Lab_5

opt O0: 0.181095 33 access to variable
opt O1: 0.185540 7 access to variable
opt O2: 0.182655 6 access to variable
opt O3: 0.182932 6 access to variable

with optimization:

opt O0: 0.086622 40 access
opt O1: 0.027044
opt O2: 0.025683
opt O3: 0.023126

Even with optimization there is more access to the memory but take less time.

```c
void mat_vec1(double *a, double *x, double *y, int n)
{
    int i,j;
    for (i = 0; i < n; i++)
    {
        y[i] = 0;
    }
    for (i = 0; i < n; i++)
    {
        double res = x[i];
        for(j = 0; j < n; j++)
        {
            y[j] += a[j+n*i] * res;
        }
    }
}
```