```c
#include <stdio.h>
#include <stdlib.h>
// Just include this header!
// No special compiler options are needed
#include <xmmintrin.h>

float dot_product(float *restrict a, float *restrict b){

    __m128 sumVector = _mm_set1_ps(0.0); // vector of zeros

    for(int i = 0; i < 4; i+=4){ // only works with multiples of 4
        __m128 va = _mm_load_ps(&a[i]);
        __m128 vb = _mm_load_ps(&b[i]);

        vb = _mm_mul_ps(vb,va); // vb = va * vb
        sumVector = _mm_add_ps(vb,sumVector); // sum = vb + sum
    }
    float *sums = (float*) &sumVector; // convert vector to float array
    int sum = sums[0] + sums[1] + sums[2] + sums[3]; // get real sum
    printf("%d\n", sum); // should be 30 in this case
}

int main(int argc, char** args) {

    float a[] = {1,2,3,4};
    float b[] = {1,2,3,4};

    dot_product(a,b);
    return 1;
}

```