

# Excel specifications and limits

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## Worksheet and workbook specifications and limits

Feature	Maximum limit
Open workbooks	Limited by available memory and system resources

Feature	Maximum limit
Total number of rows and columns on a worksheet	1,048,576 rows by 16,384 columns
Column width	255 characters
Row height	409 points
Page breaks	1,026 horizontal and vertical
Total number of characters that a cell can contain	32,767 characters
Characters in a header or footer	255
Maximum number of line feeds per cell	253
Sheets in a workbook	Limited by available memory (default is 1 sheet)
Colors in a workbook	16 million colors (32 bit with full access to 24 bit color spectrum)
Named views in a workbook	Limited by available memory
Unique cell formats/cell styles	64,000
Fill styles	256

Feature	Maximum limit
Line weight and styles	256
Unique font types	1,024 global fonts available for use; 512 per workbook
Number formats in a workbook	Between 200 and 250, depending on the language version of Excel that you have installed
Names in a workbook	Limited by available memory
Windows in a workbook	Limited by available memory
Hyperlinks in a worksheet	66,530 hyperlinks
Panes in a window	4
Linked sheets	Limited by available memory
Scenarios	Limited by available memory; a summary report shows only the first 251 scenarios
Changing cells in a scenario	32
Adjustable cells in Solver	200
Custom functions	Limited by available memory
Zoom range	10 percent to 400 percent

Feature	Maximum limit
Reports	Limited by available memory
Sort references	64 in a single sort; unlimited when using sequential sorts
Undo levels	100
Fields in a data form	32
Workbook parameters	255 parameters per workbook
Items displayed in filter drop-down lists	10,000
Noncontiguous cells that can be selected	2,147,483,648 cells
Maximum limits of memory storage and file size for Data Model workbooks	<p>32-bit environment is subject to 2 gigabytes (GB) of virtual address space, shared by Excel, the workbook, and add-ins that run in the same process. A data model's share of the address space might run up to 500 – 700 megabytes (MB), but could be less if other data models and add-ins are loaded.</p> <p>64-bit environment imposes no hard limits on file size. Workbook size is limited only by available memory and system resources.</p> <p>Beginning with Excel 2016, Large Address Aware functionality lets 32-bit Excel consume twice the memory when users work on a 64-bit Windows operating system. For more information, see <a href="#">Large Address Aware capability change for Excel</a>.</p> <p><b>Note:</b> Adding tables to the Data Model increases the file size. If you don't plan to create complex Data Model relationships using many data sources and data types in your workbook, uncheck the <b>Add this data to the Data Model</b> box when you import or create tables, pivot tables, or data connections.</p> <p>For more information, see <a href="#">Data Model specification and limits</a>.</p>

Feature	Maximum limit
Processor Cores	64
File name length	218 characters - This includes the file path. For example, C:\Username\Documents\FileName.xlsx.

## Calculation specifications and limits

Feature	Maximum limit
Number precision	15 digits
Smallest allowed negative number	-2.2251E-308
Smallest allowed positive number	2.2251E-308
Largest allowed positive number	9.99999999999999E+307
Largest allowed negative number	-9.99999999999999E+307
Largest allowed positive number via formula	1.7976931348623158e+308
Largest allowed negative number via formula	-1.7976931348623158e+308
Length of formula contents	8,192 characters
Internal length of formula	16,384 bytes
Iterations	32,767
Worksheet arrays	Limited by available memory
Selected ranges	2,048

<b>Feature</b>	<b>Maximum limit</b>
Arguments in a function	255
Nested levels of functions	64
User defined function categories	255
Number of available worksheet functions	341
Size of the operand stack	1,024
Cross-worksheet dependency	64,000 worksheets that can refer to other sheets
Cross-worksheet array formula dependency	Limited by available memory
Area dependency	Limited by available memory
Area dependency per worksheet	Limited by available memory
Dependency on a single cell	4 billion formulas that can depend on a single cell
Linked cell content length from closed workbooks	32,767
Earliest date allowed for calculation	January 1, 1900 (January 1, 1904, if 1904 date system is used)
Latest date allowed for calculation	December 31, 9999
Largest amount of time that can be entered	9999:59:59

## Charting specifications and limits

Feature	Maximum limit
Charts linked to a worksheet	Limited by available memory
Worksheets referred to by a chart	255
Data series in one chart	255
Data points in a data series for 2-D charts	Limited by available memory
Data points in a data series for 3-D charts	Limited by available memory
Data points for all data series in one chart	Limited by available memory

## PivotTable and PivotChart report specifications and limits

Feature	Maximum limit
PivotTable reports on a sheet	Limited by available memory
Unique items per field	1,048,576
Row or column fields in a PivotTable report	Limited by available memory
Report filters in a PivotTable report	256 (may be limited by available memory)
Value fields in a PivotTable report	256
Calculated item formulas in a PivotTable report	Limited by available memory
Report filters in a PivotChart report	256 (may be limited by available memory)

Feature	Maximum limit
Value fields in a PivotChart report	256
Calculated item formulas in a PivotChart report	Limited by available memory
Length of the MDX name for a PivotTable item	32,767
Length for a relational PivotTable string	32,767
Items displayed in filter drop-down lists	10,000

### Workbooks with the "Allow changes by more than one user..." setting enabled

If the **Allow changes by more than one user...** setting is on for a workbook, then the following information applies. This setting is accessible by clicking the **Review** tab > **Share Workbook**. Note that in newer versions of Excel, the **Share Workbook** button has been hidden. To unhide it, click **File** > **Options** > **Quick Access Toolbar**. Open the list under **Choose commands from** and select **All Commands**. Scroll down that list until you see **Share Workbook (Legacy)**. Select that item and click **Add**. Click **OK**. The **Share Workbook** button is now at the top of the Excel window.

Feature	Maximum limit
Users who can open the file at the same time	256
Personal views in the workbook	Limited by available memory
Days that change history is maintained	32,767 (default is 30 days)
Workbooks that can be merged at one time	Limited by available memory
Cells that can be highlighted	32,767



Feature	Maximum limit
Colors used to identify changes made by different users when change highlighting is turned on	32 (each user is identified by a separate color; changes made by the current user are highlighted with navy blue)
Excel tables in the workbook	0 (zero)
	<b>Note:</b> A workbook that contains one or more Excel tables cannot have the <b>Allow changes by more than one user...</b> setting enabled.

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