

## Sistema Digital

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## Sistema “digital”

8



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## Sistemas de Numeração

NUMEROS ROMANOS									
I	II	III	IV	V					
1	2	3	4	5					
VI	VII	VIII	IX						
6	7	8	9						
X	L	C	D	M					
10	50	100	500	1000					

5

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### Numeração (sistema decimal)

5 2 4 9

- algarismo de 1<sup>ª</sup> ordem → 9
- algarismo de 2<sup>ª</sup> ordem →  $4 \times 10 = 40$
- algarismo de 3<sup>ª</sup> ordem →  $2 \times 10 \times 10 = 200$
- algarismo de 4<sup>ª</sup> ordem →  $5 \times 10 \times 10 \times 10 = 5000$

ou seja,  $5249 = 9 + 40 + 200 + 5000$

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### Numeração (sistema binário)

1	1	0	0	1	1	0	1
1 * 2 <sup>0</sup> = 1							
0 * 2 <sup>1</sup> = 0							
1 * 2 <sup>2</sup> = 4							
1 * 2 <sup>3</sup> = 8							
0 * 2 <sup>4</sup> = 0							
0 * 2 <sup>5</sup> = 0							
1 * 2 <sup>6</sup> = 64							
1 * 2 <sup>7</sup> = 128							
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soma = 205							

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### Decimal a Binário

19 | 2

1	9	2
1	4	2
0	2	2
0	1	

19 = 10011

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CÓDIGO MORSE INTERNACIONAL					
A	• —	S	• • •	Arroba [ @ ]	* — — — —
B	— • • •	T	—	Período [ . ]	— • — • —
C	— • — •	U	• • —	Virgula [ , ]	— — • • —
D	— — • •	V	• • • —	Interrogação [ ? ]	* • — — —
E	•	W	• — —	Apóstrofo [ ' ]	* — — — —
F	• • — —	X	— • — —	Exclamação [ ! ]	— — • — —
G	— — — •	Y	— — — —	Barra de fração [ / ]	— — • — —
H	• • • •	Z	— — — * *	Parêntese abre [ ( ]	— — * — — *
I	• •	1	• — — —	Parêntese fecha [ ) ]	— — * — — *
J	— • — —	2	• • — — —	"e" comercial [ & ]	* — — • • •
K	— — * —	3	• • • — —	Dos pontos [ : ]	— — — — • •
L	• — • •	4	• • • • —	Ponto e vírgula [ ; ]	— — — — —
M	— — —	5	• • • • •	Igual [ = ]	— — • — —
N	— — *	6	— • • • •	Positivo [ + ]	— — • — —
O	— — —	7	— — — • •	Hifen, Negativo [ - ]	— — — — —
P	• — — •	8	— — — — •	Sublinhado [ _ ]	• • — — —
Q	— — • —	9	— — — — —	Aspas [ " ]	* — — • — —
R	— — *	0	— — — — —	Dólar [ \$ ]	* — — — — —

9

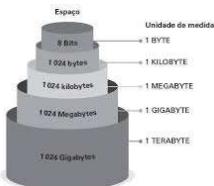
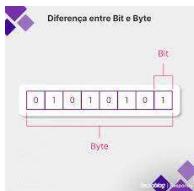
Tabela Ascii					
Binário	Caracter	Binário	Caracter	Binário	Caracter
0010 0001	!	0100 0001	A	0110 0001	a
0010 0010	"	0100 0010	B	0110 0010	b
0010 0011	#	0100 0011	C	0110 0011	c
0010 0100	\$	0100 0100	D	0110 0100	d
0010 0101	%	0100 0101	E	0110 0101	e
0010 0110	&	0100 0110	F	0110 0110	f
0010 0111	'	0100 0111	G	0110 0111	g
0010 1000	(	0100 1000	H		
0010 1001	)	0100 1001	I		

10

Bit (0/1)
• Unidade básica e mínima de informação

11

### Unidades múltiplas do Byte



12

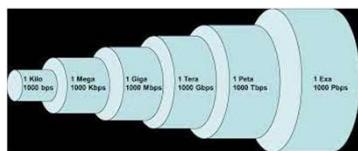
### Tipos e Tamanhos de ficheiros (KB)

- Texto (tamanho, formatações)
- Áudio (qualidade, duração)
- Imagem (foto, configurações, resolução)
- Vídeo (duração (minutos), Resolução)
- Limite de tráfego pacote Internet

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### Transferência de informação (bps)

- Redes de telecomunicações (com e sem fios)
- Velocidade de transferência
- Largura de Banda
- Download
- Upload



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## Velocidades de acesso à Internet

- Fixo/cabo (Adsl, Fibra)
  - Wifi (sem fios)
  - Móvel (3G, 4G, 5G)

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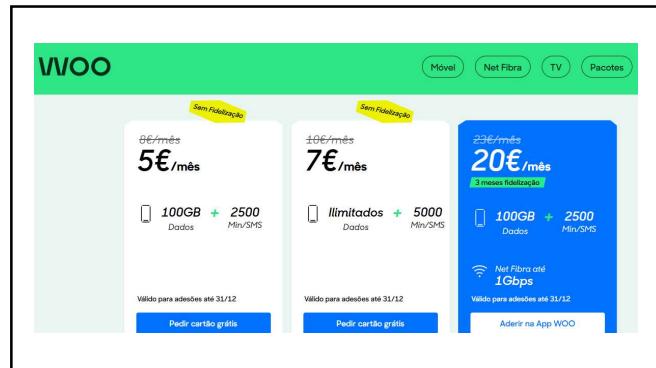
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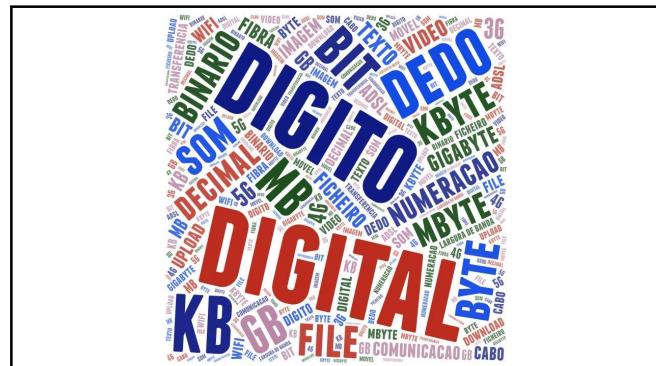
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