Day 2

**1:30pm-2:30pm**

- Activity: How to Create an Aging Report

Step 1:
Label the following cells:
A1: Customer
B1: Order #
C1: Date
D1: Amount Due.
Enter in the corresponding information for your customers and their orders underneath the headlines.

Step 2:
Add additional headers for each column as:
E1: Days Outstanding
F1: Not Due
G1: 0-30 Days
H1: 31-60 days
I1: 61-90 days
J1: >90 days

Step 3:
Next, we will input a formula for the "Days Outstanding" column that will let us know how many days that invoice has gone unpaid since the due date.
In cell E2, enter in the following formula: =IF(TODAY()>C2,TODAY()-C2,0)

Step 4:
Drag the fill handler from cell E2 all the way to the last customer. This will populate the formula down the whole column so you do not have to enter it in over again.

Step 5:
Now we want to give our aging report some color, so that we can easily see who is the most overdue versus who is still in the clear. Highlight all the rows in the E column then click Conditional Formatting on the Home tab and New Rule.

Step 6:
A separate window will open named "New Formatting Rule".
Click the "Format Style" drop down and select 3-color scale.
Click the "Type" drop down and select Number
Under "Values", enter 0 for minimum, 60 for midpoint and 90 for maximum.
Finally, select the colors that make the most sense for you, usually three colors that are very far apart on the color scale.

Step 7:
In cell F2 we will find out who is not yet due on their invoices. The formula will check for anything in the "Days Outstanding" column that is equal to zero.
In cell F2, enter in the following formula: =IF(E2=0,D2,0)
Drag the fill handler down the column to populate.

Step 8:
The formula for 0-30 days basically says, "Check to see if the difference between today's date and C2's date are less than or equal to 30. If it is, input the data from D2. If it isn't, leave as 0".
Enter in cell G2 the following formula: =IF(C2<TODAY(),(IF(TODAY()-C2<=30,D2,0)),0)

Drag the fill handler down the column to populate.

Step 9:
The next formula will use an AND statement, which will basically say that if the difference between today's date and that date in C2 is less than or equal to 60 days AND greater than 30 days, then input the data from D2. Otherwise, input 0.
In cell H2, enter in the following formula: =IF (AND(TODAY()-$C2<=60,TODAY()-$C2>30),$D2,0)
Drag the fill handler down the column to populate.

Step 10:
Under the 61-90 days column, the formula will be similar in concept to the one input in step 9.
In cell I2, enter in the following formula: =IF(AND(TODAY()-$C2<=90,TODAY()-$C2>60),$D2,0)
Drag the fill handler down the column to populate.

Step 11:
To find the unpaid invoices greater than 90 days, the formula is quite simple. It is simply stating that if the difference between today's date and the due date is greater than 90 to input the data from cell D2. Otherwise, input 0.
In cell J2, enter in the following formula: =IF(TODAY()-$C2>90,D2,0)
Drag the fill handler down the column to populate.

Step 12:
To sum up the value of all of the invoices in each column to know how much cash you have floating among each simply click and drag from the first empty cell underneath the "Not Due" column to the ">90" column. Then press ALT+=.

## 2:30pm-3:30pm

• Create Solutions in TEXT data using the text functions: Change Case, Trim Case, Combine Case and Find and Replace text methods.

**Retrieve a specific number of characters from the left side of a string**

The goal is to retrieve only the digits within the strings.

| Identifier | Result |
|---|---|
| 55555-End | |
| 77777-End | |
| 99999-End | |

type the following formula in cell B2:

```
=LEFT(A2,5)
```

**Retrieve a specific number of characters from the right side of a string**

| Identifier | Result |
|---|---|
| ID-55555 | |
| ID-77777 | |
| ID-99999 | |

type the following formula in cell B2:

```
=RIGHT(A2,5)
```

**Get a specific number of characters from the middle of a string**

But what if the digits are located in the middle of the string, and you'd like to retrieve only those digits?

| Identifier | Result |
|---|---|
| ID-55555-End | |
| ID-77777-End | |
| ID-99999-End | |

type the following formula in cell B2:

```
=MID(A2,4,5)
```

**Gel all characters before a symbol (for a varying-length string)**

You have your desired digits on the left side of a string, BUT the number of digits on the left side of the string keeps changing.

| Identifier | Result |
|---|---|
| 111-IDAA | |
| 2222222-IDB | |
| 33-IDCCC | |

type the following formula in cell B2:

```
=LEFT(A2,FIND("-",A2)-1)
```

**Gel all characters before space (for a varying-length string )**

But what if you have a space (rather than a symbol), and you only want to get all the characters before that space?

| Identifier | Result |
|---|---|
| 111 IDAA | |
| 2222222 IDB | |
| 33 IDCCC | |

type the following formula in cell B2:

```
=LEFT(A2,FIND(" ",A2)-1)
```

**Obtain all characters between two symbols (for a varying-length string)**

| Identifier | Result |
|---|---|
| IDAA-111-AA | |
| IDB-2222222-B | |
| IDCCC-33-CCC | |

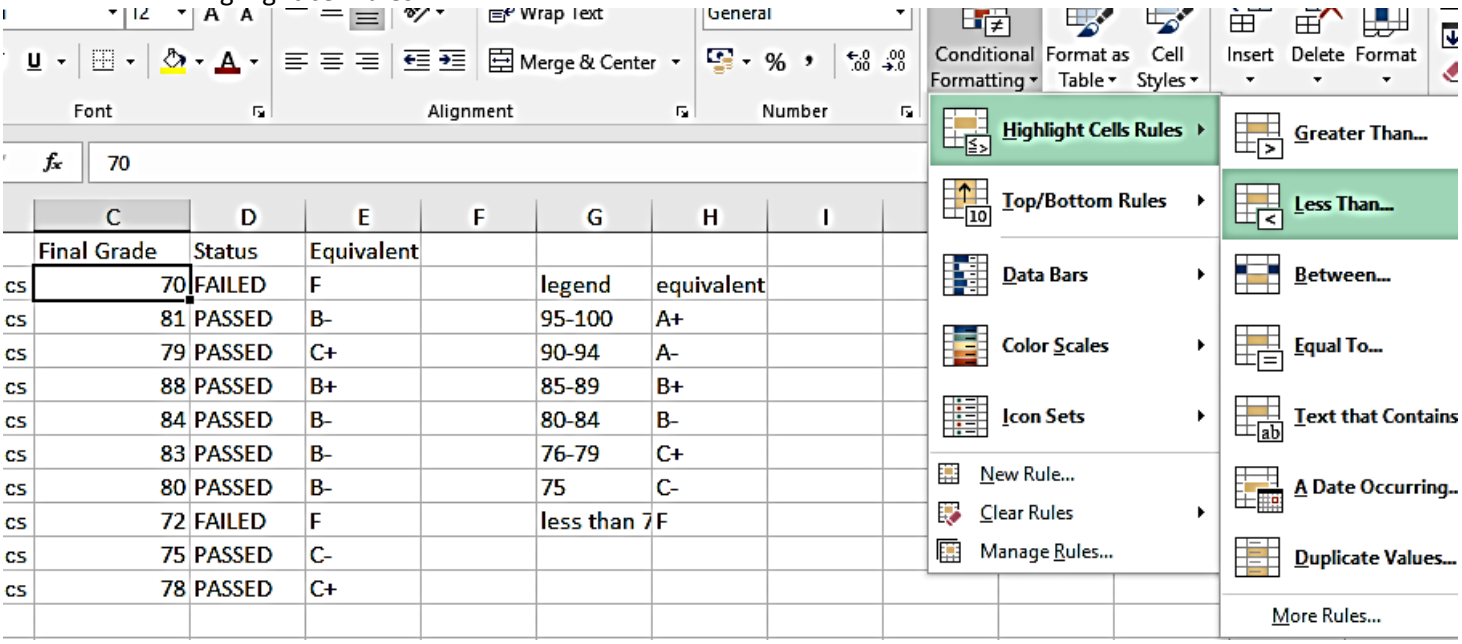
| | A | B |
|---|---|---|
| 32 | | |
| 33 | | |
| 34 | retrieve characters between two symbols (varying length) | |
| 35 | IDASFF-112-Aasd | 112 |
| 36 | IDEF-12432455-BS | 12432455 |
| 37 | IDBA-88776-GG | 88776 |
| 38 | IDAG-1244>HGJ | 1244 |

