

Homework Week 8 – Problem 1

Develop a program to find the "*dot product*" of two lists $a=(a[i], i=0,1,\dots,n-1)$ and $b=(b[i], i=0,1,\dots,n-1)$ with n int elements. The dot product is defined by $S=a[0]*b[0]+a[1]*b[1]+\dots+a[n-1]*b[n-1]$.

- Inputs:
 - the list size: n - int.
 - the list a: $a=(a[i], i=0,1,\dots,n-1)$
 - the list b: $b=(b[i], i=0,1,\dots,n-1)$
- Output: the sum s
- How to do it:
 - Read n .
 - Read the lists a and b .
 - Calculate the list c so that $c[i] = a[i]*b[i]$, $i=0,1,\dots,n-1$.
 - Calculate the sum of the list c .
 - Print s .