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Computer Applications

Basics of Working in Microsoft Excel
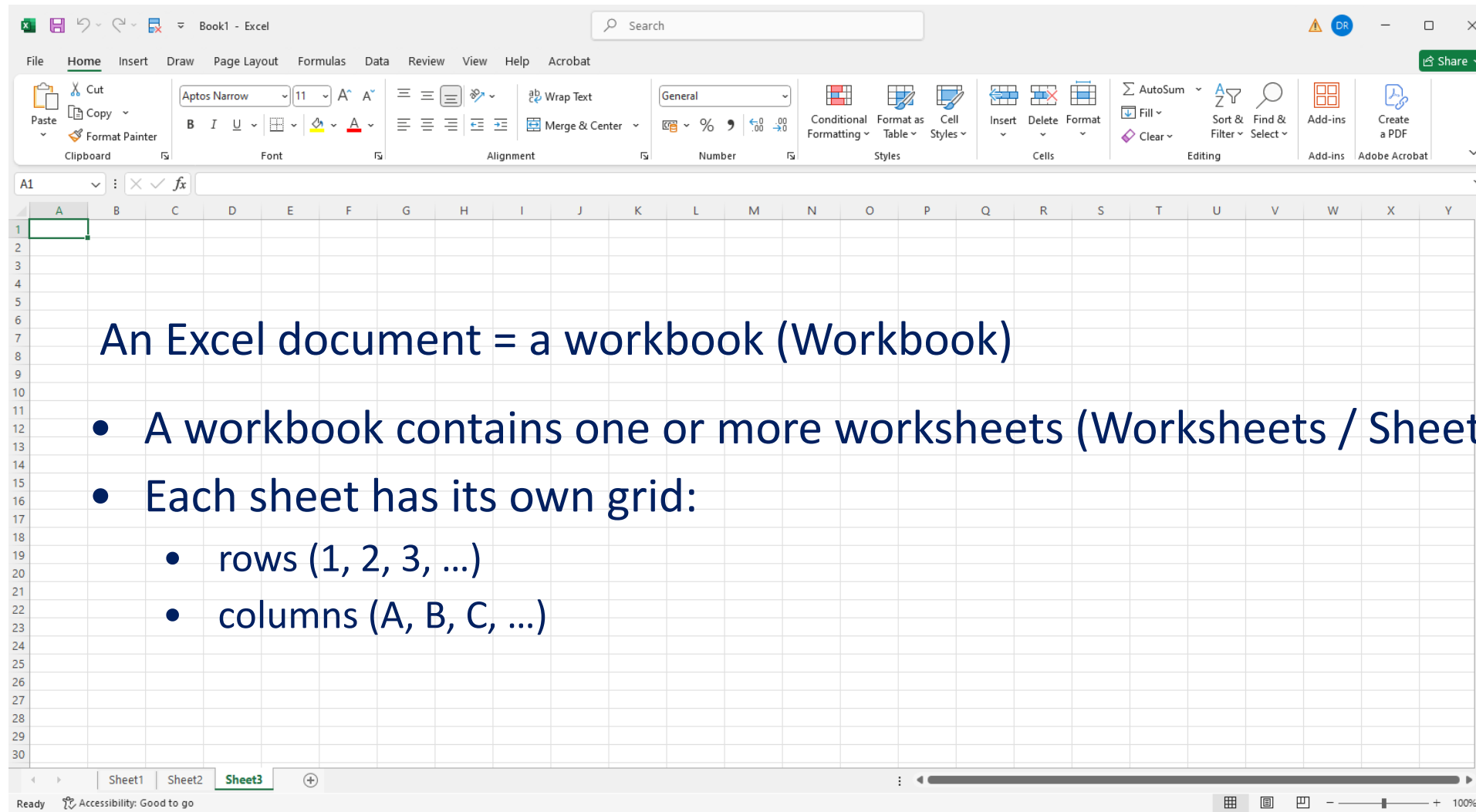
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UPKM

