

PROGRAMAÇÃO EM

MICROSOFT

EXCEL

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FACULDADE DE FARMÁCIA DA UNIVERSIDADE DE COIMBRA

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MÓDULO I



Objectivos

- O objectivo da acção de formação é a aquisição de capacidades de nível médio na introdução, processamento e apresentação de dados através do *Microsoft Excel*
- As potencialidades da folha de cálculo são exploradas a partir de problemas colocados e resolvidos nas sessões

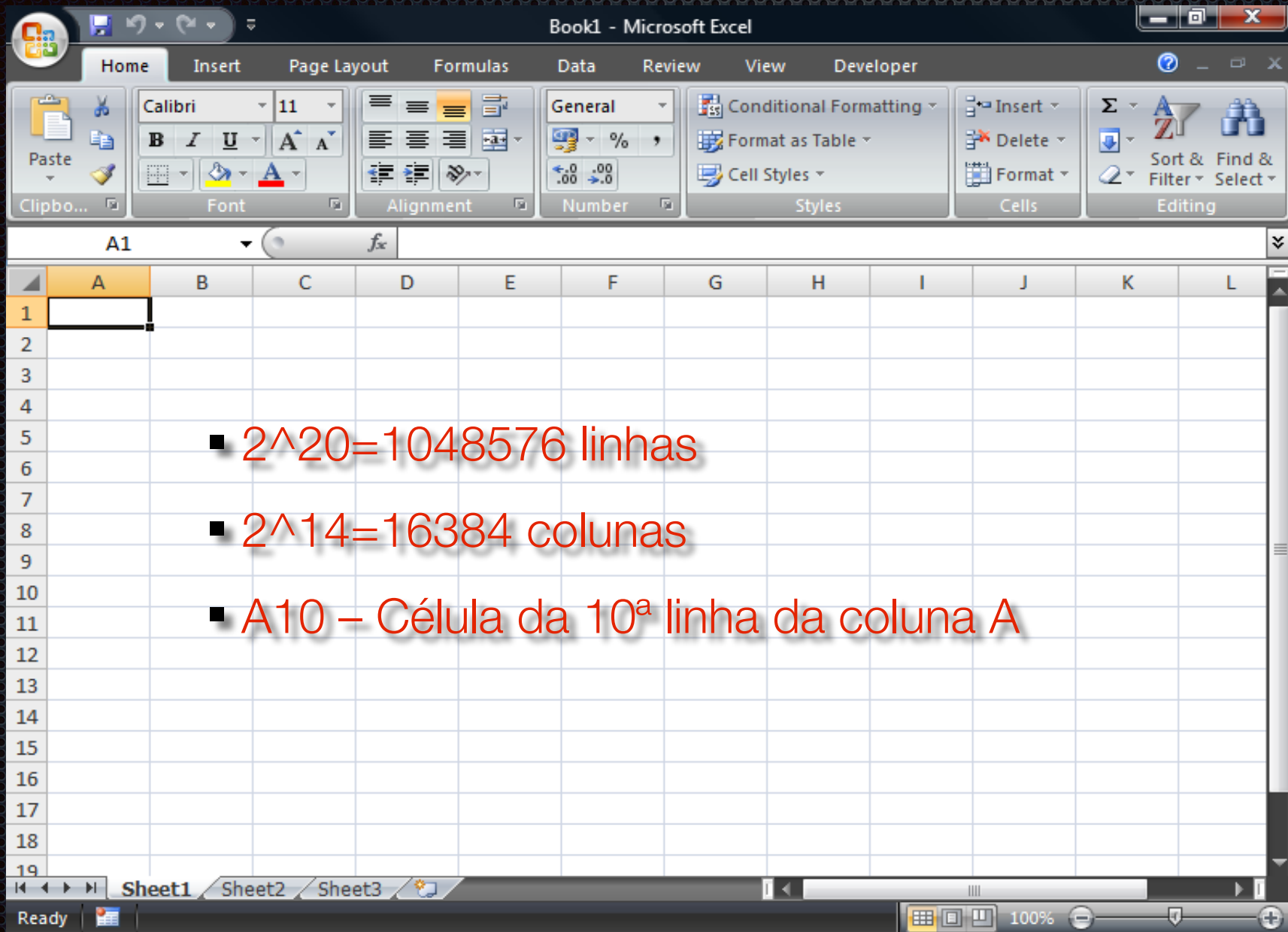
Bibliografia

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Contactos e Material de Apoio

