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#include <stdio.h>
#define N 500
#include <time.h>
#include <c6x.h>

unsigned int t_start_l,t_start_h;
unsigned int t_stop_l,t_stop_h;
unsigned int t_overhead_l,t_overhead_h;

double time1, time2, timedif1, timedif2;

int main()
{
    int x, y, i, j, k, tr;
    long A[N][N], B[N][N], C[N][N];

    /* Assigning Matrix and Their Values*/
    for ( x = 0; x < N; x++ )
    {
        for ( y = 0; y < N; y++ )
            A[x][y] = (x) * (y); /* Set each element to a value */
    }

    for ( x = 0; x < N; x++ )
    {
        for ( y = 0; y < N; y++ )
            B[x][y] = (x) * (y); /* Set each element to a value */
    }

    /*printf( "Array Indices for Matrix A is:\n" );

    for ( x = 0; x < 500;x++ )
    {
        for ( y = 0; y < 500; y++ )
        {
            printf( "%d", A[x][y] );
        }
        printf( "\n" );
    }

    printf( "Array Indices for Matrix B is:\n" );

    for ( x = 0; x < 500;x++ )
    {
        for ( y = 0; y < 500; y++ )
        {
            printf( "%d", B[x][y] );
        }
    }

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        printf( "\n" );
    }*/

/* Compute matrix multiplication c=a*b */

TSCL = 0;
TSCH = 0;
t_start_l = TSCL;
t_start_h = TSCH;

for (i=0; i<N; i++)
{
    for (j=0; j<N; j++)
    {
        C[i][j]=0;
        for (k=0; k<N; k++)
        {
            C[i][j]=C[i][j]+A[i][k]*B[k][j];
        }
    }
}

/*printf( "Multiplication for Matrix A and B is:\n" );
for( i = 0; i < 500; i++ )
{
    for(j = 0; j < 500; j++ )
    {
        printf(" %2d\t", C[i][j]);
    }
    printf(" \n ");
}*/

t_stop_l = TSCL;
t_stop_h = TSCH;
t_overhead_l = t_stop_l - t_start_l;
t_overhead_h = t_stop_h - t_start_h;
printf("Time Taken during Matrix multiplication is: , t_overhead_h = 0x%08x\tt_overhead_l=0x
%08x\n",t_overhead_h,t_overhead_l);

/* Compute the trace of c, tr(c)=sum(diag(c)) */

//time2 = (double) clock();
//time2 = time2 / CLOCKS_PER_SEC;

//tr=0;

//for (i=0; i<500; i++)
//tr=tr+C[i][i];

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/* Print result */
//printf("\nThe trace of a*b is %d\n",tr);

//timedif2 = ( ((double) clock()) / CLOCKS_PER_SEC) - time2;
//printf("Time2 is: %d \n Timedif2 is: %d \n", (double) time2, (double)timedif2);
//printf("The elapsed time in calculation of Trace of matrix is %f seconds\n", timedif2);

return 0;
}
```