

```

1 // multiply_matrices.cpp
2 //
3 #ifdef _WIN32
4     #include <tchar.h>
5     #include <conio.h>
6 #elif (defined __linux__) || (defined _AIX) || (defined __APPLE__)
7     typedef char _TCHAR;
8     #define _tmain main
9 #endif
10
11 #include <stdio.h>
12 #include <iostream>
13 using namespace std;
14
15 typedef float MATTYPE[20][20];
16
17 void my_getch();
18
19 int _tmain(int argc, _TCHAR* argv[])
20 {
21     MATTYPE A, B, C;
22     float Suma;
23     int m, n, r, s, i, j;
24
25     cout << " \n Tento program nacita z klavesnice matice A a B, ktore " << endl;
26     cout << "spolu s maticou C=A*B vypise na obrazovku.";
27     cout << endl << endl;
28     cout << " Zadajte rad matice A!" << endl;
29     cout << " Pocet riadkov je ";
30     cin >> m;
31     cout << " Pocet stlpcov je ";
32     cin >> n;
33     cout << " Zadajte prvky matice A!" << endl << endl;
34     for (i = 0; i < m; i++)
35         for (j = 0; j < n; j++) {
36             cout << " ";
37             cout << "A[" << i << "][" << j << "]=";
38             cin >> A[i][j];
39         }
40     cout << endl << " Zadajte rad matice B!" << endl;
41     cout << " Pocet riadkov je ";
42     cin >> r;
43     if (n != r) {
44         cout << endl << " Matice sa nedaju nasobit!";
45         my_getch();
46         return 0;
47     }
48     cout << " Pocet stlpcov je ";
49     cin >> s;
50     cout << " Zadajte prvky matice B!" << endl << endl;
51     for (i = 0; i < r; i++)
52         for (j = 0; j < s; j++) {
53             cout << " ";
54             cout << "B[" << i << "][" << j << "]=";
55             cin >> *(B + i) + j);
56         }
57
58     for (i = 0; i < m; i++)
59         for (j = 0; j < s; j++) {
60             Suma = 0;
61             for (int k = 0; k < n; k++)
62                 Suma += A[i][k] * (*(B + k) + j));
63             // the same as Suma=Suma+A[i][k]*B[k][j];
64             C[i][j] = Suma;
65         }
66
67     cout << endl << " Zadali ste nasledujuce matice." << endl;
68     cout << endl << "A:";
69     for (i = 0; i < m; i++) {
70         for (j = 0; j < n; j++)
71             printf("%8.2f", A[i][j]);
72         cout << endl << " ";
73     }

```

```

74     cout << endl << "B:";
75     for (i = 0; i < r; i++) {
76         for (j = 0; j < s; j++)
77             printf("%8.2f", (*(B + i) + j));
78         cout << endl << " ";
79     }
80     cout << endl << "  Vysledna matica C=A*B je:" << endl << endl;
81     for (i = 0; i < m; i++) {
82         cout << " ";
83         for (j = 0; j < s; j++)
84             printf("%8.2f", C[i][j]);
85         cout << endl;
86     }
87
88     my_getch();
89     return 0;
90 }
91
92 void my_getch()
93 {
94     #ifdef _WIN32
95         _getch();
96     #else
97         cout << endl;
98     #endif
99 }

```