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Folha de cálculo Excel

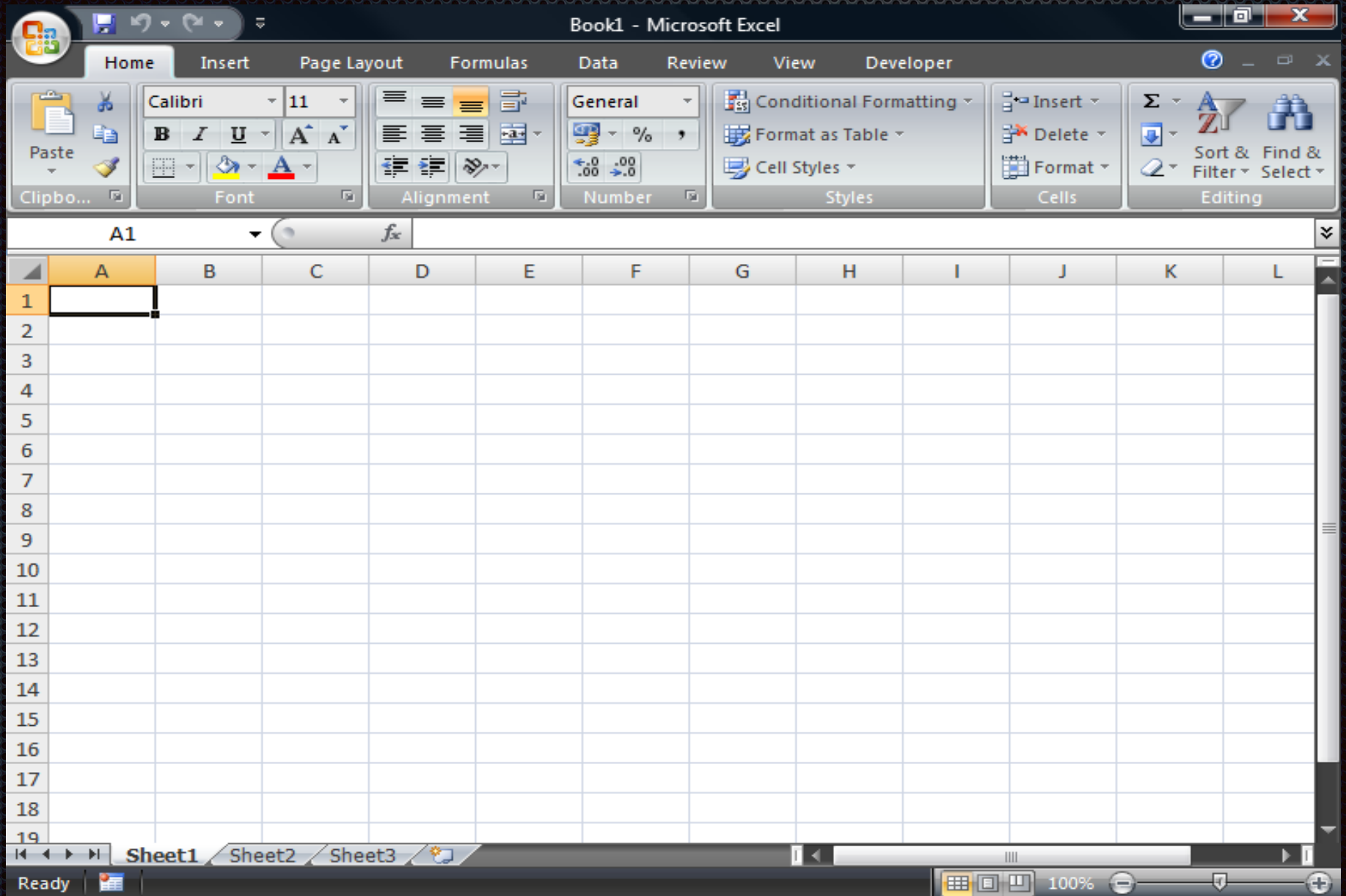


The image shows a screenshot of the Microsoft Excel interface. The title bar reads "Book1 - Microsoft Excel". The ribbon is set to "Home", with sub-tabs for "Font", "Alignment", "Number", "Styles", "Cells", and "Editing". The worksheet grid is visible, with columns labeled A through L and rows numbered 1 through 19. The cell A1 is selected. Overlaid on the grid is a list of three items in red text:

- $2^{20} = 1048576$ linhas
- $2^{14} = 16384$ colunas
- A10 – Célula da 10ª linha da coluna A

The status bar at the bottom shows "Ready", "Sheet1", "Sheet2", "Sheet3", and "100%" zoom.

Menus e ferramentas associadas



Deslocações na folha de cálculo

- Deslocações para a célula acima, abaixo, à direita e à esquerda da célula activa:

utilizar as setas do teclado

- Deslocações para os extremos da folha de cálculo:

<Ctrl>+seta

Inserção de dados

- Activar a célula onde se pretende inserir os dados
- Inserir os dados na célula
- Concluir a inserção pressionando

<Enter>

ou uma das setas do teclado

Exercício 1.1

- Insira os valores seguintes na sua folha Excel:

The screenshot shows the Microsoft Excel interface with the following data in the spreadsheet:

	A	B	C	D	E	F	G	H	I	J	K	L
1	Consumos de electricidade em Coimbra (em Kwh/1000000)											
2	Anos	domésticos	industriais									
3	2000	180	338									
4	2001	185	323									
5	2002	191	209									
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												

The cell E13 is highlighted with a black border, indicating it is the active cell for data entry.