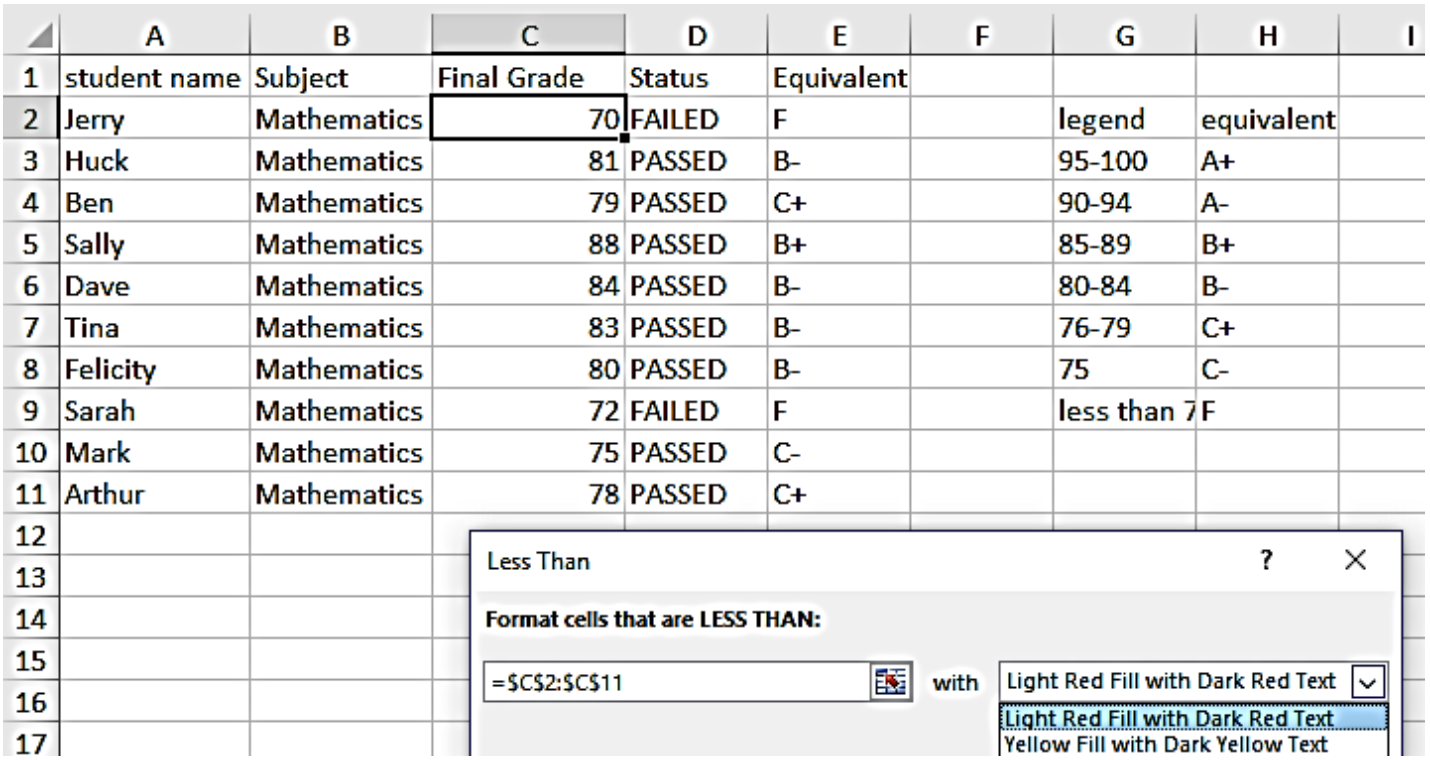
=MID(A35,FIND("-",A35)+1,FIND("-",A35,FIND("-",A35)+1)-FIND("-",A35)-1)
=MID(A38,FIND("-",A38)+1,LEN(A38)-((FIND("-",A38)+1) + (LEN(A38)-FIND(">",A38))))

