```
typedef vector<double> DblVec;
DblVec product(DblVec a, DblVec b ) {
    DblVec c = DblVec[a.size()];
    for( int i = 0; i < a.size(); i++ ) {
        c[i] = a[i] * b[i];
    }
    return c;
}</pre>
```