Data Validation in Excel

**Data Validation** is a feature in Excel that allows you to control the type of data or values users can enter into a cell. It's useful for ensuring data integrity and consistency.

Define Data Validation Rules

**Steps to Define Data Validation Rules:**

1. **Select the Cells:**
   * Select the cells where you want to apply the data validation.
2. **Open Data Validation Dialog:**
   * Go to the Data tab on the Ribbon.
   * Click Data Validation in the Data Tools group.
   * Select Data Validation from the drop-down menu.
3. **Set Validation Criteria:**
   * In the Settings tab, choose the type of validation you want to apply (e.g., Whole number, Decimal, List, Date, Time, Text Length, or Custom).
   * Specify the criteria for the selected type.

Data Validation Options

**Common Data Validation Options:**

1. **Whole Number:**
   * Restrict cells to accept only whole numbers.
   * Criteria: Between, Not between, Equal to, Not equal to, Greater than, Less than, Greater than or equal to, Less than or equal to.
2. **Decimal:**
   * Restrict cells to accept only decimal numbers.
   * Criteria: Same as Whole Number.
3. **List:**
   * Restrict cells to accept only values from a predefined list.
   * Criteria: Type the values separated by commas or reference a range containing the values.
4. **Date:**
   * Restrict cells to accept only dates.
   * Criteria: Between, Not between, Equal to, Not equal to, Before, After, On or before, On or after.
5. **Time:**
   * Restrict cells to accept only times.
   * Criteria: Same as Date.
6. **Text Length:**
   * Restrict cells to accept text of a specific length.
   * Criteria: Between, Not between, Equal to, Not equal to, Greater than, Less than, Greater than or equal to, Less than or equal to.
7. **Custom:**
   * Restrict cells based on a custom formula.
   * Criteria: Enter a formula that returns TRUE or FALSE.

Drop-Down Lists

**Steps to Create a Drop-Down List:**

1. **Select the Cells:**
   * Select the cells where you want the drop-down list.
2. **Open Data Validation Dialog:**
   * Go to the Data tab, click Data Validation.
3. **Choose List:**
   * In the Settings tab, select List from the Allow drop-down menu.
4. **Enter Source:**
   * In the Source field, enter the list items separated by commas or reference a range containing the items.

Data Validation Using Custom Formulas

**Steps to Use Custom Formulas for Data Validation:**

1. **Select the Cells:**
   * Select the cells where you want to apply the custom validation.
2. **Open Data Validation Dialog:**
   * Go to the Data tab, click Data Validation.
3. **Choose Custom:**
   * In the Settings tab, select Custom from the Allow drop-down menu.
4. **Enter Formula:**
   * In the Formula field, enter a formula that returns TRUE or FALSE. For example, to ensure a cell contains a value greater than 100:

=A1>100

Validate the Worksheet

**Steps to Validate the Worksheet:**

1. **Select the Entire Worksheet:**
   * Click the box at the intersection of row numbers and column letters to select the entire sheet.
2. **Open Data Validation Dialog:**
   * Go to the Data tab, click Data Validation.
3. **Choose Criteria:**
   * Set the validation criteria you want for the entire worksheet.

Assignment

**Objective:** Apply data validation rules to ensure data integrity and consistency in an Excel worksheet.

Tasks:

1. **Create a Drop-Down List:**
   * Create a drop-down list in column A that allows users to select from the following products: A, B, C.
2. **Restrict Prices:**
   * In column B, restrict the values to be between 10 and 50.
3. **Restrict Sales to Whole Numbers:**
   * In column C, restrict the values to whole numbers between 100 and 500.
4. **Custom Formula for Discounts:**
   * In column D, ensure that the discount is not more than 20% of the price. Use the following formula:

=D2<=B2\*0.2

Complete Example

**Dataset:**

| **Product** | **Price** | **Sales** | **Discount** |
| --- | --- | --- | --- |
| (Drop-down) | (10-50) | (100-500) | (<20% of Price) |

**Step-by-Step Solution:**

1. **Create Drop-Down List in Column A:**
   * Select cells A2:A10.
   * Open Data Validation.
   * Choose List and enter A,B,C in the Source field.
2. **Restrict Prices in Column B:**
   * Select cells B2:B10.
   * Open Data Validation.
   * Choose Whole number and set between 10 and 50.
3. **Restrict Sales to Whole Numbers in Column C:**
   * Select cells C2:C10.
   * Open Data Validation.
   * Choose Whole number and set between 100 and 500.
4. **Custom Formula for Discounts in Column D:**
   * Select cells D2:D10.
   * Open Data Validation.
   * Choose Custom and enter the formula =D2<=B2\*0.2.