• Advanced Conditional Formatting and Filtering

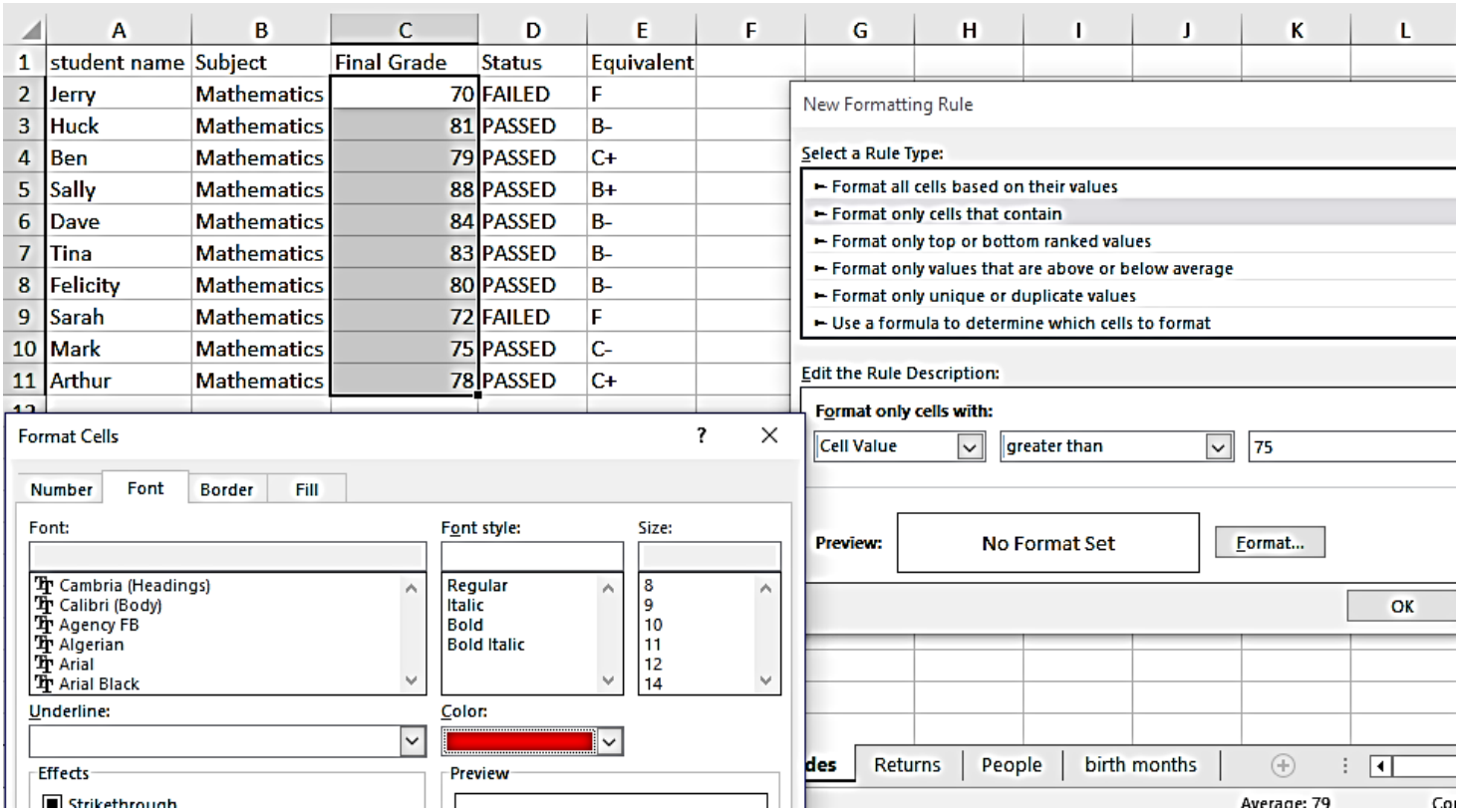
## Conditional Formatting in Excel

A. Using conditional formatting to change cell appearance depending on certain conditions
   - Select a cell where to apply conditional formatting. Go to home→conditional formatting
   - Highlight cell rules

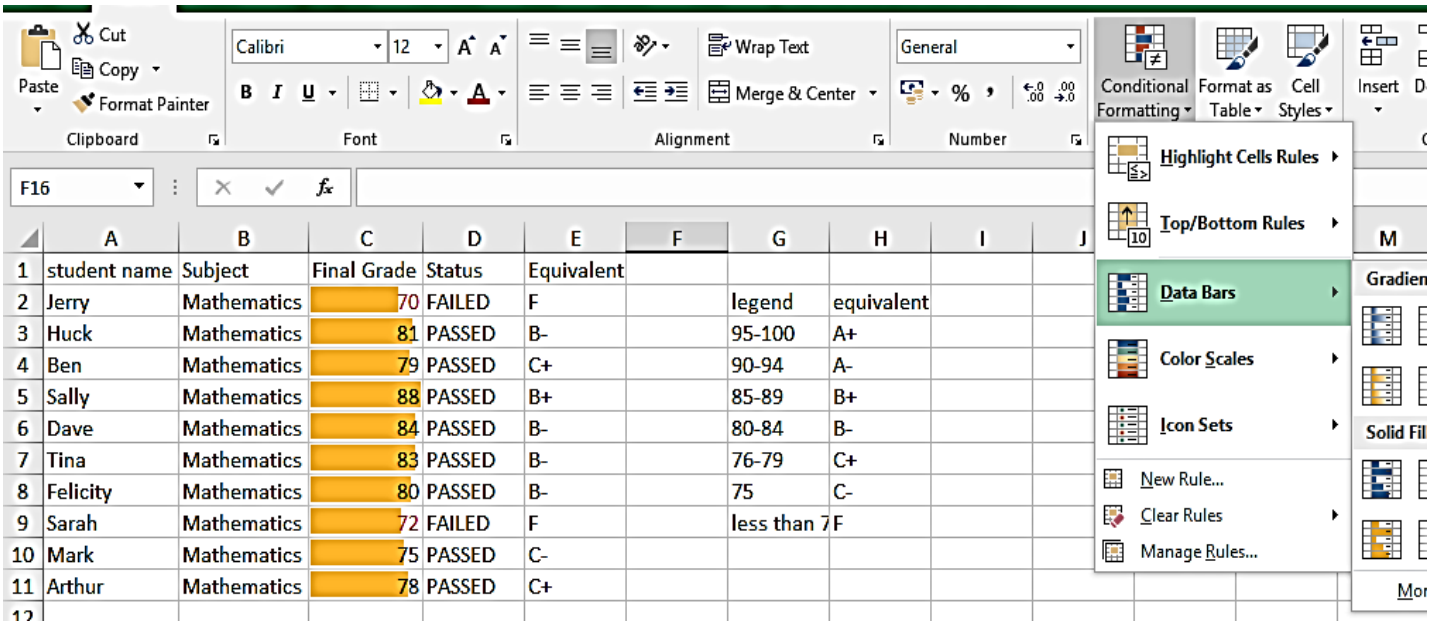





Or create a new rule



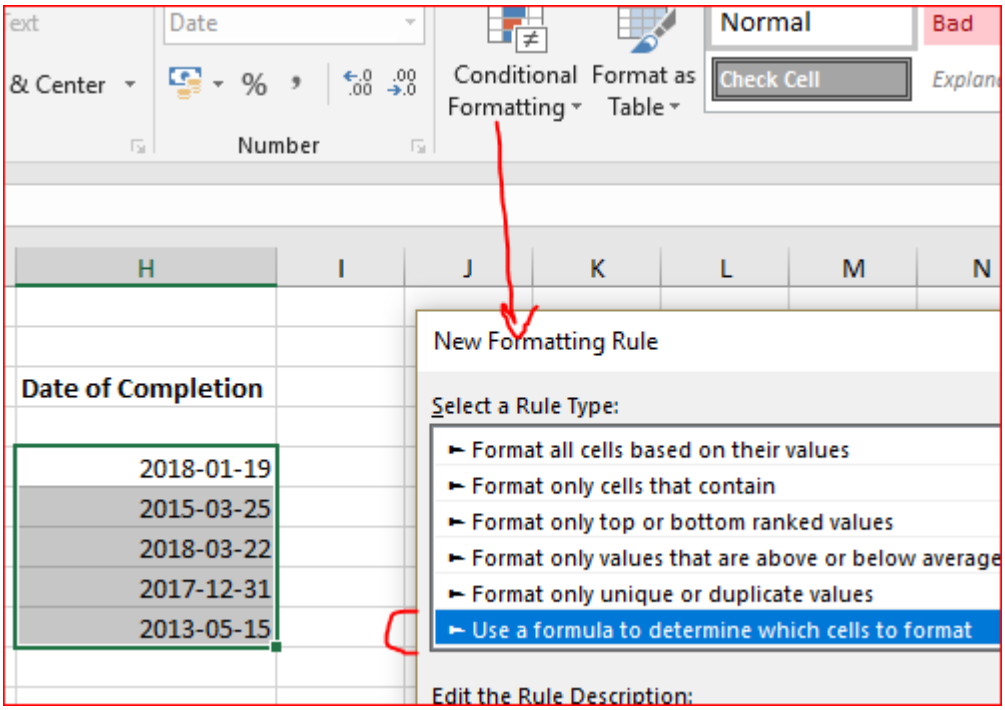

- Also try using data bars




| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | student name | Subject | Final Grade | Status | Equivalent | | | | | |
| 2 | Jerry | Mathematics | 70 | FAILED | F | | legend | equivalent | | |
| 3 | Huck | Mathematics | 81 | PASSED | B- | | 95-100 | A+ | | |
| 4 | Ben | Mathematics | 79 | PASSED | C+ | | 90-94 | A- | | |
| 5 | Sally | Mathematics | 88 | PASSED | B+ | | 85-89 | B+ | | |
| 6 | Dave | Mathematics | 84 | PASSED | B- | | 80-84 | B- | | |
| 7 | Tina | Mathematics | 83 | PASSED | B- | | 76-79 | C+ | | |
| 8 | Felicity | Mathematics | 80 | PASSED | B- | | 75 | C- | | |
| 9 | Sarah | Mathematics | 72 | FAILED | F | | less than 7 | F | | |
| 10 | Mark | Mathematics | 75 | PASSED | C- | | | | | |
| 11 | Arthur | Mathematics | 78 | PASSED | C+ | | | | | |
| 12 | | | | | | | | | | |

**Activity:**
I am looking to create a table with a list of individuals who have completed a specific training and have received a certificate for it. Let's say for example it is CPR Training. I visualize the "individual's name", the "type of training" and the "date" the training was completed / certificate was received.

