

$$\min -2x_1 - 5x_2 - x_3 - x_4$$

$$\begin{cases} x_1 + 3x_2 + x_4 = 4 \\ \quad 5x_2 + x_3 + x_5 = 5 \\ 2x_1 + 4x_2 + x_3 + x_6 = 6 \\ x_1, x_2, x_3, x_4, x_5, x_6 \geq 0 \end{cases}$$

|    |    |    |   |   |   |   |       |
|----|----|----|---|---|---|---|-------|
| -2 | -5 | -1 | 0 | 0 | 0 | 0 |       |
| 1  | 3  | 0  | 1 | 0 | 0 | 4 | $x_4$ |
| 0  | 5  | 1  | 0 | 1 | 0 | 5 | $x_5$ |
| 2  | 4  | 1  | 0 | 0 | 1 | 6 | $x_6$ |

Tableau in Forma Canonica

|   | h  |    |    |   |   |   |   |
|---|----|----|----|---|---|---|---|
| 0 | -2 | -5 | -1 | 0 | 0 | 0 | 0 |
| 1 | 1  | 3  | 0  | 1 | 0 | 0 | 4 |
| r | 0  | 5  | 1  | 0 | 1 | 0 | 5 |
| 3 | 2  | 4  | 1  | 0 | 0 | 1 | 6 |

Dividere la riga r per  $r, h$ , ricavando la riga di pivot.

Sottrarre alla riga  $i \in \{0, \dots, m\} - \{r\}$  la riga di pivot moltiplicata per  $i, h$ .

|    |   |      |   |      |   |   |       |
|----|---|------|---|------|---|---|-------|
| -2 | 0 | 0    | 0 | 1    | 0 | 5 |       |
| 1  | 0 | -3/5 | 1 | -3/5 | 0 | 1 | $x_4$ |
| 0  | 1 | 1/5  | 0 | 1/5  | 0 | 1 | $x_2$ |
| 2  | 0 | 1/5  | 0 | 4/5  | 1 | 2 | $x_6$ |

$\Rightarrow$

|   |   |       |   |      |      |   |       |
|---|---|-------|---|------|------|---|-------|
| 0 | 0 | 1/5   | 0 | 9/5  | 1    | 7 |       |
| 0 | 0 | -7/10 | 1 | -1/5 | -1/2 | 0 | $x_4$ |
| 0 | 1 | 1/5   | 0 | 1/5  | 0    | 1 | $x_2$ |
| 1 | 0 | 1/10  | 0 | 2/5  | 1/2  | 1 | $x_1$ |

Soluzione ottima  $x^T = [1 \ 1 \ 0 \ 0 \ 0]$  di valore -7.