Formatar célula

The image shows the Microsoft Excel interface with the 'Format' menu open over cell A1. The ribbon includes 'Home', 'Insert', 'Page Layout', 'Formulas', 'Data', 'Review', 'View', and 'Developer'. The 'Format' menu is open, showing options for 'Cell Size', 'Visibility', 'Organize Sheets', and 'Protection'. The 'Cell Size' section includes 'Row Height...', 'AutoFit Row Height', 'Column Width...', 'AutoFit Column Width', and 'Default Width...'. The 'Visibility' section includes 'Hide & Unhide'. The 'Organize Sheets' section includes 'Rename Sheet', 'Move or Copy Sheet...', and 'Tab Color'. The 'Protection' section includes 'Protect Sheet...', 'Lock Cell', and 'Format Cells...'. The status bar at the bottom shows 'Ready', 'Sheet1', 'Sheet2', 'Sheet3', and '100%'.

Formatar célula e outras formatações

The image shows the Microsoft Excel interface with the 'Format Cells' dialog box open. The dialog box is titled 'Format Cells' and has several tabs: 'Number', 'Alignment', 'Font', 'Border', 'Fill', and 'Protection'. The 'Number' tab is selected. In the 'Number' tab, the 'Category' list on the left has 'Date' selected. The 'Type' list on the right shows several date formats, with '*14-03-2001' selected. The 'Locale (location)' dropdown is set to 'Portuguese (Portugal)'. The background shows a spreadsheet with cell D7 selected and a thick black border around it. The ribbon at the top includes 'Home', 'Insert', 'Page Layout', 'Formulas', 'Data', 'Review', 'View', and 'Developer'. The status bar at the bottom shows 'Ready', 'Sheet1', 'Sheet2', 'Sheet3', and a zoom level of 100%.