Basics of Working in Microsoft Excel

- Workbook
  - worksheet
  - rows
  - columns
  - cells
- Entering and editing data
- First steps toward a good table

Workbook and worksheet

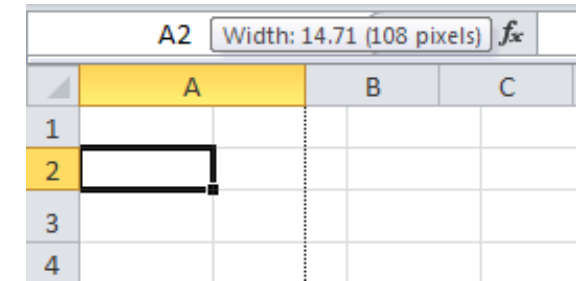An Excel document = a workbook (Workbook)

- A workbook contains one or more worksheets (Worksheets / Sheets)
- Each sheet has its own grid:
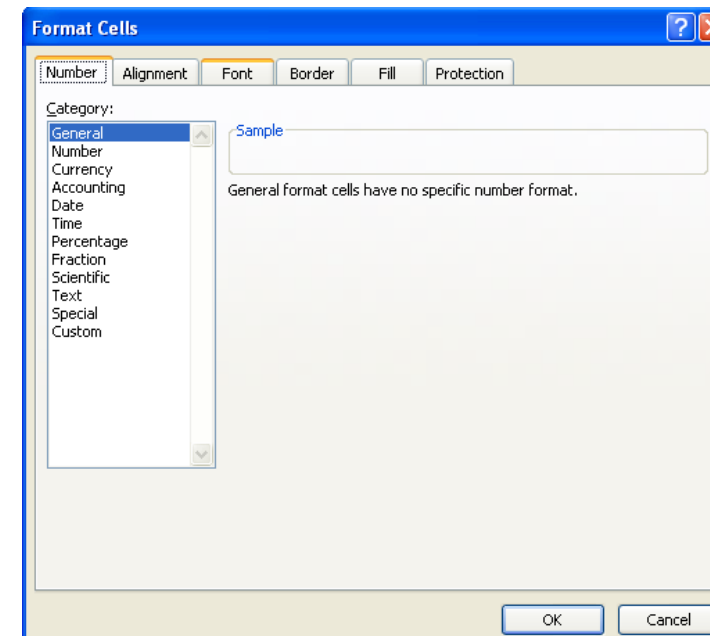 - rows (1, 2, 3, …)
  - columns (A, B, C, …)

Workbook and worksheet

Cell range and data types

- Range – a group of cells (e.g. A1:D10)
- A cell can contain:
  - text (student name, product name)
  - number (points, price, quantity)
  - date/time
  - formula (starts with =)
  - ...

Workbook and worksheet

Moving and selecting cells

- Active cell
  - mouse: left click
  - keyboard: arrow keys, PageUp/PageDown, Ctrl+arrow (jump to the end of a data block)
- Selection (highlighting)
  - dragging with the mouse
  - Shift+arrow
  - click on row/column header → entire row/column
  - Ctrl+A → entire sheet