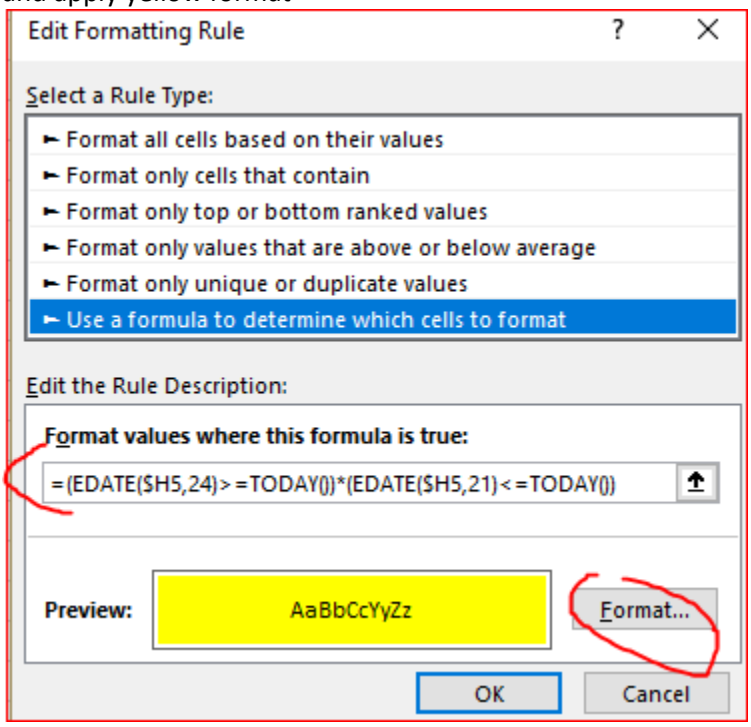
What I would like to do is format the "date" cells to change color. For example, if the CPR training certificate for a specific individual was received on April 17th, 2018 and the training is valid for 2 years (before they need to redo it) (i.e. April 17th, 2020) then I would like the color to change of the "date" cell to yellow 3 months prior to the expiry date (i.e. starting January 17th, 2020) up until the expiry date at which point it would change to red (indicating that the training certificate is no longer valid and the individual must complete the training again)



Add formula

```
=(EDATE($H5,24)>=TODAY())*(EDATE($H5,21)<=TODAY())
```

and apply yellow format




Ok and apply

Repeat Conditional formatting -> Manage rule, New rule, etc, but with formula

```
=(TODAY()>=EDATE($H5,24))
```

Result is like this

| Date of Completion |
|---|
| 2018-01-19 |
| 2015-03-25 |
| 2018-03-22 |
| 2016-05-31 |
| 2013-05-15 |

• Apply Custom Data Formats

How to make your cell formats look the way you want

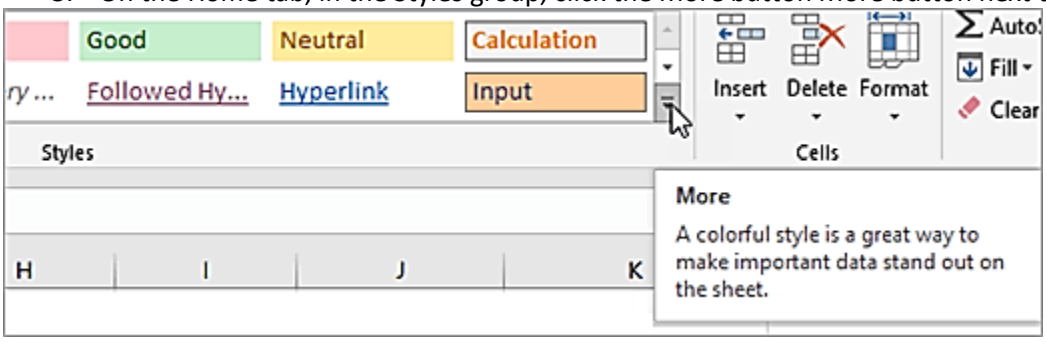
| Custom Cell Formats | Text Before Formatting | Custom Format | Formatted Text |
|---|---|---|---|
| Brackets for negative values | -500 | #,##0;(#,##0) | (500) |
| Red and brackets for negative values | -500 | #,##0.00;[Red](#,##0.00) | (500.00) |
| Credit Card Numbers | 4555123456789101 | Formula required | 4555 1234 5678 9101 |
| Day of the week in full | 27/03/2010 | dddd | Saturday |
| Day, date, month and year | 27/03/2010 | ddd dd mmm yyyy | Sat 27 Mar 2010 |
| Month | 27/03/2010 | mmmm | March |
| Phone Numbers | 755551234 | 00 0000 0000 | 07 5555 1234 |
| Phone Numbers with Brackets | 755551234 | (00) 0000 0000 | (07) 5555 1234 |
| Fractions | 10.5 | # ??/?? | 10 1/2 |
| Trailing Dots | Monday | @*. | Monday..... |
| Prefixed with text | 597 | "INV" 0000 | INV 0597 |

You can also use this custom number format for credit cards and long phone numbers:
[<=99999999999]###########;#### #### #### ####

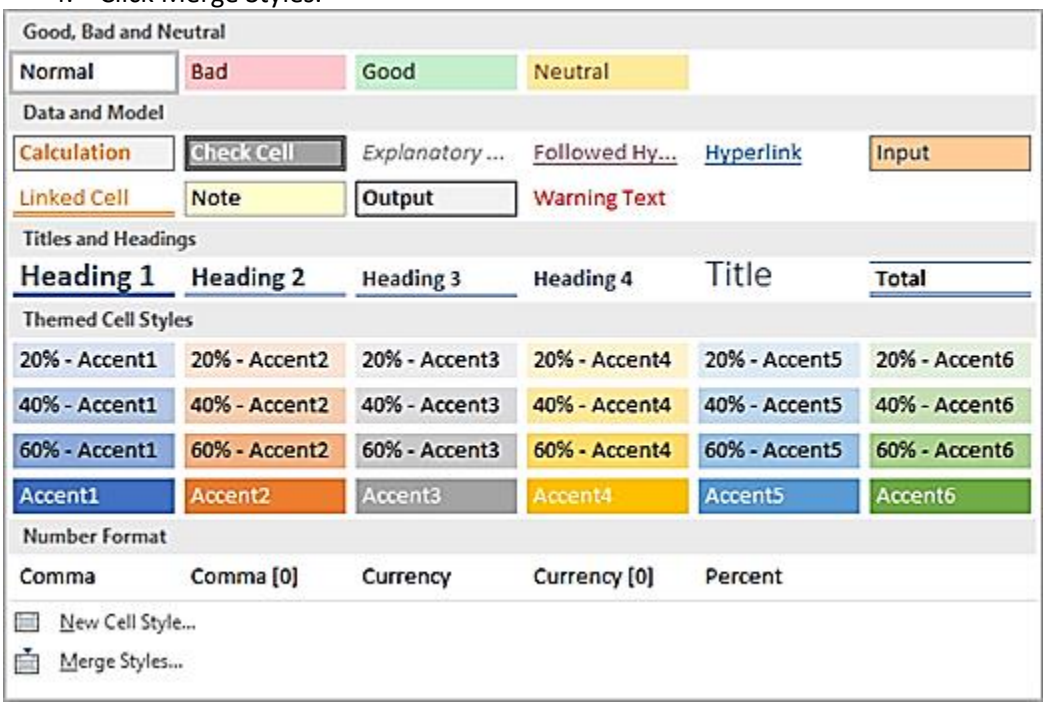
• Apply Custom Styles and Templates

If you want to make the cell styles that you create in or copy into a workbook available in all future workbooks, you can save them in a template that is used for all new workbooks. After you exit and restart Excel, the cell styles that you saved in your template workbook will be available in all new workbooks that you create.

