**Problem #1 (20 marks = 5+5+10)**

**Angle between Vectors**

In this problem, you will be given two n-dimensional vectors. You need to find the value of cosθ where the angle between the vectors is θ. The value of cosθ can be determined using the following equation,

Here, A.B is the dot product of the two vectors A and B. And denotes the value of the vector.First you will be given an integer n which indicates the dimension of the vector. Then there will be 2\*n integers. The first n integers correspond to the coefficients of unit vector along each axis of the first vector. Similarly the second n integers are for the second vector.Print the value of cosθ between these two vectors.

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| **Sample Input** | **Sample Output** |
| 3  10 20 30  -10 -20 -30 | -1 |
| 3  1 0 0  5 5 5 | 0.577350 |
| 6  1 0 0 0 0 0  0 1 0 0 0 0 | 0 |