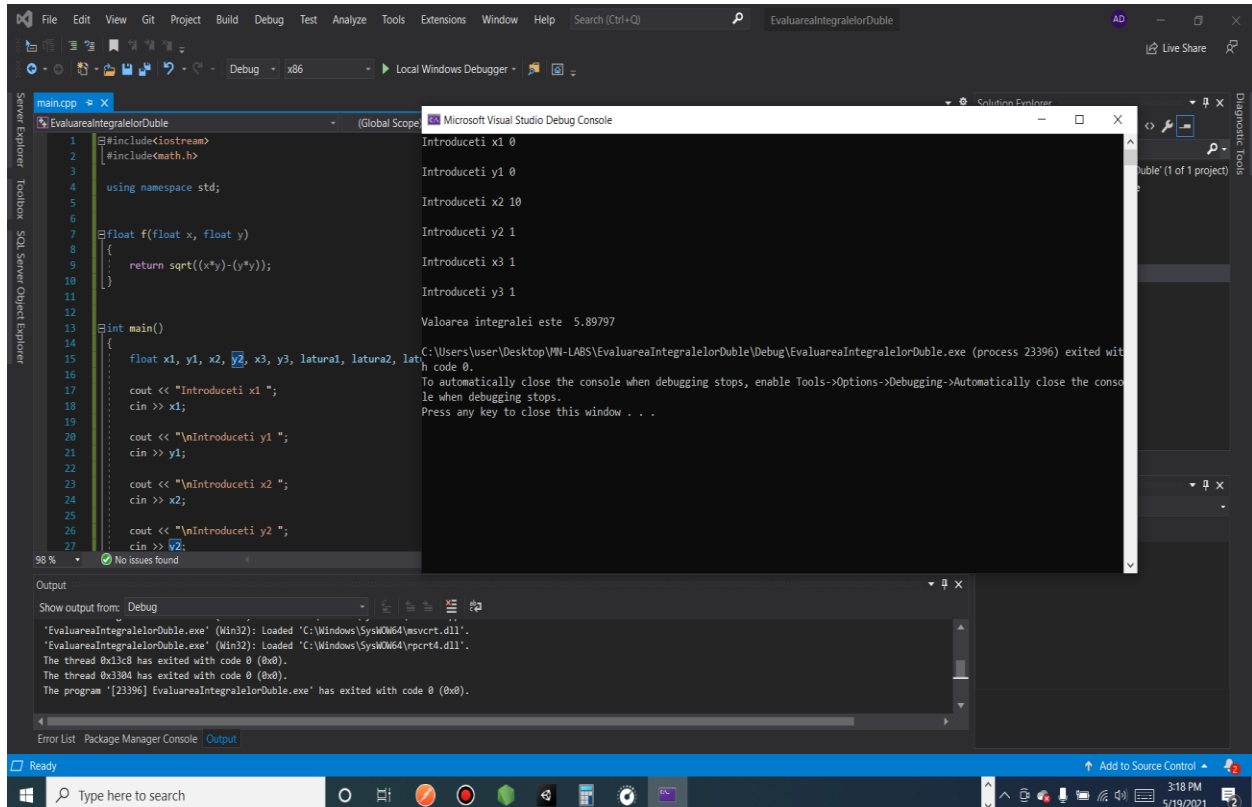


Laborator 12

Rezultat Exercițiul II a din platforma de laborator:



```
1 #include<iostream>
2 #include<math.h>
3
4 using namespace std;
5
6
7 float f(float x, float y)
8 {
9     return sqrt((x*y)-(y*y));
10 }
11
12
13 int main()
14 {
15     float x1, y1, x2, y2, x3, y3, latura1, latura2, lat;
16     cout << "Introduceti x1 ";
17     cin >> x1;
18     cout << "\nIntroduceti y1 ";
19     cin >> y1;
20     cout << "\nIntroduceti x2 ";
21     cin >> x2;
22     cout << "\nIntroduceti y2 ";
23     cin >> y2;
24
25     Valoarea integralei este 5.89797
26
27     C:\Users\user\Desktop\VM-LABS\EvaluareaIntegralelorDuble\Debug\EvaluareaIntegralelorDuble.exe (process 23396) exited with
28     h code 0.
29     To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console
30     when debugging stops.
31     Press any key to close this window . . .
```