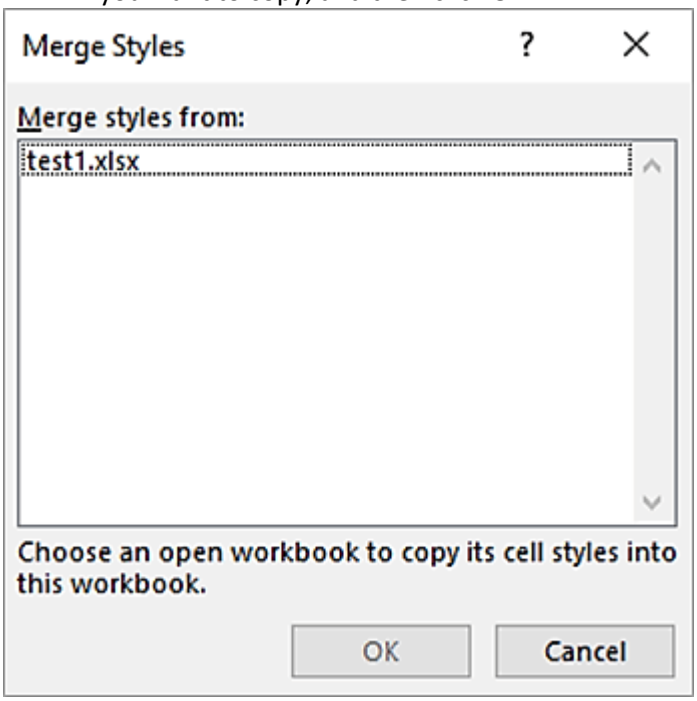
1. Open the workbook that contains the styles that you want to make available.
2. On the File tab, click New and select Blank Workbook.
3. On the Home tab, in the Styles group, click the More button More button next to the cell styles box.



4. Click Merge Styles.




5. In the Merge Styles dialog box, in the Merge styles from box, click the workbook that contains the styles that you want to copy, and then click OK.




6. If both workbooks contain styles that have identical names, you must indicate whether you want to merge these styles by doing the following:
    a. To replace the styles in the active workbook with the copied styles, click Yes.
    b. To keep the styles in the active workbook as they are, click No.

7. On the File tab, click Save As.

8. In the File name box, type Book.
9. In the Save as type box, click Excel Template, or click Excel Macro-Enabled Template if the workbook contains macros that you want to make available in the template.
10. Click Browse and then locate and select the XLSTART folder.
    a. Note: In Windows 10, the XLSTARTfolder is typically located in C:\Program Files(x86)\Microsoft Office\root\Office 16\XLSTART.

11. Click Save.

After you exit and restart Excel, the cell styles that you saved in Book.xltx (or Book.xltm) will be available in all new workbooks that you create.

**3:30pm-4:30pm**

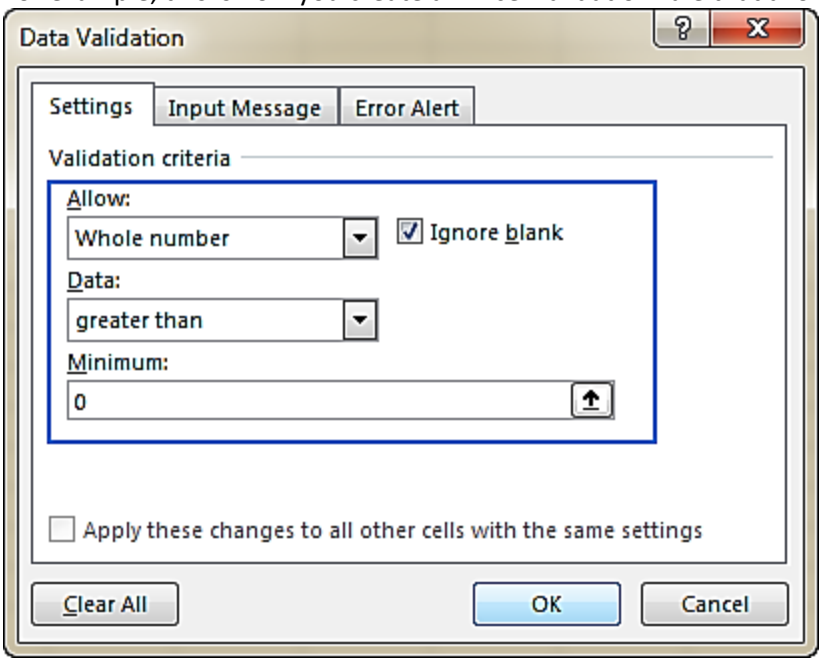
• Create user input validation using data validation method

**Whole numbers and decimals**

To restrict data entry to a whole number or decimal, select the corresponding item in the Allow box. And then, choose one of the following criteria in the Data box:

- Equal to or not equal to the specified number
- Greater than or less than the specified number
- Between the two numbers or not between to exclude that range of numbers

For example, this is how you create an Excel validation rule that allows any whole number greater than 0:



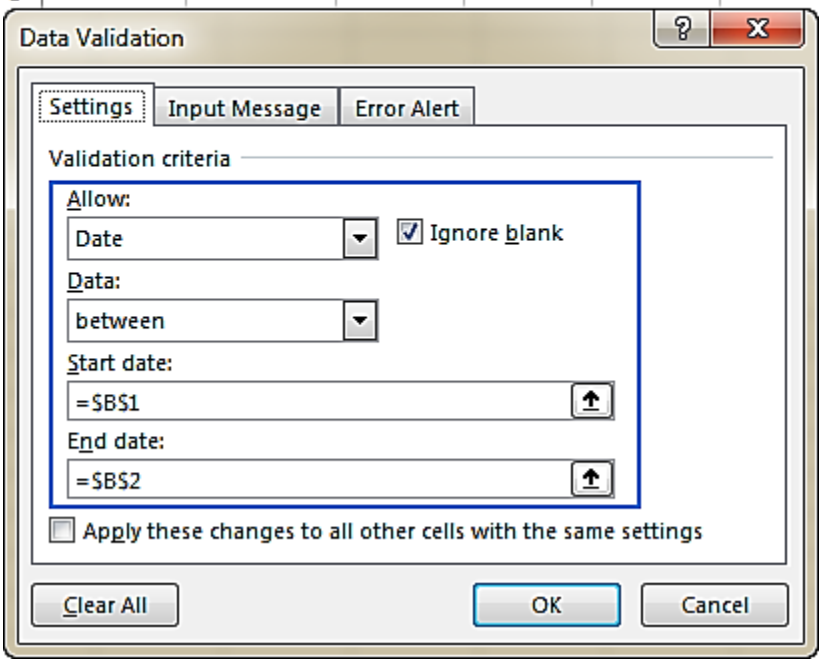

**Date and time validation in Excel**

To validate dates, select Date in the Allow box, and then pick an appropriate criteria in the Data box. There are quite a lot of predefined options to choose from: allow only dates between two dates, equal to, greater than or less than a specific date, and more.

