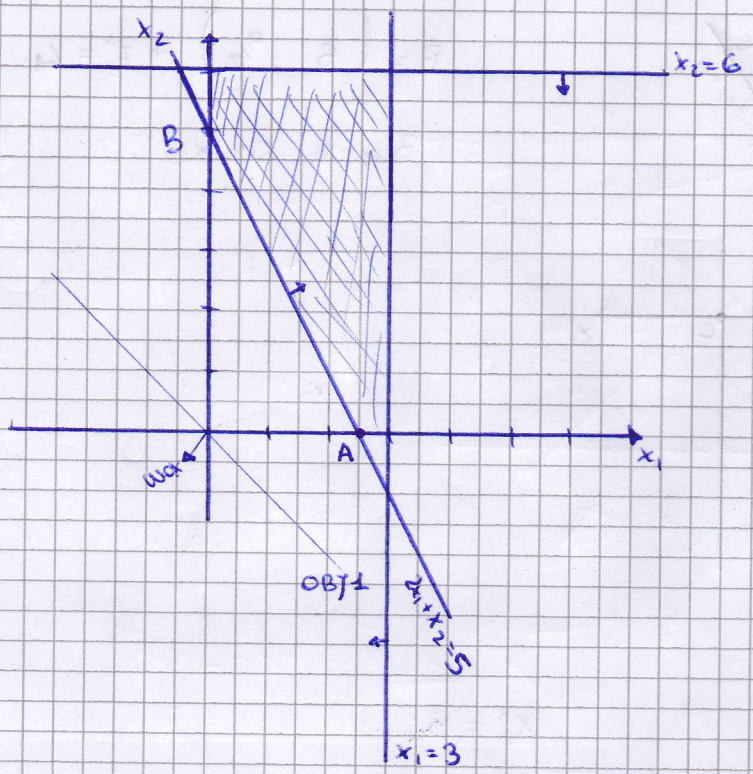
- Branch and Bound

$$\max\ -x_1 - x_2$$
$$2x_1 + x_2 \geq 5$$
$$x_1 \leq 3$$
$$x_2 \leq 6$$
$$x_1, x_2 \geq 0, \text{ intere}$$



$A = (\frac{5}{2}, 0) \quad z^* = -\frac{5}{2}$

$B = (0, 5) \quad z^* = -5$

A punto di massimo.

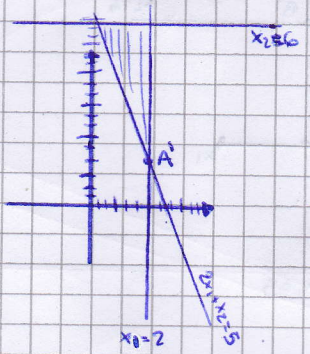
↓

Non è a componenti intere

Prendo:

2 e 3

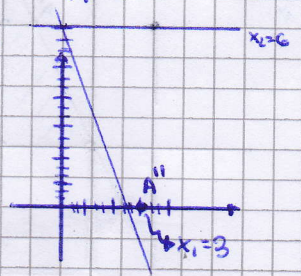
- $\max\ -x_1 - x_2$
  $2x_1 + x_2 \geq 5$
  $x_1 \leq 2$
  $x_2 \leq 6$
  $x_1, x_2 \geq 0 \in \mathbb{Z}$



$A' = (2, 1)$

$z^* = -3$

- $\max\ -x_1 - x_2$
  $2x_1 + x_2 \geq 5$
  $x_1 = 3$
  $x_2 \leq 6$
  $x_1, x_2 \geq 0 \in \mathbb{Z}$



$A'' = (3, 0)$

$z^* = -3$

Una soluzione ottima a componenti intere è

$A = (3, 0) \rightarrow z(x^*) = -3$

Hp
- LB di $x_1 = 2$
- UB di $x_1 = 3$