TIPI INTERI CON SEGNO

int8   int16   int32
int64   int

int8

RAPPRESENTAZIONE IN CON PLEMENTO A 2

-2^7 2^6 2^5 2^4 2^3 2^2 2^1 2^0

-128 64 32 16 8 4 2 1

0	0	0	1	0	1	0	0
			16		4		

0 1 1 1 1 1 1 1   127

$$\underbrace{1}_{-128} \overbrace{1\ 1\ 1\ 1\ \dots\ 1}^{127} = -1$$

$$\underbrace{1\ 0\ 0\ 0\ \ 0\ 0\ 0\ 0}_{-128}$$

$$\left.\begin{array}{ll}
0\ 1\ 1\ 1\ \ 1\ 1\ 1\ 1 & 127 \\
0\ 1\ 1\ 1\ \ 1\ 1\ 1\ 0 & 126 \\
\quad\quad\quad \vdots & \\
0\ 0\ 0\ 0\ \ 0\ 0\ 0\ 0 & 0 \\
1\ 1\ 1\ 1\ \ 1\ 1\ 1\ 1 & -1 \\
1\ 1\ 1\ 1\ \ 1\ 1\ 1\ 0 & -2 \\
\quad\quad\quad \vdots & \\
1\ 0\ 0\ 0\ \ 0\ 0\ 0\ 0 & -128
\end{array}\right\} 256$$

ξ combination' di 8 bit

1 0 0 1 0 1 1 0
0 0 0 1 1 0 0 0

	$x +$		$x' +$
	y		y'
	uint8		int8
	z		z'

TIPI	#BIT	#BYTE	RANGE
int8	8	1	$-128 \to 127$
int16	16	2	$-32768 \to 32767$
int32	32	4	$-2 \cdot 147 \cdot 483 \cdot 648 \to 2 \cdot 147 \cdot 483 \cdot 647$
int64	64	8	$x \quad -9 \cdot 10^8 \to 9 \cdot 10^{18}$
int	?	?	

int8   x,y

fat. Println $(x+y+\overline{300})$

FLOATING POINT

- ℝ

- ℂ

$float32,\ \underline{float64}$

$\underline{complex64},\ \underline{complex128}$

$$-2^2 \quad 2^1 \quad 2^0 \quad 2^{-1} \quad 2^{-2} \quad 2^{-3} \quad 2^{-4} \quad 2^{-5}$$

$$1.35E-7 = 1.35 \cdot 10^{-7}$$
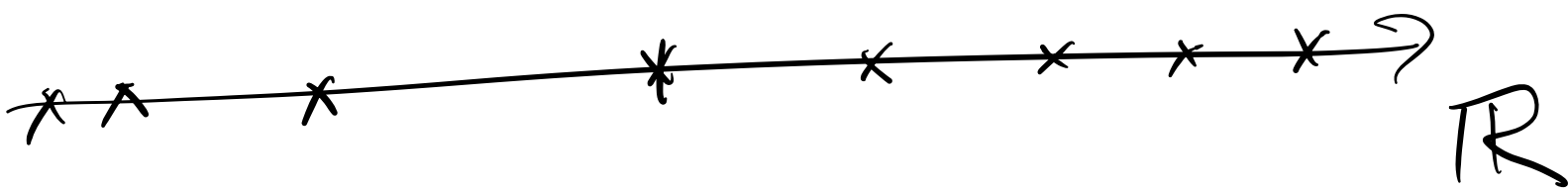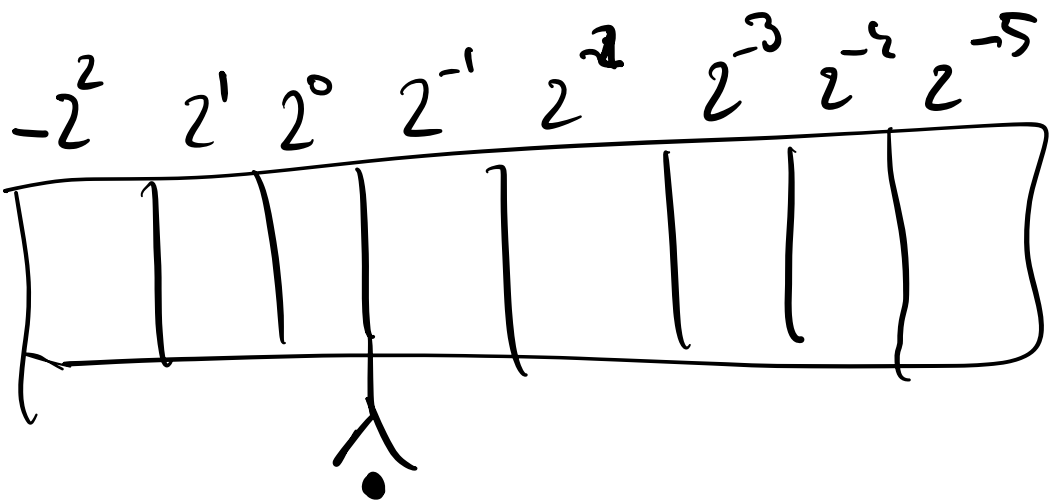
MANTISSA