Similarly, to validate times, select Time in the Allow box, and then define the required criteria.

For example, to allow only dates between Start date in B1 and End date in B2, apply this Excel date validation rule:

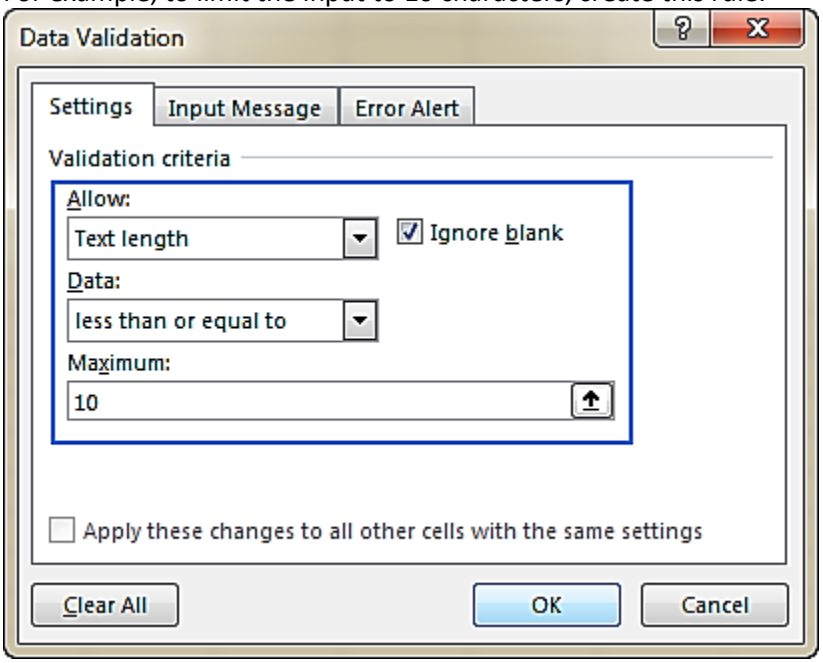
| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | **Start date** | 1-Jul-17 | | | | |
| 2 | **End date** | 31-Jul-17 | | | | |
| 3 | | | | | | |




**Text length**

To allow data entry of a specific length, select Text length in the Allow box, and choose the validation criteria in accordance with your business logic.

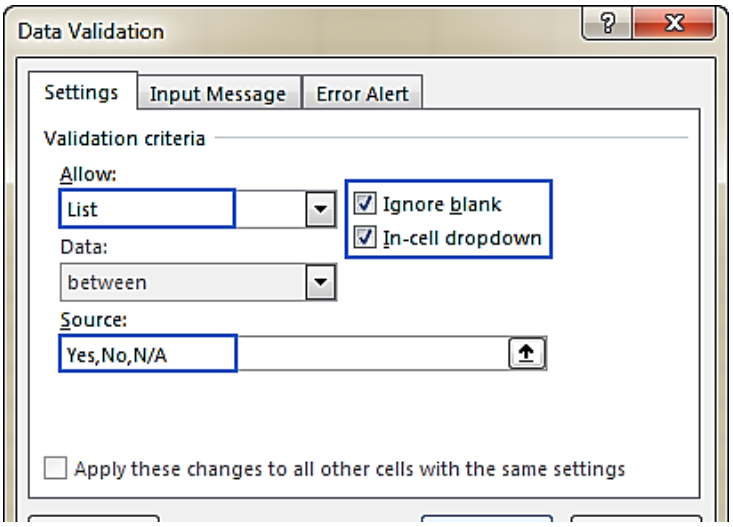
For example, to limit the input to 10 characters, create this rule:



**Excel data validation list (drop-down)**

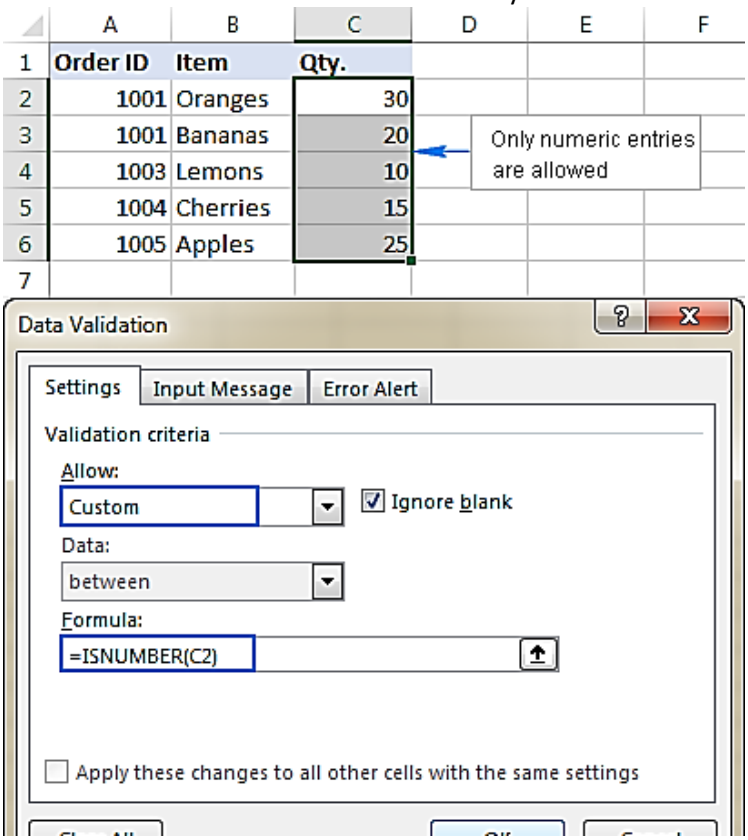
To add a drop-down list of items to a cell or a group of cells, select the target cells and do the following:

Open the Data Validation dialog box (Data tab > Data Validation).
On the Settings tab, select List in the Allow box.
In the Source box, type the items of your Excel validation list, separated by commas. For example, to limit the user input to three choices, type Yes, No, N/A.
Make sure the In-cell dropdown box is selected in order for the drop-down arrow to appear next to the cell.
Click OK.

