

## Teorema de Bezout

$$\text{mcd}(837, 937) = 1$$

$$\times 937 = 837 \times 1 + 100$$

$$\times 837 = 100 \times 8 + 37$$

$$\times 100 = 37 \times 2 + 26$$

$$\times 37 = 26 \times 1 + 11$$

$$\times 26 = 11 \times 2 + 4$$

$$\times 11 = 4 \times 2 + 3$$

$$\times 4 = 3 \times 1 + 1$$

$$1 = 837 \times s + 937 \times t$$

$$1 = 4 - 3 \times 1$$

$$1 = 4 - (11 - 4 \times 2)$$

$$1 = (3)4 - 11$$

$$1 = (3)(26 - 11(2)) - 11$$

$$1 = (3)26 - (7)11$$

$$1 = (3)26 - (7)(37 - 26)$$

$$1 = (10)26 - (7)37$$

$$1 = (10)(100 - 37(2)) - (7)37$$

$$1 = (10)100 - (27)37$$

$$1 = (10)100 - (27)(837 - 100(8))$$

$$1 = (226)100 - (27)837$$

$$1 = (226)(937 - 837) - (27)837$$

$$1 = (226)937 - (253)837$$

$$3 = 11 - 4 \times 2$$

$$4 = 26 - 11 \times 2$$

$$11 = 37 - 26$$

$$26 = 100 - 37 \times 2$$

$$37 = 837 - 100 \times 8$$

$$100 = 937 - 837$$

$$\text{mcd}(837, 937) = 837 \underbrace{(-253)}_s + \underbrace{(226)}_t 937$$

Inverse modulo