ESPONENTE

IEEE 754
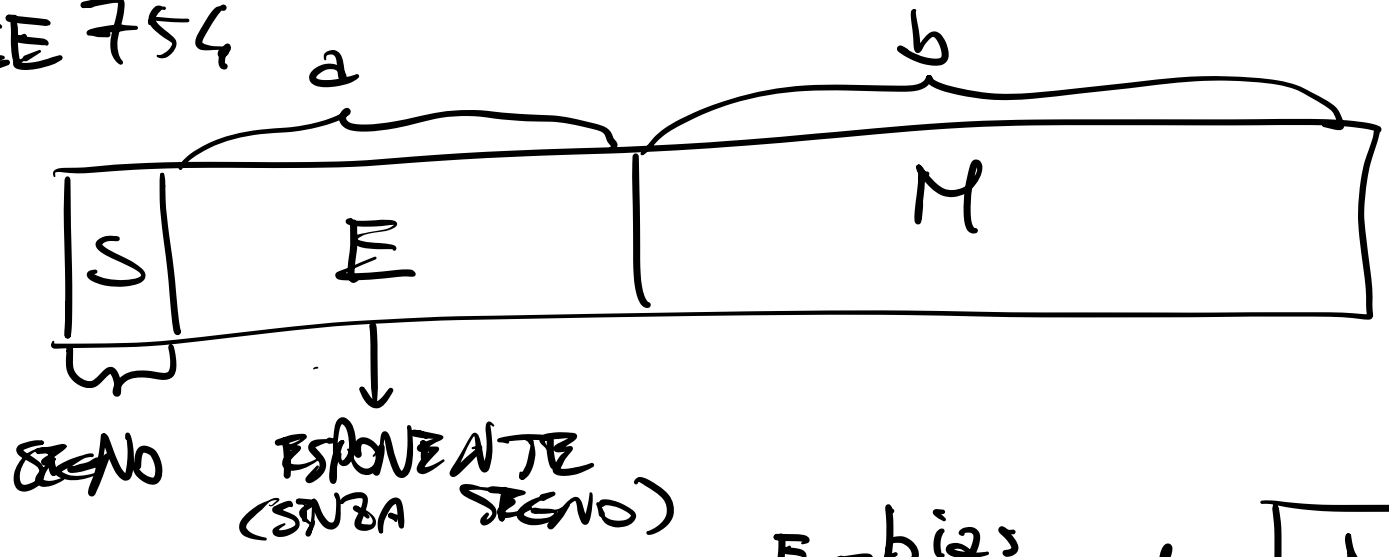
$$(-1)^{S} \cdot 2^{E-bias} \cdot 1.\boxed{M}$$

TIPO	#BIT	#BYTE		RANGE
float32	32	4	a=8 b=23 bias= 127	$\pm 10^{-45}$ $\downarrow$ $\pm 3.4 \cdot 10^{38}$
float64	64	8	a=11 b=52 bias= 1023	$\pm 5 \cdot 10^{-324}$ $\downarrow$ $1.7 \cdot 10^{308}$

0.2 →

MAI USARE ==

$x == y$ NO

$|x - y| < \varepsilon$ SI

if math.Abs$(x - y) < 1E-7$

if $x == y$ No

$-\ \mathbb{C}$

a, b

$a + bi \qquad i^2 = -1$

$$(3.7 + 4i)(2 + 3i) = \cancel{\#}$$

$$= 3.7 \cdot 2 + 3.7 \cdot 3i + 4i \cdot 2 + 4i \cdot 3i =$$

$$= 7.4 + 11.1\, i + 8i - 12 =$$

$$= -5.4 + 19.1\, i$$

$$\boxed{\text{byte} \;=\; \text{uint8}}$$

TIPO rune

— STANDARD US-ASCII

0 1 128 127	⊔ a ... z A ... Z 0 ... 9 $, ;

