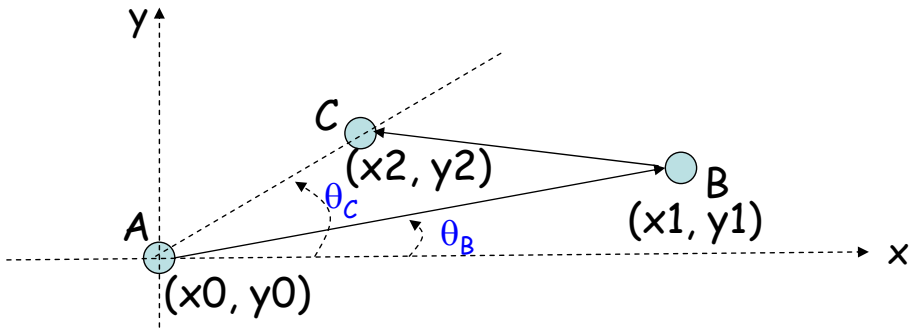
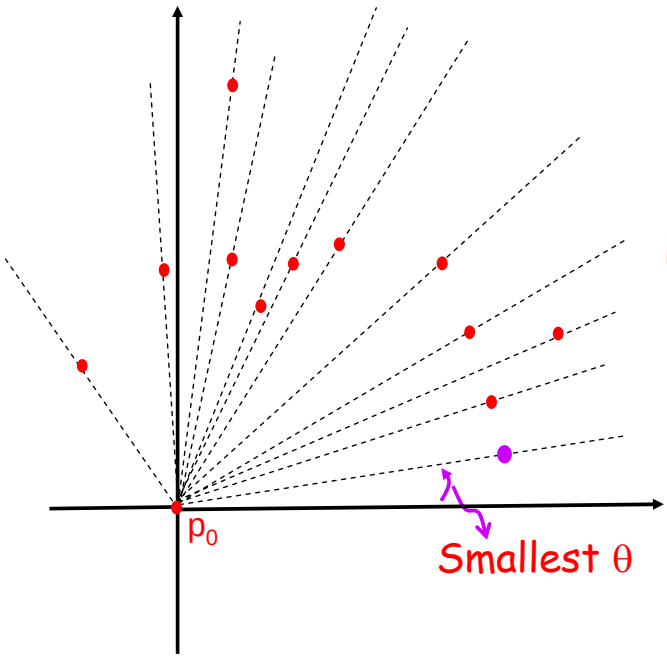


$$\det(A, B, C) = \begin{vmatrix} x0 & x1 & x2 \\ y0 & y1 & y2 \end{vmatrix}$$

> 0	= 0	< 0
A, B, C: counterclockwise	co-linear	A, B, C: clockwise
C is on the left side of $\overrightarrow{AB}$		C is on the right side of $\overrightarrow{AB}$
A, B, C: a left turn		A, B, C: a right turn
$\theta_B < \theta_c$ (A is the original)	$\theta_B = \theta_c$	$\theta_B > \theta_c$

Problem 1. Find the point with the smallest θ : O(n) time

Problem 2. Sort the points according to θ : O(nlg n) time



Find the minimum

```
min = A[1]
for i =2 to n do
   if A[i] < min then min = A[i]
```

Find the point with the smallest θ

function compare(p_0, a, b):

$\begin{cases} 0: \theta_a \le \theta_b \\ 1: \theta_a > \theta_b \end{cases}$

```
min = p1
for i =2 to n do
   if compare(p0, mim, pi) then min = pi
```