

```

1 static int Pow(int x, int y)
2 {
3     if(y==0)
4     {
5         return 1;
6     }
7     else
8     {
9         return x * Pow(x, y - 1);
10    }
11 }
12
13 static float Minor(float[,] m, int i, int j)
14 {
15     float[,] r = new float[m.GetLength(0) - 1, m.GetLength(1) - 1];
16     int offsetX = 0;
17     int offsetY = 0;
18     for (int a=0; a<m.GetLength(0); a++)
19     {
20         if(a==i)
21         {
22             offsetX = 1;
23             continue;
24         }
25         offsetY = 0;
26         for (int b=0; b<m.GetLength(1); b++)
27         {
28             if(b==j)
29             {
30                 offsetY = 1;
31                 continue;
32             }
33             r[a-offsetX, b-offsetY] = m[a, b];
34         }
35     }
36 }

```

$a=0 \ b=0$ ถึง n
 $a=n-1 \ b=0$ ถึง n

```

37     return Determinant(r);
38 }
39
40 static float Cofactor(float[,] m, int i, int j)
41 {
42     float result = Pow(-1, i + j) * Minor(m, i, j);
43     return result;
44 }
45
46 static float Determinant(float[,] m)
47 {
48     float result = 0;
49     if (m.GetLength(0) == 2)
50     {
51         result = (m[0, 0] * m[1, 1]) - (m[0, 1] * m[1, 0]);
52     }
53     else
54     {
55         for (int j = 0; j < m.GetLength(1); j++)
56         {
57             result += m[0, j] * Cofactor(m, 0, j);
58         }
59     }
60     return result;
61 }

```

รวม $3+4n+4n^2+1+2+3+1n+1$

$= 4n^2+5n+10$

$$\text{จาก } f(n) = 4n^2 + 5n + 10$$

$$\text{กำหนดให้ } g(n) = n^2, c = 19, n_0 = 1$$

$$\text{พิจารณา } n=1$$

$$f(1) = 4(1)^2 + 5(1) + 10 = 19$$

$$g(n) = (1)^2 = 1$$

$$\text{จากนิยาม } |f(n)| \leq c|g(n)| \text{ จะได้}$$

$$|f(1)| \leq 19|g(1)|$$

$$|19| \leq 19|1|$$

$$\therefore 19 \leq 19 \text{ เป็นจริง ดังนั้น } f(n) \in O(n^2)$$