— ISO-88591   (Latin 1)

0 128 { 127	US-ASCII
128 { 128 ... 255	à è ì ò ç ñ â ê î ô û

– Unicode
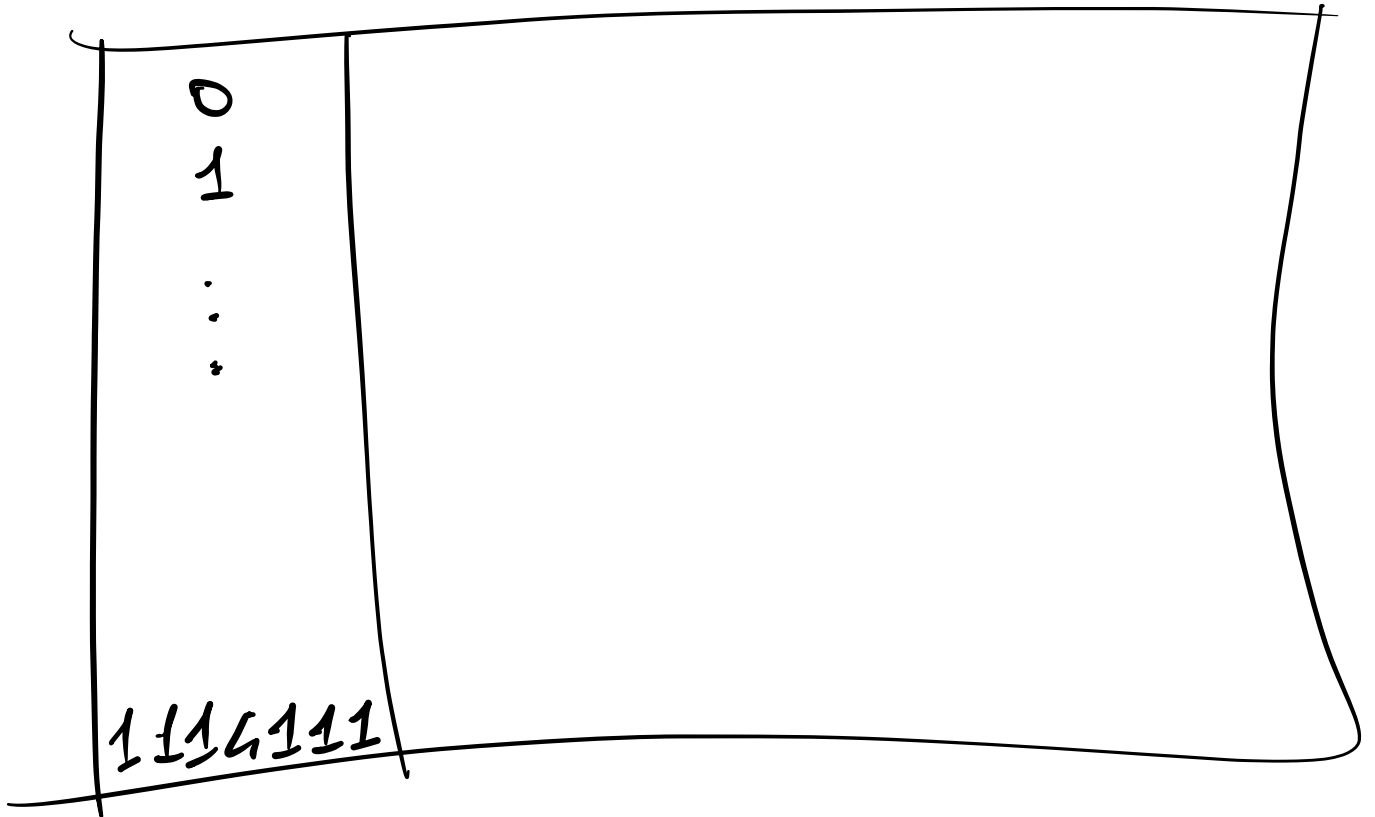
```
| 0
| 1
| .
| .
| .
| 1114111
```

1 · 114 · 112

rune = int32

Ver x rune

x = 96

fmt. Println (x)

```
fmt.Println(string(x))
```

x = 'A'

x = '𝓱'