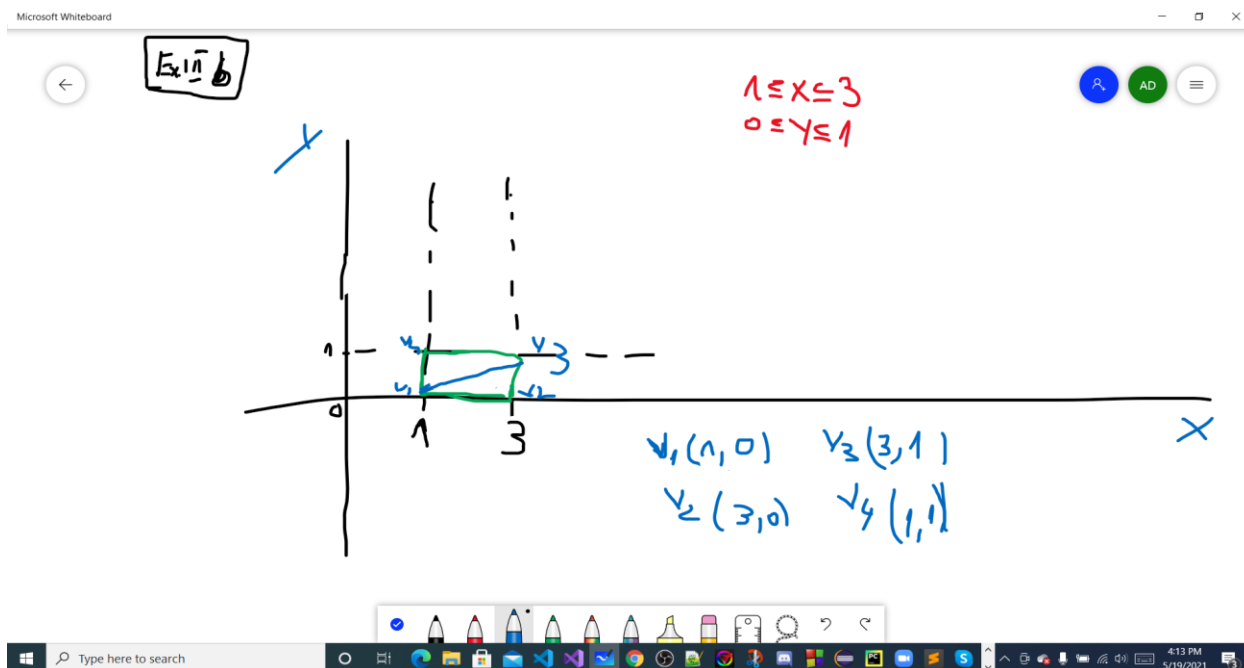
Output

```
'EvaluareaIntegralelorDuble.exe' (Min32): Loaded 'C:\Windows\System32\user32.dll'.
'EvaluareaIntegralelorDuble.exe' (Min32): Loaded 'C:\Windows\System32\GDI32.dll'.
The thread 0x13c8 has exited with code 0 (0x0).
The thread 0x1384 has exited with code 0 (0x0).
The program '[23396] EvaluareaIntegralelorDuble.exe' has exited with code 0 (0x0).
```

Pentru rezolvarea Exercițiului III b din platforma de laborator, am divizat domeniul nostru D (care este un dreptunghi) în două triunghiuri.

Apoi pentru fiecare triunghi, calculăm câte o integrală, integrala finală fiind suma dintre cele două integrale calculate anterior.

Atasez mai jos poza cu graficul pentru domeniul nostru de integrare D.



