

8.2 The dot product of two one-dimensional arrays of real numbers A and B defined as

double A[Max_Size], B[Max_Size];

is the sum of

$A[0]*B[0] + A[1]*B[1] + A[2]*B[2] + \dots + A[\text{Max_Size} - 1]*B[\text{Max_Size} - 1]$

where Max_Size is an integer representing size of the array.

Write a function

double dot (double A[], double B[], int NumOfData);

to pass the two arrays and the number of elements in each array to the function to calculate the dot product of the two array.

Write a program to test your function.

Sample running :

The program will find the dot product of two one-dimensional arrays of real numbers.

How many number you want to input for each array (1 - 20)? 5<CR>

Please input numbers for first array.

Data[1] : 2.5<CR>

Data[2] : 1.2<CR>

Data[3] : 3.6<CR>

Data[4] : 4.8<CR>

Data[5] : 8<CR>

Please input numbers for second array.

Data[1] : 6.3<CR>

Data[2] : 2.4<CR>

Data[3] : -2.3<CR>

Data[4] : 5<CR>

Data[5] : 7<CR>

The two arrays of numbers are

2.500000	6.300000
1.200000	2.400000
3.600000	-2.300000
4.800000	5.000000
8.000000	7.000000

The dot product of the two arrays is 90.350

Do you want to try again (y/n)? n

End of Program