PAGE: 0001

```
000001
                                   program MatrixMultiplication;
           000002
           000003
                                  uses
           000004
                                               SysUtils, Time;
          000005
           000006
                                  const
                                               M SIZE = 400;
           000007
8 000008
           000009
                                  var
                                                                                                             : LongInt;
        000010
                                               i, j, k
11 000011
                                               start_time, end_time : TDateTime;
           000012
                                                                                                             : Double;
                                               time
           000013
                                                                                                              : array[1..M_SIZE, 1..M_SIZE] of LongInt;
                                               m1, m2, m3
                                                                                                                                                                                                                                                                                                                                             18
14 000014
                                               result
                                                                                                              : QWord;
           000015
                                                                                                                                                                                                                                                                                                                                             21
22
23
       16 000016
                                  begin
17 000017
                                               start time := Now;
           000018
                                                                                                                                                                                                                                                                                                                                             25
26
27
       19 000019
20 000020
                                               for i := 1 to M SIZE do
           000021
                                                           for j := 1 to M_SIZE do
                                                                                                                                                                                                                                                                                                                                             29
30
           000022
                                                                       begin
                                                                                  m1[i, j] := i + j;
m2[i, j] := i + j
23 000023
                                                                                                                                                                                                                                                                                                                                             31
           000024
           000025
                                                                      end:
                                                                                                                                                                                                                                                                                                                                             33
                                                                                                                                                                                                                                                                                                                                             34
35
26 000026
                                              for i := 1 to M_SIZE do
           000027
                                                                                                                                                                                                                                                                                                                                              36
                                                           for j := 1 to M_SIZE do
                                                                                                                                                                                                                                                                                                                                             37
        000028
                                                                                                                                                                                                                                                                                                                                             38
29 000029
                                                                      begin
                                                                                                                                                                                                                                                                                                                                             39
                                                                                  m3[i, j] := 0;
          000030
                                                                                                                                                                                                                                                                                                                                             40
           000031
                                                                                  for k := 1 to M SIZE do
                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                             42
                                                                                              m3[i, j] := m3[i, j] + m1[i, k] * m2[k, j]
32 000032 of the state of the s
                                                                                                                                                                                                                                                                                                                                             43
           000033
                                                                      end;
                                                                                                                                                                                                                                                                                                                                             44
           000034
                                                                                                                                                                                                                                                                                                                                              45
                                                                                                                                                                                                                                                                                                                                             46
35 000035
                                               result := 0:
                                                                                                                                                                                                                                                                                                                                             47
                                               for i := 1 to M_SIZE do
       36 000036
                                                                                                                                                                                                                                                                                                                                              48
                                                           for j := 1 to M SIZE do
                                                                                                                                                                                                                                                                                                                                             49
      37 000037
                                                                                                                                                                                                                                                                                                                                             50
38 000038
                                                                      result := result + m3[i, j];
           000039
                                                                                                                                                                                                                                                                                                                                             53
54
       40 000040
                                               end time := Now;
                                               time := (end_time - start_time) * 24 * 60 * 60;
|41| 000041
           000042
                                                                                                                                                                                                                                                                                                                                              56
           000043
                                                                                                                                                                                                                                                                                                                                             57
                                                                                                                                                                                                                                                                                                                                             58
59
44 000044
                                              WriteLn(Format('Result= %d, Time= %10.6f sec', [result1, time1, result, time2]))
           000045
           000046
                                                                                                                                                                                                                                                                                                                                             62
47 000047
                                  end.
                                                                                                                                                                                                                                                                                                                                             63
           000048
                                                                                                                                                                                                                                                                                                                                             66
67
                                                                                                                                                                                                                                                                                                                                              76
                                                                                                                                                                                                                                                                                                                                             78
```