09\_dec26\_diagAdd\" ; if ($?) { javac DiagonalAddition.java } ; if ($?) { java DiagonalAddition }

Enter the number of rows: 4

Enter arr[0][0]: 5

Enter arr[0][1]: 6

Enter arr[0][2]: 7

Enter arr[0][3]: 3

Enter arr[1][0]: 5

Enter arr[1][1]: 6

Enter arr[1][2]: 7

Enter arr[1][3]: 8

Enter arr[2][0]: 9

Enter arr[2][1]: 4

Enter arr[2][2]: 2

Enter arr[2][3]: 4

Enter arr[3][0]: 6

Enter arr[3][1]: 4

Enter arr[3][2]: 6

Enter arr[3][3]: 5

The matrix is:

5 6 7 3

5 6 7 8

9 4 2 4

6 4 6 5

The sum of diagonal elements is: 18