

Microsoft Excel

Module 40 - Data Validation in MS Excel



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Introduction:

Data Validation is a powerful feature in Microsoft Excel that helps you control what type of data can be entered into a cell. It ensures that the information entered into your spreadsheet is accurate, consistent, and follows specific rules. For example, if you only want users to enter numbers between 1 and 100 in a cell, you can use data validation to enforce that rule. Data Validation is a tool in Excel that allows you to set rules and restrictions on the type of data or values that can be entered into a cell or range of cells.



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Purpose of Data Validation:

1. To prevent wrong data entry (like entering text in a cell meant for numbers).
2. To guide users to enter correct data.
3. To reduce errors in calculations and reports.
4. To maintain consistency in large datasets.



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When is data validation useful?

1. Data validation is invaluable when you want to share a workbook with others, and you want the data entered to be accurate and consistent. Among other things, you can use data validation for the following:
2. Restrict entries to predefined items in a list— For example, you can limit a user's department selections to Accounting, Payroll, and HR, to name a few.
3. Restrict numbers outside a specified range— For example, you can specify a maximum percentage input for an employee's annual merit increase, let's say 3%, or only allow a whole number between 1 and 100.
4. Restrict dates outside a certain time frame— For example, in an employee time off request, you can prevent someone from selecting a date before today's date.
5. Restrict times outside a certain time frame— For example, you can specify meeting scheduling between 8:00 AM and 5:00 PM.
6. Limit the number of text characters— For example, you can limit the allowed text in a cell to 10 or fewer characters.
7. Validate data based on formulas or values in other cells— For example; you can use data validation to set a maximum limit for commissions and bonuses based on the overall projected payroll value. If users enter more than the limit amount, they see an error message.



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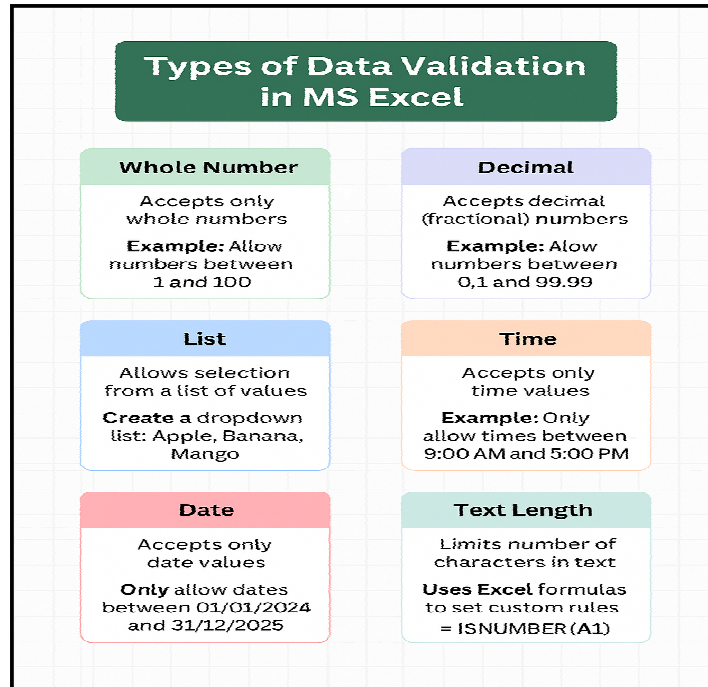
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Types of Data Validation:

In Excel, different types of data are entered for different purposes—like names, numbers, dates, times, etc. Different types of data validation exist to match the different types of data you want to control. Each type is designed to help you manage a specific kind of input.

Different types of Data Validation are understandable with the help of the given diagram:



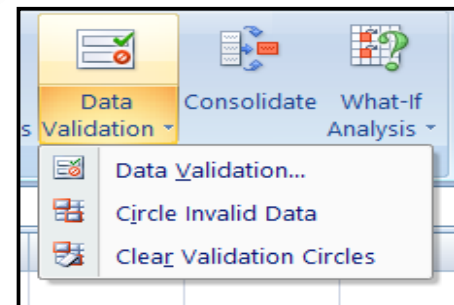
How to do data validation in Excel:

1. Open the Data Validation dialog box:
 • Select one or more cells to validate, go to the Data tab > Data Tools group, and click the Data Validation button.

• You can also open the Data Validation dialog box by pressing Alt > D > L, with each key pressed separately.

2. Create an Excel validation rule:

• On the Settings tab, define the validation criteria according to your needs. In the criteria, you can supply any of the following:



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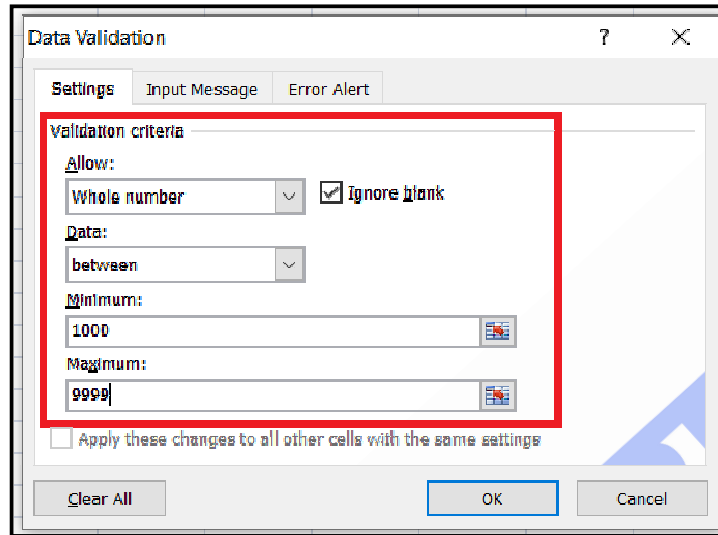
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- Values - type numbers in the criteria boxes like shown in the screenshot below.
- Cell references - make a rule based on a value or formula in another cell.
- Formulas - allow expressing more complex conditions like in this example.
- As an example, let's make a rule that restricts users to entering a whole number between 1000 and 9999:

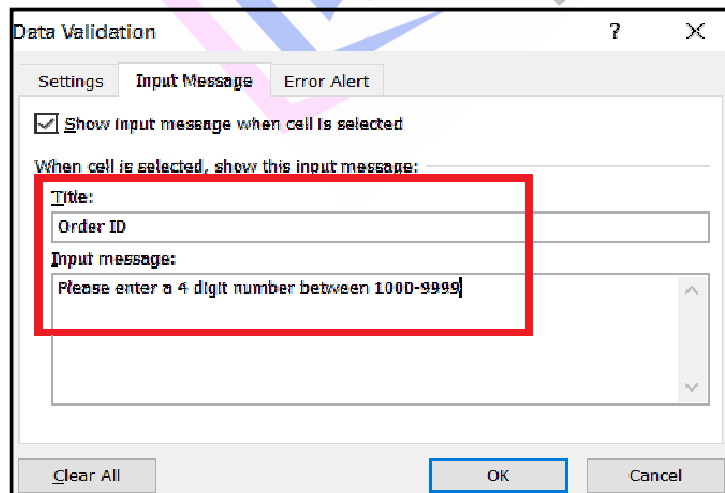


With the validation rule configured, either click OK to close the Data Validation window or switch to another tab to add an input message or/and error alert.

3. Add an input message:

If you want to display a message that explains to the user what data is allowed in a given cell, open the Input Message tab and do the following:

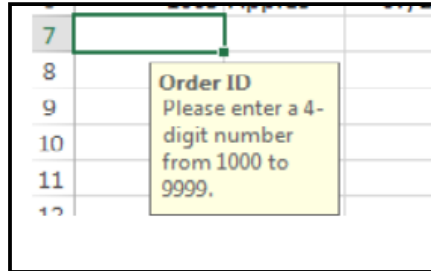
- Make sure the Show input message when cell is selected box is checked.
- Enter the title and text of your message into the corresponding fields.
- Click OK to close the dialog window.



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As soon as the user selects the validated cell, the following message will show up:



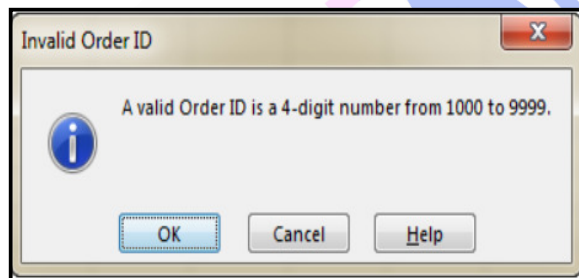
4. Display an error alert:

To configure a custom error message, go to the Error Alert tab and define the following parameters:

- Check the Show error alert after invalid data is entered box (usually selected by default).
- In the Style box, select the desired alert type.
- Enter the title and text of the error message into the corresponding boxes.
- Click OK.

And now, if the user enters invalid data, Excel will display a special alert explaining the error (like shown in the beginning of this tutorial).

Note: If you do not type your own message, the default Stop alert with the following text will show up: This value does not match the data validation restrictions defined for this cell.



Conclusion:

Data Validation is a very useful feature in Excel that helps control the type of data entered in a cell. It allows users to set rules such as number limits, date ranges, text length, or even provide a drop-down list of choices.

By using Data Validation, we can prevent mistakes, guide users, and ensure that the data in our spreadsheet is accurate, clean, and ready for use. It is especially helpful in forms, reports, and large worksheets where correct data is very important.

In short, Data Validation makes our work in Excel more professional, reliable, and easy to manage.

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Assignment:

Employee Name	Age	Department	Joining Date	Work Hours (Per Day)	Email	Phone Number
Anjali Mehra						
Rohit Sharma						
Neha Verma						
Aman Gupta						
Priya Singh						

Practice the Following task on the given data set:

- Age (Column B): Allow only whole numbers between 18 and 60.
- Department (Column C): Use List Validation with dropdown options: HR, IT, Finance, Marketing, Sales.
- Joining Date (Column D): Allow only dates between 01-01-2020 and 31-12-2025.
- Work Hours per Day (Column E): Allow decimal numbers between 4.0 and 10.0.
- Email (Column F): Use custom validation with the formula.
- Phone Number (Column G): Use text length validation to allow only 10 digits.

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