Workbook and worksheet

**Adjusting rows and columns**

- Row height (Row Height)
  - manually: drag the boundary between rows with the mouse
  - precisely: Home → Cells → Format → Row Height → enter value
  - AutoFit Row Height – automatic adjustment to content
- Column width (Column Width)
  - manually: drag the boundary between columns
  - Home → Cells → Format → Column Width
  - AutoFit Column Width – adjust to content
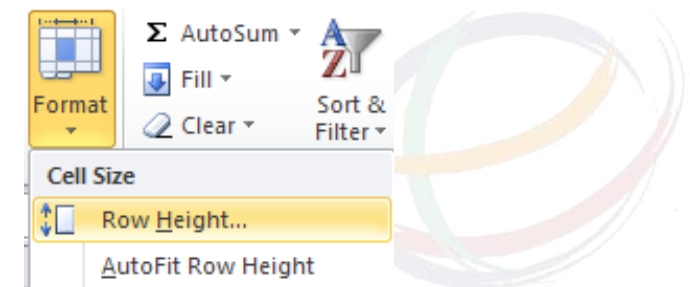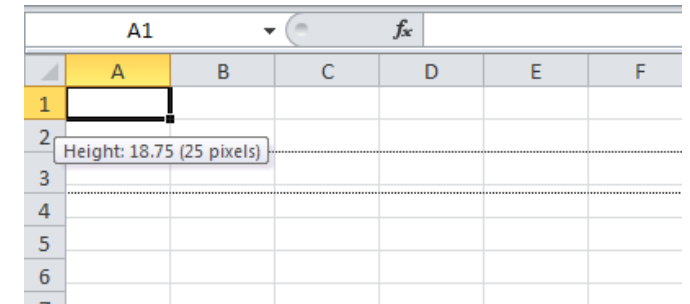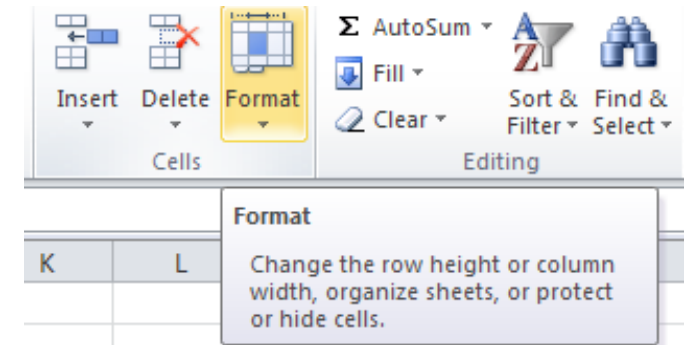
Basic cell formatting

Format Cells dialog

- Right-click → Format Cells… (or Home → Format → Format Cells)
- Main tabs:
    - Number – number formats (currency, percentage, date, …)
    - Alignment – alignment
      (left/right/center, vertical alignment, text angle)
    - Font – font type, size, style
    - Border – table borders
    - Fill – background (color, patterns)
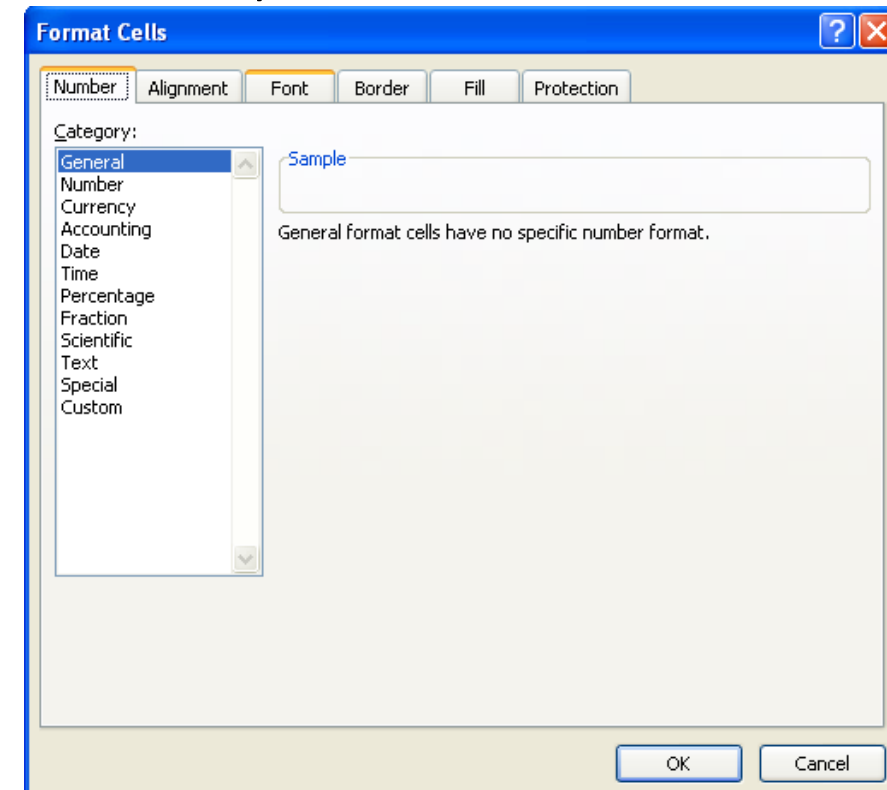
Exercise