Book1 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer

Paste Calibri 11 Font Alignment Number General Conditional Formatting Styles Cells Editing

Format Cells

Number Alignment Font Border Fill Protection

Category:

- General
- Number
- Currency
- Accounting
- Date**
- Time
- Percentage
- Fraction
- Scientific
- Text
- Special
- Custom

Type:

- *14-03-2001
- *quarta-feira, 14 de Março de 2001
- 14-03-2001
- 14-3-01
- 14-03-01
- 14-Mar
- 14-Mar-01

Locale (location): Portuguese (Portugal)

Date formats display date and time serial numbers as date values. Date formats that begin with an asterisk (*) respond to changes in regional date and time settings that are specified for the operating system. Formats without an asterisk are not affected by operating system settings.

OK Cancel

Exercício 1.1 (cont.)

- Utilizar as formatações anteriores para obter

The screenshot displays the Microsoft Excel interface with the following data table:

Consumos de electricidade em Coimbra (em Kwh/1000000)			
Anos	domésticos	industriais	
2000	180	338	
2001	185	323	
2002	191	209	

The spreadsheet shows a table with 4 columns and 4 rows of data. The first row is a header for the table, and the second row is a sub-header. The data rows contain consumption values for the years 2000, 2001, and 2002. The status bar at the bottom indicates the current sheet is 'Sheet1' and the zoom level is 100%.

Exercício 1.2

- Inserir na célula B2 a data de hoje

DD-MM-AAAA

- Apagar o data usando a tecla **** e inserir um número
- Explicar o sucedido

Exercício 1.3

- Utilizar o ficheiro

vendedores.xlsx

- A partir da folha I, obter as folhas II e III a seguir apresentadas

Exercício 1.3

Folha III

The screenshot shows the Microsoft Excel interface with the following elements:

- Title Bar:** TPC1.xls [Compatibility Mode] - Microsoft Excel
- Menu Bar:** Home, Insert, Page Layout, Formulas, Data, Review, View, Developer
- Ribbon (Home):** Includes groups for Clipboard, Font (Arial, size 10), Alignment, Number, Styles (Conditional Formatting, Format as Table, Cell Styles), Cells (Insert, Delete, Format), and Editing (Sort & Filter, Find & Select).
- Formula Bar:** Shows the active cell D4 containing the value 120.
- Worksheet Grid:** Columns A-K, rows 1-22. A table is present in the range B3:D10.

Quadro de vendas		
Data	Vendedor	Valor
01-02-2007	António	120,00 €
01-02-2007	José	240,00 €
03-02-2007	António	300,00 €
05-02-2007	Joana	100,00 €
06-02-2007	Joana	300,00 €
10-02-2007	José	140,00 €
15-02-2007	António	135,00 €

At the bottom of the window, the status bar shows "Ready", the active sheet is "Sheet3", and the zoom level is 100%.

Alça de preenchimento

The image shows the Microsoft Excel interface with the following details:

- Title Bar:** Book1 - Microsoft Excel
- Menu Bar:** Home, Insert, Page Layout, Formulas, Data, Review, View, Developer
- Home Tab Ribbon:**
 - Clipboard:** Paste
 - Font:** Calibri, 11, Bold (B), Italic (I), Underline (U), Text Color (A), Background Color (A)
 - Alignment:** Left, Center, Right, Justify, Indent, Decrease Indent, Increase Indent, Merge & Center, Unmerge Cells
 - Number:** General, Percentage (%), Decimals (0.00), Thousands Separator (.), Negative numbers (0.00)
 - Styles:** Conditional Formatting, Format as Table, Cell Styles
 - Cells:** Insert, Delete, Format
 - Editing:** Sort & Filter, Find & Select
- Formula Bar:** B2, fx, repetir
- Worksheet Grid:** Columns A-L, Rows 1-19. Cell B2 contains the text "repetir". A black border (fill handle) is drawn around the range B2:B11.
- Context Menu:** Opened over the fill handle, showing:
 - Copy Cells
 - Fill Formatting Only
 - Fill Without Formatting
- Status Bar:** Ready, Sheet1, Sheet2, Sheet3, Count: 10, 100%

Alça de preenchimento

The screenshot shows the Microsoft Excel interface with the following details:

- Title Bar:** Book1 - Microsoft Excel
- Menu Bar:** Home, Insert, Page Layout, Formulas, Data, Review, View, Developer
- Home Tab Ribbon:**
 - Clipboard:** Paste
 - Font:** Calibri, 11, Bold, Italic, Underline, Font Color, Background Color
 - Alignment:** Text alignment options
 - Number:** General, Percentage, Decimals
 - Styles:** Conditional Formatting, Format as Table, Cell Styles
 - Cells:** Insert, Delete, Format
 - Editing:** Sort & Filter, Find & Select
- Formula Bar:** B2, fx, 1
- Worksheet Grid:** Column B is selected. Cell B2 contains the value '1'. The fill handle (a small square with a plus sign) is located at the bottom-right corner of cell B13. A context menu is open over the fill handle, showing the following options:
 - Copy Cells
 - Fill Series (highlighted)
 - Fill Formatting Only
 - Fill Without Formatting
- Status Bar:** Ready, Sheet1, Sheet2, Sheet3, Average: 1, Count: 12, Sum: 12, 100%

Séries e Listas

The image shows a screenshot of Microsoft Excel with the 'Custom Lists' dialog box open. The dialog box has two main sections: 'Custom lists:' and 'List entries:'. In the 'Custom lists:' section, a list contains 'NEW LIST' and 'Seg, Ter, Qua, Qui, Sex, Sáb, D', with 'Segunda-feira, Terça-feira, Qua' selected. The 'List entries:' section contains a list of days: 'Segunda-feira', 'Terça-feira', 'Quarta-feira', 'Quinta-feira', 'Sexta-feira', 'Sábado', and 'Domingo'. Below these lists, there is a text input field for 'Import list from cells:' containing the range '\$B\$2:\$B\$13' and an 'Import' button. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

The background shows the 'Excel Options' task pane with the 'Popular' category selected. The 'Excel Options' window includes sections for 'Top options for working with', 'When creating new workbook', and 'Personalize your copy of Microsoft Office'. The 'User name' field is filled with 'Manuel António Facas Vicente'.

At the bottom of the Excel window, the status bar shows 'Average: 6,5', 'Count: 12', 'Sum: 78', and '100%' zoom level. The taskbar at the very bottom shows 'Excel Options' and 'Exit Excel' buttons.

Exercício 1.4

- Pretende construir-se uma folha para registo das presenças às sessões de formação
- Os nomes são colocados nas linhas
- As datas das sessões por colunas
- Posteriormente, completaremos esta folha com funções adequadas

Ordenação

The image shows the Microsoft Excel interface with the 'Data' tab selected. A range of cells in column B (rows 2-13) is selected, containing the letters A through K. The 'Sort' dialog box is open, showing the following configuration:

- Buttons: Add Level, Delete Level, Copy Level, Options...
- My data has headers:
- Sort by: Column B
- Sort On: Values
- Order: A to Z

The status bar at the bottom indicates 'Count: 12' and '100%' zoom.

Validação dos dados de entrada

Book1 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer

Get External Data Refresh All Connections Properties Edit Links Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Outline

B3

A B C D E F G H I J K L

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

Sheet1 Sheet2 Sheet3

Ready 100%

Data Validation

Settings Input Message Error Alert

Validation criteria

Allow:

Any value Ignore blank

Whole number
Decimal
List
Date
Time
Text length
Custom

Apply these changes to all other cells with the same settings

Clear All OK Cancel

Resultado:

The screenshot shows the Microsoft Excel interface with the following data in the spreadsheet:

	A	B	C	D	E	F	G	H	I	J
1										
2	Nome	21-Fev	28-Fev	6-Mar	13-Mar	3-Abr	10-Abr	17-Abr	24-Abr	
3	Ana Margarida Alexandre	1								
4	Ângela Cruz	1								
5	Angélique Silva	1								
6	Jessica Santos	1								
7	João Cruz	0,5								
8	Karine Barbosa	1								
9	Luís Fonseca	0,5								
10	Ricardo Dias	1								
11	Rute Monteiro	1								
12										
13										
14										
15										
16										
17										
18										
19										
20										

A yellow callout box with a black border points to the empty cell at row 11, column I, containing the text: "Número entre 0 e 1".