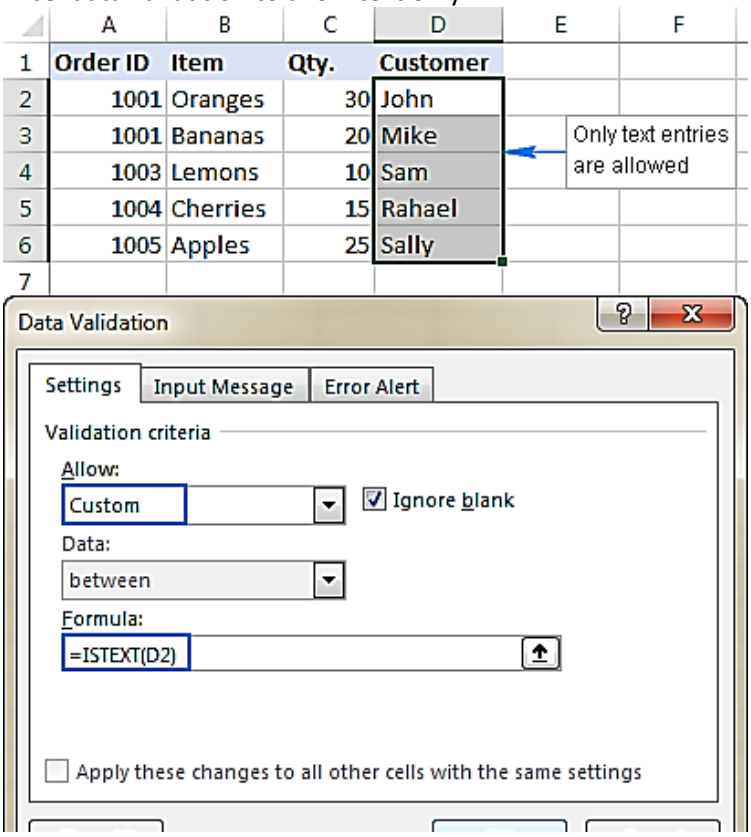



**Custom data validation rules**

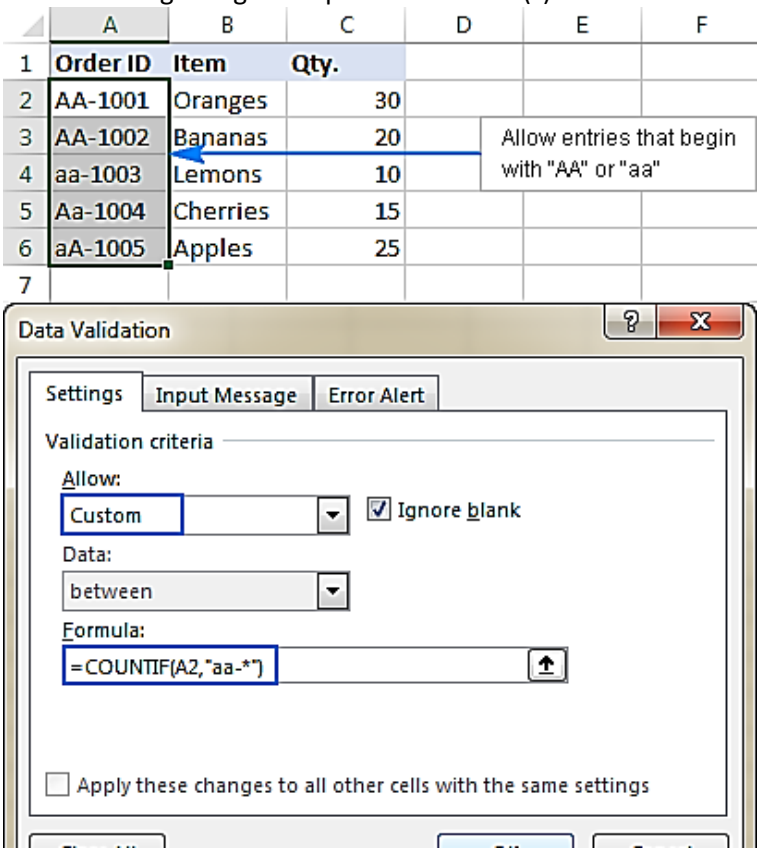
Excel data validation to allow numbers only



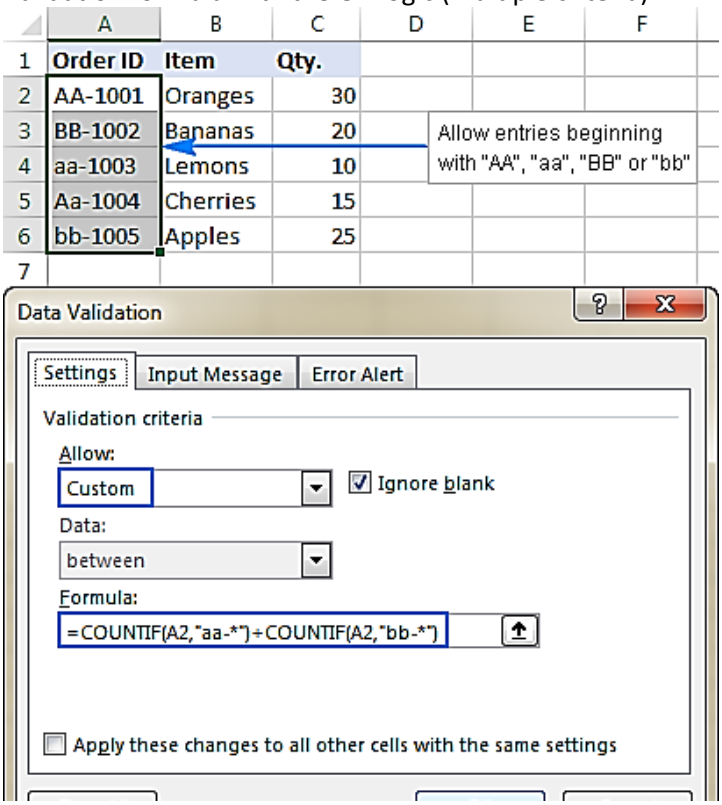
Excel data validation to allow text only



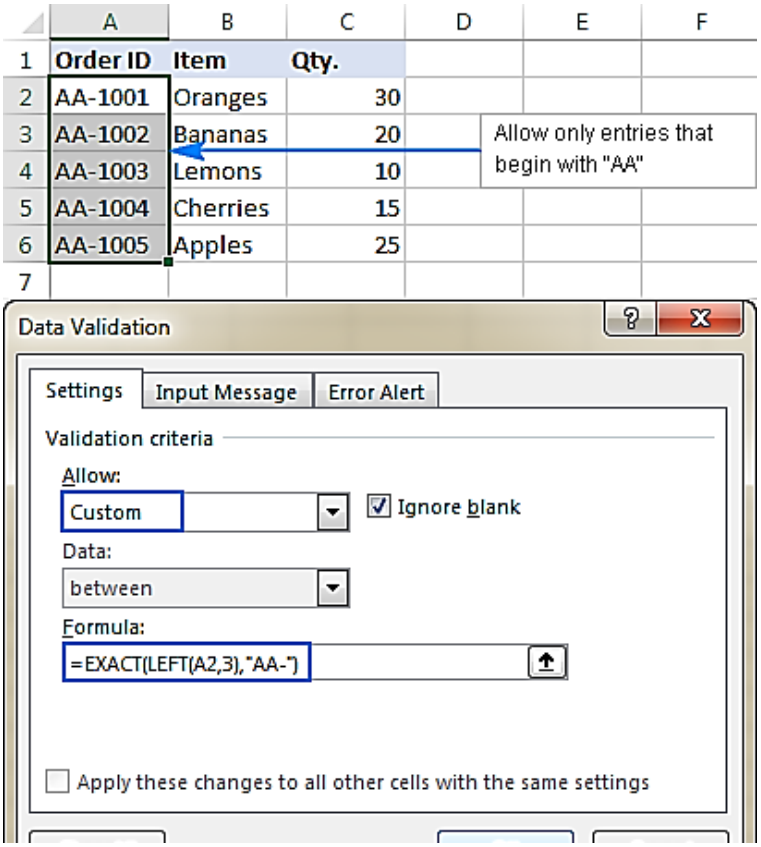

Allow text beginning with specific character(s)



