MN (4, 15) (11, 1)
HL (6, 7) (16, 14)] 교차검사

MN 제외 ← MNH -1
경사 동 MNL 1
M-H 비교 HLN -1
HLN 1

dx_1	dy_1	dx_2	dy_2
7	-14	2	-8
7	-14	12	-1
10	7	2	-8
10	7	5	6

내부 > 외부 : -1
내부 < 외부 : 1

ID (8, 9) (10, 11)
HN (6, 7) (11, 1)

IDH -1
IDN -1
HNI 1
HND 1

dx_1	dy_1	dx_2	dy_2
2	2	-2	-2
2	2	3	-8
5	-6	2	2
5	-6	4	4

$\rightsquigarrow dy_1 \cdot dx_2 < 0 \Rightarrow$ (-1).

교차 X

HI (6,7) (8,9)
DG (10,11) (13,8)

5번째 사용 ← HID 1
HIG -1
DGH -1
DGI -1

dx_1	dy_1	dx_2	dy_2
2	2	4	4
2	2	7	1
3	-3	-4	-4
3	-3	-2	-2

HD (6, 7) (10, 11)
IN (8, 9) (11, 1)

안겹침 ← HDI 0
HDN -1
INH -1
IND 1

dx_1	dy_1	dx_2	dy_2
4	4	2	2
4	4	5	-6
3	-8	-2	-2
3	-8	2	2

⇒ 교차

연습문제

1) 2 -3 6 -1 $\quad -1 \rightarrow ②$

2) 6 3 -3 10 $\quad 1 \rightarrow ①$

3) 2 3 4 6 $\quad 1 \rightarrow ⑤$

4) -3 2 3 -2 $\quad -1 \rightarrow ④$

5) 6 4 3 2 $\quad 0 \rightarrow ⑥$

$\tan\theta = \frac{dy}{dx}$ $\quad \tan^{-1}\frac{dy}{dx} = \theta$ ← 시간이 오래걸림

↳ 이 대신 $\frac{dy}{dx+dy}$ 로 대략적인 각도만 계산

$t = \frac{dy}{ax+ay}$

theta (N, H)

N(11, 1), H(6, 7)

$ax = |6-11| = 5$
$ay = |7-1| = 6$

$t = \frac{ay}{ax+ay} = \frac{6}{11}$

$t = 2 - \frac{6}{11} = \frac{16}{11}$

($\because dx < 0$)

$2 - t$

$\frac{16}{11} \times 90 \approx 131$

563
360

theta (A, B) $\quad ax = 2,\ ay = 2 \quad t = \frac{2}{2+2} = \frac{1}{2} \quad 90 \times \frac{1}{2} = 45$

(A, C) $\quad ax = |-1| = 1,\ ay = 2 \quad t = \frac{2}{3} \quad t = 2 - \frac{2}{3} = \frac{4}{3} \quad 90 \times \frac{4}{3} = 120$

(A, D) $\quad ax = |-2| = 2,\ ay = |-4| = 4 \quad t = \frac{-4}{6} = -\frac{2}{3} \quad t = 2 + \frac{2}{3} = \frac{8}{3} \quad 90 \times \frac{8}{3} = 240$

(A, E) $\quad ax = 2,\ ay = |-3| = 3 \quad t = \frac{3}{5} \quad t = 4 - \frac{3}{5} = \frac{17}{5} \quad 90 \times \frac{17}{5} = 306$