Rezultat Exercițiul III B din platforma de laborator:

```
File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) EvaluareIntegralorDuble
main.cpp x86 Local Windows
40 latura3= sqrt(pow((x3 - x1), 2) + pow((y3 - y1), 2));
41 semiperimetru = (latura1 + latura2 + latura3) / 2;
42
43 aria = sqrt(semiperimetru * (semiperimetru - latura1) * (semiperimetru - latura2) * (semiperimetru - latura3));
44 integral1 = (aria / 12) * (f(x1, y1) + f(x2, y2) + f(x3, y3) + f(x4, y4));
45 cout << "Valoarea integralei primului triunghi este ";
46
47 cout << "Introduceti x1= ";
48 cin >> x1;
49
50 cout << "Introduceti y1= ";
51 cin >> y1;
52
53 cout << "Introduceti x3= ";
54 cin >> x3;
55
56 cout << "Introduceti y3= ";
57 cin >> y3;
58
59 cout << "Introduceti x4= ";
60 cin >> x4;
61
62 cout << "Introduceti y4= ";
63 cin >> y4;
64
65 latura1 = sqrt(pow((x3 - x1), 2) + pow((y3 - y1), 2));
66 latura2 = sqrt(pow((x4 - x1), 2) + pow((y4 - y1), 2));
67
68 latura3 = sqrt(pow((x3 - x1), 2) + pow((y3 - y1), 2));
69 semiperimetru = (latura1 + latura2 + latura3) / 2;
70
71 aria = sqrt(semiperimetru * (semiperimetru - latura1) * (semiperimetru - latura2) * (semiperimetru - latura3));
72 integral1 = (aria / 12) * (f(x1, y1) + f(x2, y2) + f(x3, y3) + f(x4, y4));
73 cout << "Valoarea integralei celui de al doilea triunghi este ";
74
75 cout << "Introduceti x1= ";
76 cin >> x1;
77
78 cout << "Introduceti y1= ";
79 cin >> y1;
80
81 cout << "Introduceti x3= ";
82 cin >> x3;
83
84 cout << "Introduceti y3= ";
85 cin >> y3;
86
87 cout << "Introduceti x4= ";
88 cin >> x4;
89
90 cout << "Introduceti y4= ";
91 cin >> y4;
92
93 latura1 = sqrt(pow((x3 - x1), 2) + pow((y3 - y1), 2));
94 latura2 = sqrt(pow((x4 - x1), 2) + pow((y4 - y1), 2));
95
96 latura3 = sqrt(pow((x3 - x1), 2) + pow((y3 - y1), 2));
97 semiperimetru = (latura1 + latura2 + latura3) / 2;
98
99 aria = sqrt(semiperimetru * (semiperimetru - latura1) * (semiperimetru - latura2) * (semiperimetru - latura3));
100 integral1 = (aria / 12) * (f(x1, y1) + f(x2, y2) + f(x3, y3) + f(x4, y4));
101 cout << "Valoarea integralei finale este ";
102
103 cout << "Valoarea integralei primului triunghi este 0.171482";
104
105 cout << "Valoarea integralei celui de al doilea triunghi este 0.278383";
106
107 cout << "Valoarea integralei finale este 0.449865";
108
109 C:\Users\user\Desktop\VM-LABS\EvaluareIntegralorDuble\Debug\EvaluareIntegralorDuble.exe (process 6900) exited with code 0.
110 To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
111 Press any key to close this window . . .
```

Output

```
Show output from: Debug
'EvaluareIntegralorDuble.exe' (Win32): Loaded 'C:\Windows\System32\msvcrt.dll'.
'EvaluareIntegralorDuble.exe' (Win32): Loaded 'C:\Windows\System32\RPCRT4.dll'.
The thread 0x43bc has exited with code 0 (0x0).
The thread 0x43bc has exited with code 0 (0x0).
The program '[6900] EvaluareIntegralorDuble.exe' has exited with code 0 (0x0).
```