$$3i + 9 = 0$$

$$i = -3$$

$$3i + 9 > 0$$

$$i > -3$$

$$[3i : 3i + 3 > 0]$$

$$[3i + 3 : 3i > -2]$$

$$-\frac{2}{3}, -\frac{1}{3}, 0, \frac{1}{3}, \frac{2}{3} \dots$$

$$\underset{1}{\quad} \underset{2}{\quad} \underset{3}{\quad} \underset{4}{\quad} \underset{5}{\quad}$$

$$3i + 9 = 0 \Rightarrow i = -3$$

$$3i + 9 > 0 \Rightarrow i > -3$$

$$\mathbb{Z}\begin{bmatrix} 3i : 3i + 3 > 0 \end{bmatrix}$$

$$S\begin{bmatrix} -3 & -2 & -1 & 0 & \cdots \end{bmatrix}$$

$$\mathbb{Z}\begin{bmatrix} 3i + 3 : 3i > -2 \end{bmatrix} /\!/ \mathbb{N}$$

$$i\begin{bmatrix} -\frac{2}{3}, & -\frac{1}{3}, & 0, & \frac{1}{3}, & \frac{2}{3} & \cdots \end{bmatrix}$$

$$S\begin{bmatrix} 1 & 2 & 3 & 4 & 5 & \cdots \end{bmatrix}$$

$$\begin{bmatrix} i : i > 0 \end{bmatrix}$$

(0,2)

(1,1)

(0,0)

(2,0)
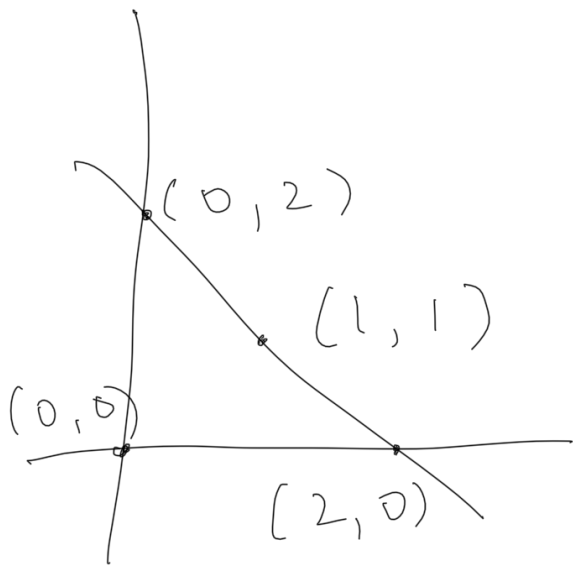
ILP

$$\begin{cases} x = 0 \\ y = 0 \\ y = -x + 2 \end{cases}$$

Connex hul

$$\left[3i + 3 : 3i > -2 \right]$$

$$i \left[-\frac{2}{3}, -\frac{1}{3}, 0, \frac{1}{3}, \frac{2}{3} \cdots \right]$$

$$S \left[1, 2, 3, 4, 5 \cdots \right] \mathbb{N}$$

$$[3i + 3 : 3i > -2]$$
$$\cap [i : i > 3] = [i : i > 3]$$

$B \circ A$ = composition (apply, range)

$$= [i \to j : \exists k : i \to k \in A$$
$$\wedge k \to j \in B]$$
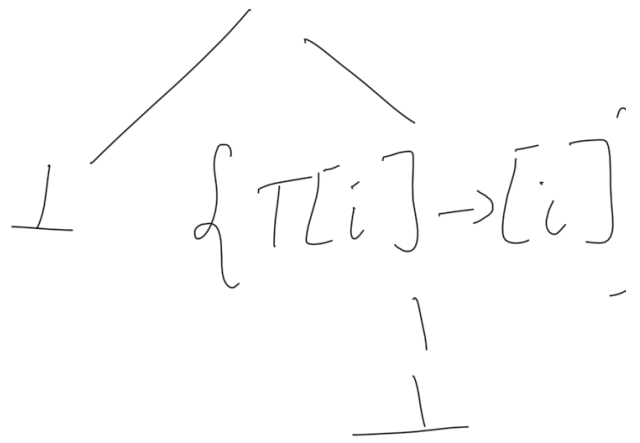
$$[n] \to \{[i : 0 < i < n]\}$$

Dependencies

$W\{S[i0] \rightarrow A[i0*3+2]\}$

$R\{S[i0] \rightarrow A[4*i0]\}$

$WAR \rightarrow \{A[4*i0]$

$\rightarrow A[i0*3+2]$

Schedule $\{S[]\}, \{T[i]\}$

$S:\ prod = 0$
$for(i)$
$T:\ A[i] = B[i]$

$\perp$ $\{T[i] \rightarrow [i]\}$

$\perp$

$\perp$

$$\{ S[i\ 0] \rightarrow [[\ ] \rightarrow [i\ 0]) \}$$

scatter schedule

Domain
Schedule $\Big\}$ ③ mode
Accesses

$$\{ [i] \rightarrow [i,\ i-1] : i > 0 \}$$

pw_multi_aff

$$\{ [i] \rightarrow [(i),\ (i-1)] : i > 0$$

multi_pw_aff

$$\{ [i] \rightarrow [((i) : i > 0),$$
$$((i-1) : i > 0)] \}$$