Day 49 coding Statement : Given 2 integer arrays X and Y of same size. Consider both arrays as vectors and print the minimum scalar product (Dot product) of 2 vectors.

Input : Enter the Array length :4
        Enter the Array1 Elements : 4 3 2 1
        Enter the Array2 Elements : 5 6 7 8

Output : Dot Product : 60

Program :

```java
package com.talentbattle.codingchallenge;

import java.util.Scanner;

public class Dot_product {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter the Array length ");
        int n = scan.nextInt();
        int arr1[] = new int[n];
        int arr2[] = new int[n];
        System.out.println("Enter the Array1 Elements");
        for(int i = 0;i<=arr1.length-1;i++)
        {
            arr1[i] = scan.nextInt();
        }

        System.out.println("Enter the Array2 Elements");
        for(int i = 0;i<=arr2.length-1;i++)
        {
            arr2[i] = scan.nextInt();
        }

        int product=0;

        for(int i = 0; i<= arr1.length -1; i++)
        {
            product = product + (arr1[i] * arr2[i]);
        }

        System.out.println("Dot Product : " + product);
    }

}
```

File   Edit   Source   Refactor   Navigate   Search   Project   Run   Window   Help

Project Explorer

duplicate_element.java   Dot_product.java

src > com.talentbattle.codingchallenge > Dot_product > main(String[]) : void

- com.talentbattle.codingchallenge
  - alphabet_or_not.java
  - Anagram.java
  - Areaofcircle.java
  - Armstrong.java
  - Array_even_or_odd.java
  - Array_type.java
  - ascii_output.java
  - Brackets_remove.java
  - Concatenate_string.java
  - Count_in_Strings.java
  - day1_vowel_consonant.java
  - days_in_a_month.java
  - Dot_product.java
  - Double_number.java
  - duplicate_element.java
  - Element_Array.java
  - Equal_arrays.java
  - factor.java
  - factorial.java
  - First_las_letter_captial.java
  - fraction.java
  - Frequency_string.java
  - Handshakes.java
  - Longest_palindrome.java
  - No_repeating_char.java
  - Number_of_digits.java
  - odd_or_even.java
  - package-info.java
  - Palindrome.java
  - Perfect_Number.java
  - positive_or_negative.java
  - practice_statement.java
  - Prime.java

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        System.out.println("Enter the Array length ");
        int n = scan.nextInt();
        int arr1[] = new int[n];
        int arr2[] = new int[n];
        System.out.println("Enter the Array1 Elements");
        for(int i = 0;i<=arr1.length-1;i++)
        {
            arr1[i] = scan.nextInt();
        }

        System.out.println("Enter the Array2 Elements");
        for(int i = 0;i<=arr2.length-1;i++)
        {
            arr2[i] = scan.nextInt();
        }

        int product=0;

        for(int i = 0; i<= arr1.length -1; i++)
        {
            product = product + (arr1[i] * arr2[i]);
        }

        System.out.println("Dot Product : " + product);
    }
}
```

Console

```
<terminated> Dot_product [Java Application] C:\Program Files\Java\jdk-1
Enter the Array length
4
Enter the Array1 Elements
4
3
2
1
Enter the Array2 Elements
5
6
7
8

Dot Product : 60
```

24°C Partly sunny   1:02 PM   1/5/2023