



```

4 //mesh Th = square(100,010);
5 border B(t=0,1) { x=t; y=0; }
6 border R(t=0,1) { x=1; y=t; }
7 border T(t=0,1) { x=1-t; y=1; }
8 border L(t=0,1) { x=0; y=1-t; }
9 int n = 100; // n =100;
10
11 // Building mesh
12 mesh Th = buildmesh (B(n)+R(n)+T(n)+L(n));
13
14 // The finite element space defined over Th is called here Vh
15 fespace Vh(Th,P1);
16 Vh u,v; // Define u and v as piecewise-P1 continuous functions
17
18 // Define a function f
19 func f = -sin(pi*x)*sin(2*pi*y);
20
21
22 // Get the clock in second
23 real cpu=clock();
24
25 // Define the PDE
26 solve Poisson(u,v) =
27 int2d(Th) ( // The bilinear part
28   dx(u)*dx(v)
29   + dy(u)*dy(v) )
30
31 - int2d(Th) // The right hand side
32   (f*v)
33 + on(B, R, T, L,u=0) ; // The Whatever the boundary condition u=g is;
34

```

```

38 : // Display the total computational time
39 : cout << "CPU time = " << (clock()-cpu) << endl;
40 : sizestack + 1024 =2344 ( 1320 )

```

figure 3 figure 4 figure 5 figure 6 figure 7 figure 8 figure 9