Data entry and formatting

Create a worksheet "Studenti" ("Students")

- In row 1 (headers) enter
    - A1: Index number
    - B1: First name
    - C1: Last name
    - D1: Points – midterm 1
    - E1: Points – midterm 2
- Enter data for at least 10 students
- Set
    - column width so everything is visible (AutoFit)
    - headers to bold + centered
    - points as numbers without decimal places
- Save the document as **Excel_osnove_vezba1.xlsx**

Excel table

What does a "good" table look like?

- First row = clear column headers (no empty cells)

- Each column = one data type (all numbers, or all dates, or all text)

- No empty rows in the middle of the table

- Column names descriptive, not "Kol1", "Kol2"

- No merged cells inside the data (merge only for a title above the table)

Excel table

**Cell range vs. Excel table**

- A normal range = a group of cells with data, without additional logic
- An Excel table (Table) provides
  - automatic filters in the headers
  - quick formatting options (Table Styles)
  - easy addition of a "Total Row"
  - better preservation of sorting/filtering criteria
- Excel tables are created from an existing data range

Excel table

Creating a table (Insert → Table)

- Select the range of cells you want to turn into a table (with headers)
- Insert → Table (or Ctrl+L / Ctrl+T)
- In the dialog, check
  - Range
  - "My table has headers" – checked if the first row contains headers
- Confirm with OK
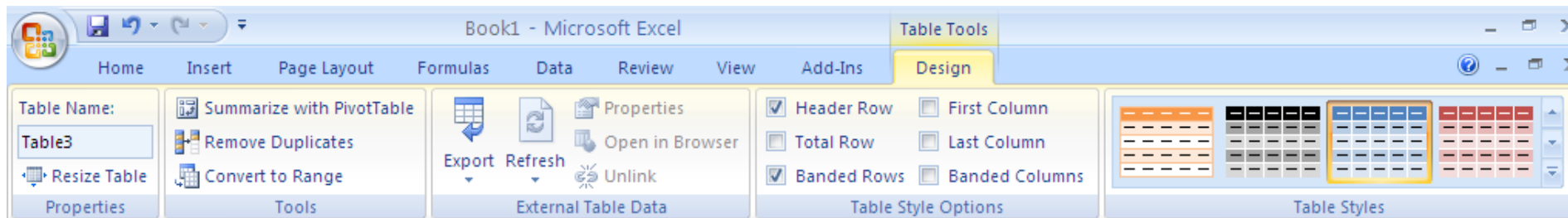- After that, Table Tools → Design appears (table tools)
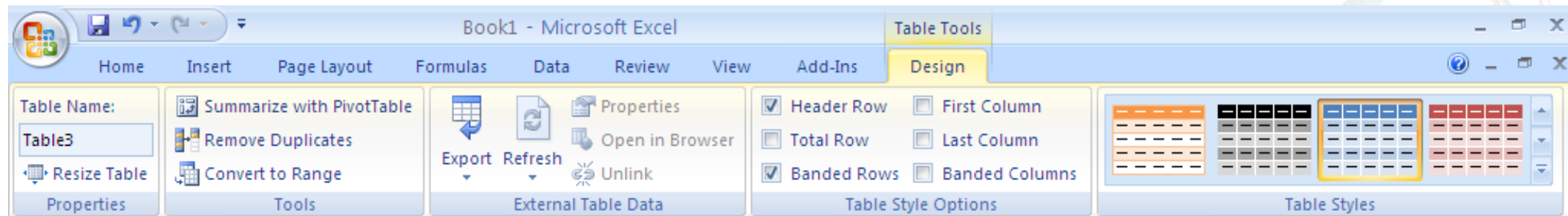
Excel table