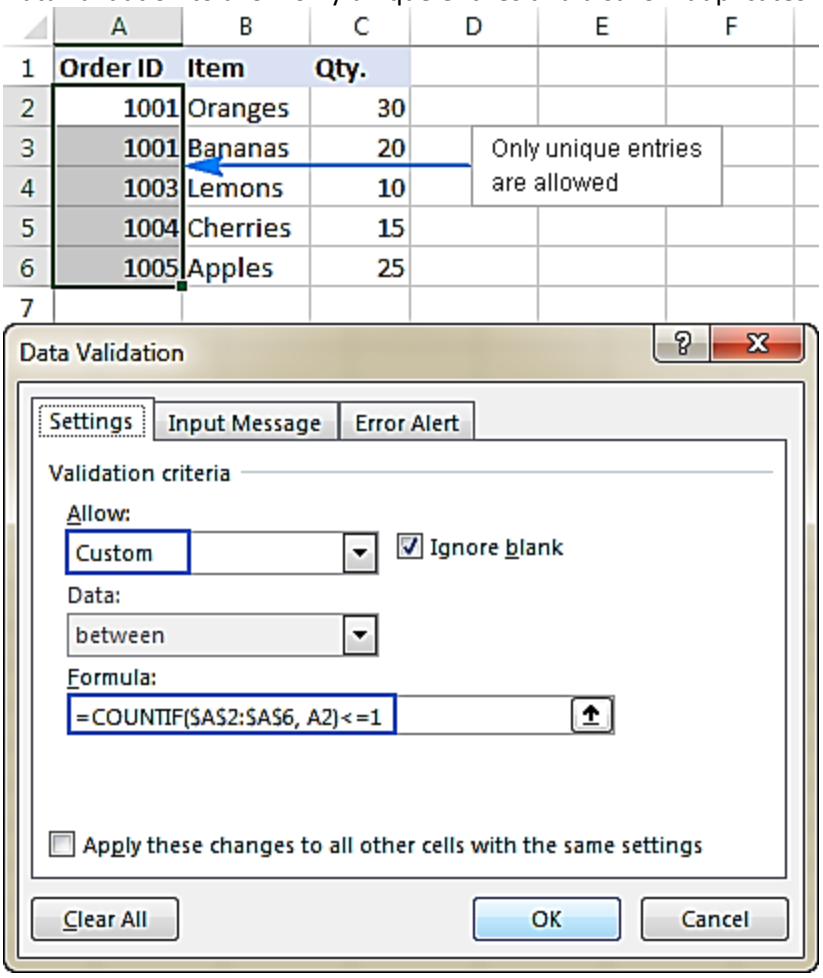
Validation formula with the OR logic (multiple criteria)




Case-sensitive validation formula



Data validation to allow only unique entries and disallow duplicates




**4:30pm-5:30pm**

• Manage a read-only worksheet using Protect Sheet and Protect Workbook capabilities

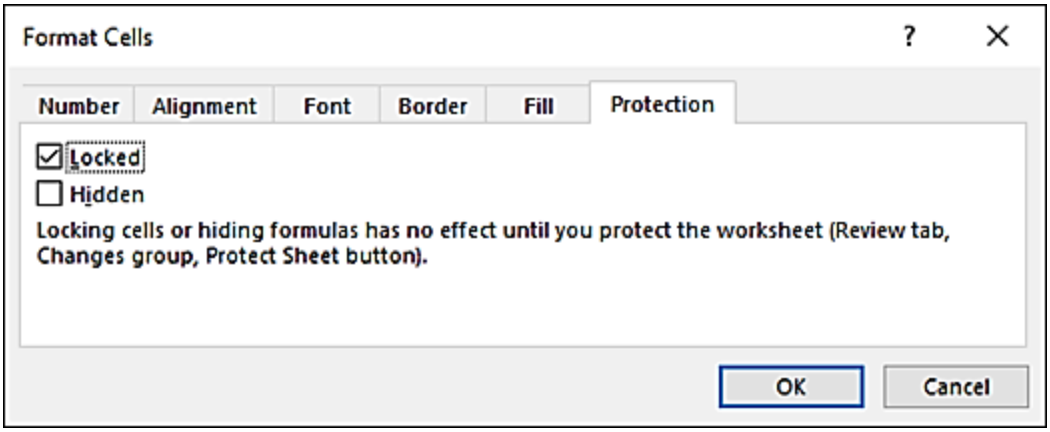
To prevent other users from accidentally or deliberately changing, moving, or deleting data in a worksheet, you can lock the cells on your Excel worksheet and then protect the sheet with a password.

**Enable worksheet protection**

Worksheet protection is a two-step process: the first step is to unlock cells that others can edit, and then you can protect the worksheet with or without a password.

Step 1: Unlock any cells that needs to be editable

1. In your Excel file, select the worksheet tab that you want to protect.
2. Select the cells that others can edit.
3. Right-click anywhere in the sheet and select Format Cells (or use Ctrl+1, or Command+1 on the Mac), and then go to the Protection tab and clear Locked.

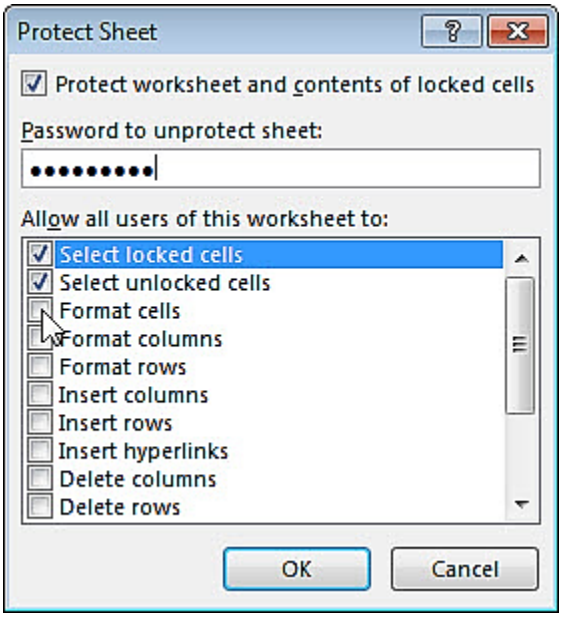



Step 2: Protect the worksheet

Next, select the actions that users should be allowed to take on the sheet, such as insert or delete columns or rows, edit objects, sort, or use AutoFilter, to name a few. Additionally, you can also specify a password to lock your worksheet. A password prevents other people from removing the worksheet protection—it needs to be entered to unprotect the sheet.

1. On the Review tab, click Protect Sheet.


2. In the Allow all users of this worksheet to list, select the elements you want people to be able to change.




Optionally, enter a password in the Password to unprotect sheet box and click OK. Reenter the password in the Confirm Password dialog box and click OK.

To unprotect a sheet, follow these steps:

1. Go to the worksheet you want to unprotect.
2. Go to File > Info > Protect > Unprotect Sheet, or from the Review tab > Changes > Unprotect Sheet.
3. If the sheet is protected with a password, then enter the password in the Unprotect Sheet dialog box, and click OK.

• Add security passwords to excel file using file protection method

To prevent others from accessing data in your Excel files, protect your Excel file with a password.

1. Select File > Info.
2. Select the Protect Workbook box and choose Encrypt with Password.
3. Enter a password in the Password box, and then select OK.
4. Confirm the password in the Reenter Password box, and then select OK.