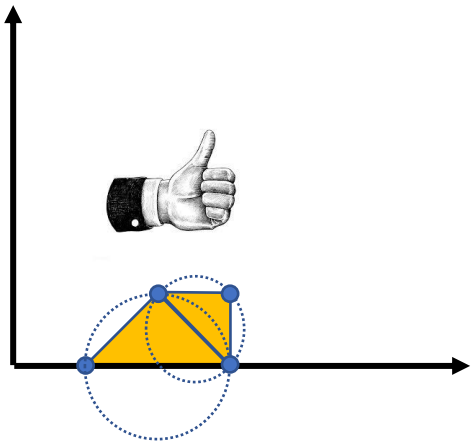
Sample input 1

4 2
3 1
1 0
3 0
2 1
1 2 3
2 0 3

Sample output 1

YES

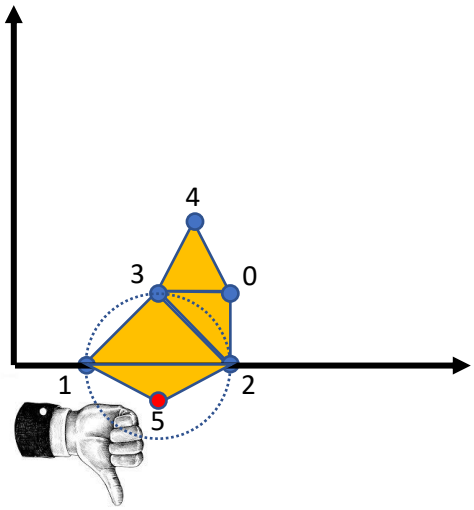


Sample input 2

6 4
3 1
1 0
3 0
2 1
2.5 2
2.0 -0.50
1 2 3
2 0 3
3 0 4
1 5 2

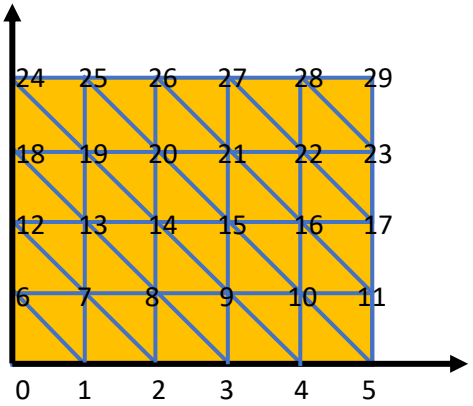
Sample output 2

NO



Sample input 3

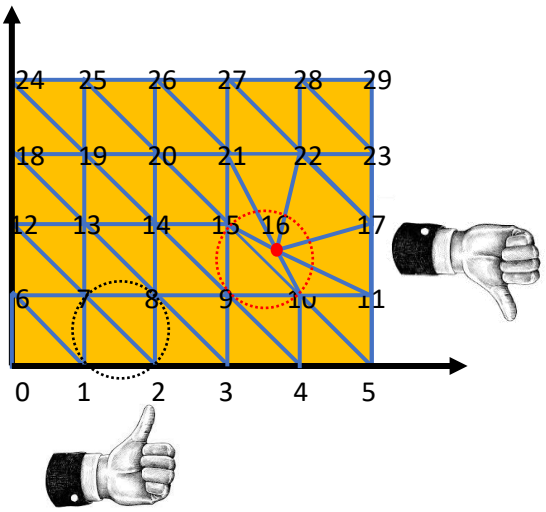
30 40
0 0
1 0
2 0
3 0
4 0
5 0
0 1
1 1
2 1
3 1
4 1
5 1
0 2
1 2
2 2
3 2
4 2
5 2
0 3
1 3
2 3
3 3
4 3
5 3
0 4
1 4
2 4
3 4
4 4
5 4
0 1 6
1 7 6
1 2 7
2 8 7
2 3 8
3 9 8
3 4 9
4 10 9
4 5 10
5 11 10
6 7 12
7 13 12
7 8 13
8 14 13
8 9 14
9 15 14
9 10 15
10 16 15
10 11 16
11 17 16
12 13 18
13 19 18
13 14 19
14 20 19



14 15 20
15 21 20
15 16 21
16 22 21
16 17 22
17 23 22
18 19 24
19 25 24
19 20 25
20 26 25
20 21 26
21 27 26
21 22 27
22 28 27
22 23 28
23 29 28

Sample output 3
YES

Sample input 4



30 40
0 0
1 0
2 0
3 0
4 0
5 0
0 1
1 1
2 1
3 1
4 1
5 1
0 2
1 2
2 2
3 2
3.60 1.60
5 2
0 3
1 3
2 3
3 3
4 3
5 3
0 4
1 4
2 4
3 4
4 4
5 4
0 1 6
1 7 6
1 2 7
2 8 7
2 3 8
3 9 8
3 4 9
4 10 9
4 5 10
5 11 10
6 7 12
7 13 12
7 8 13
8 14 13
8 9 14
9 15 14
9 10 15
10 16 15
10 11 16
11 17 16
12 13 18
13 19 18
13 14 19
14 20 19
14 15 20
15 21 20

15 16 21
16 22 21
16 17 22
17 23 22
18 19 24
19 25 24
19 20 25
20 26 25
20 21 26
21 27 26
21 22 27
22 28 27
22 23 28
23 29 28

Sample output 4
NO

Sample input 5

A test case with about 1000 triangles and output = YES

Sample input 6

A test case with about 1000 triangles and with output= NO

There will be more cases