Table Tools – Design

- Table Styles – choose a style (colors, lines, banded rows)
- Options
    - Header Row
    - Total Row
    - Banded Rows / Columns (alternating shaded rows/columns)
    - First Column / Last Column (emphasize specific columns)
- The table behaves like an "object" – it is easy to extend it by adding rows/columns

Excel table

Extending a table – adding rows and columns

- Adding a row
  - type into the first empty row below the table – the table automatically expands
  - or Insert → Table Rows Above/Below

- Adding a column
  - type into the empty column to the right of the table
  - or Insert → Table Columns to the Right

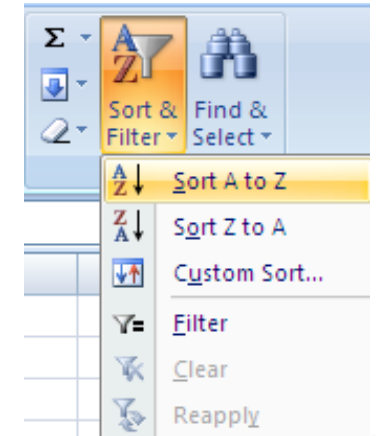- All formulas and formats in the table are automatically "pulled" into new rows

Excel table

Filters and basic sorting

- In tables, Excel automatically adds sort/filter arrows in the headers

- Sorting:
  - by text (A→Z, Z→A)
  - by numbers (smallest to largest / largest to smallest)
  - by dates

- Filter:
  - quick "cleaning" of the view – show only rows that meet a condition

Exercise

Converting a list into a table

- Start from the "Studenti" table in **Excel_osnove_vezba1.xlsx**
- Select the range A1:E11
- Convert to an Excel table: Insert → Table → My table has headers
- Choose a table style (Table Style) as desired
- Enable:
    - Header Row
    - Banded Rows
    - Total Row – set the "Poeni kolokvijum 1" column to show SUM
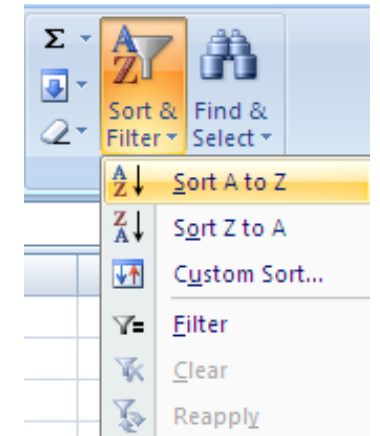- Sort the table in descending order by "Poeni kolokvijum 1"

Excel table

Filters and basic sorting

- In tables, Excel automatically adds sort/filter arrows in the headers

- Sorting
  - by text (A→Z, Z→A)
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- Filter

  - quick "cleaning" of the view – show only rows that meet a condition

Excel table

Typical mistakes in table structure

- Empty rows/columns in the middle of the table

- Merged cells inside the data

- Mixing data types in the same column

- (e.g. number + "failed" in the same "Points" column)

- Entering "comments" in numeric columns ("50 points – didn't sign")

- No clear headers (Header Row)

Exercise

Fixing a bad table

- Load the table **Excel_vezba.xlsx** in which there are:
  - merged cells in the header
  - empty rows
  - mixed data types in columns
  - no formal Excel table
- Task:
  - "Unmerge" merged cells
  - Delete unnecessary empty rows
  - Arrange the data so that each column has one type of data
  - Create an Excel table (Insert → Table) with correct headers
  - Set a style and a Total Row

Questions & Answers