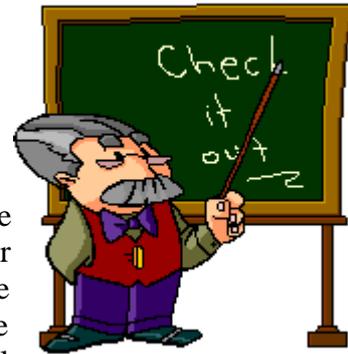




Using Microsoft Excel

Advanced Skills

Excel contains numerous tools that are intended to meet a wide range of requirements. Some of the more specialised tools are useful to people in certain situations while others have value for more general excel users. These exercises will cover some of the advanced features that may be useful for most excel users. These features will include cell naming, cell notes, conditional formatting, data validation and custom number formats.



Naming Cells



In a large spreadsheet, cell referencing and selection may be simplified by making use of names. You can assign a unique name to an individual cell or to a range of cells. This can make it quicker and easier to refer to the cells in charts and functions. Additionally, functions that make use of names are easier to read. For instance, a formula that says `=B4-B5` isn't as clear as a formula that says `=Sales-Expenses`.

Exercise 1. Creating Cell Names

1) Create a new workbook in Excel and create a table like the one below.

	A	B
1	Terry's Monthly Budget	
2	For the month of March	
3	Date	
4		
5	Income	
6	Full time job	\$3,150.00
7	Part time job	\$460.00
8	Total Income	
9		
10	Expenses	
11	New TV	\$850.00
12	Rent	\$510.00
13	Car loan repayments	\$450.00
14	Groceries	\$350.00
15	Petrol	\$140.00
16	Health insurance	\$120.00
17	Eating out	\$100.00
18	Going out on weekends	\$100.00
19	Phone bills	\$90.00
20	Health club membership	\$80.00
21	Internet	\$78.00
22	Other insurance	\$65.00
23	Movie rentals & subscriptions	\$50.00
24	Gas bills	\$20.00
25	Total Expenses	
26		
27	Savings	

- 2) Save the file as *Budget*.
- 3) Click on Cell **A3** which will have the current date.
- 4) Click in the **Names** box which is to the left of the formula bar. Currently it will display the reference of the currently selected cell.
- 5) Type *Date* in the box and press **[Enter]** to create the name for that cell.



- 6) Click in another cell anywhere on the worksheet (or even in another worksheet).
- 7) Click on the dropdown arrow next to the **Names** box. A list of names for the current workbook will appear.



- 8) Click on the *Date* name. Excel will automatically go to, and select that named cell, even if you were on a different sheet.

Note Whenever you select a cell or range of cells that is named, the name will appear in the names box instead of the cell reference.

- 9) Select the cell range **B6:B7** which should contain the cells with the income amounts.
- 10) Click in the **Names** box, type *Income* and press **[Enter]**.

Note If you type a name in the names box without pressing **[Enter]** afterwards, the name might not be created.

- 11) Select the cell range **B11:B24** which should contain the expense figures.
- 12) Click in the **Names** box, type *Expenses* and press **[Enter]**.
- 13) Test the new named ranges by selecting them from the names dropdown list. Each range should become selected when you select its range.
- 14) Click in cell **D8**. This cell will contain the formula to calculate total income.
- 15) Enter the following formula.

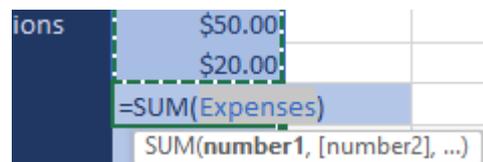
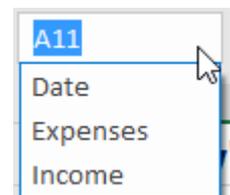
=Sum(Income)

Excel will make use of the range name to add up all of the cells in that range.

- 16) Click in cell **B26** which will contain the total expenses.
- 17) Click on the **Autosum** icon. Σ AutoSum ▾

When the Autosum tool completes the function, it will use the range name you have created instead of the less meaningful cell references.

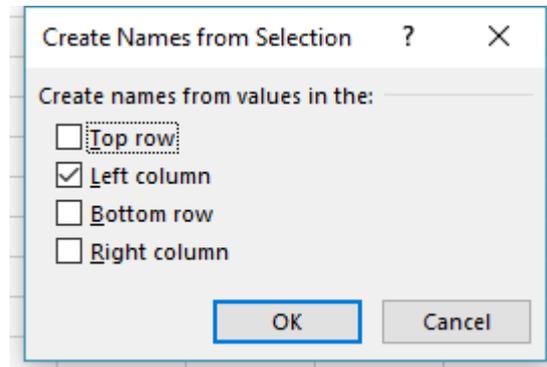
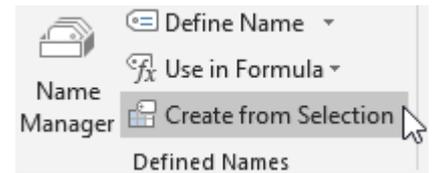
- 18) Press **[Enter]** to complete the function.
- 19) Save the changes to the workbook.



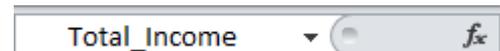
Exercise 2. Creating Names Automatically

If you have a lot of cells you want to name, it is possible to have the names automatically created for you from table headings/labels.

- 1) Select **A6:B8**. These cells contain the income labels and amounts.
- 2) From the **Formulas** tab on the **Ribbon** click the **Create from Selection** icon.



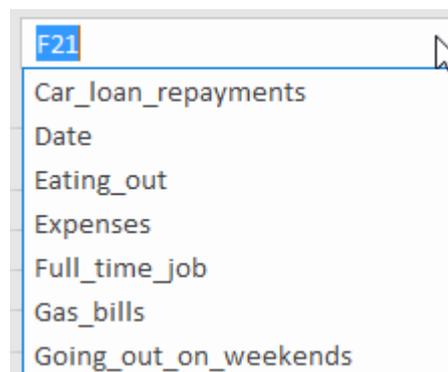
- 3) We want the data cells to be named based on the cells in the left column so make sure the Left column option is selected and then click **OK**.
- 4) Click in cell **B6**, **B7** or **B8**. Look in the **Names** box to see the names that have been created. Notice that names with more than one word have been created using an underscore. E.g. cell **B8** will now have the name *Total_Income*. This is because names cannot contain spaces. Names must also begin with a letter.



Tip If there isn't enough room to show the whole name, you can resize the cell name area by dragging the small dotted symbol between the names box and the formula bar.

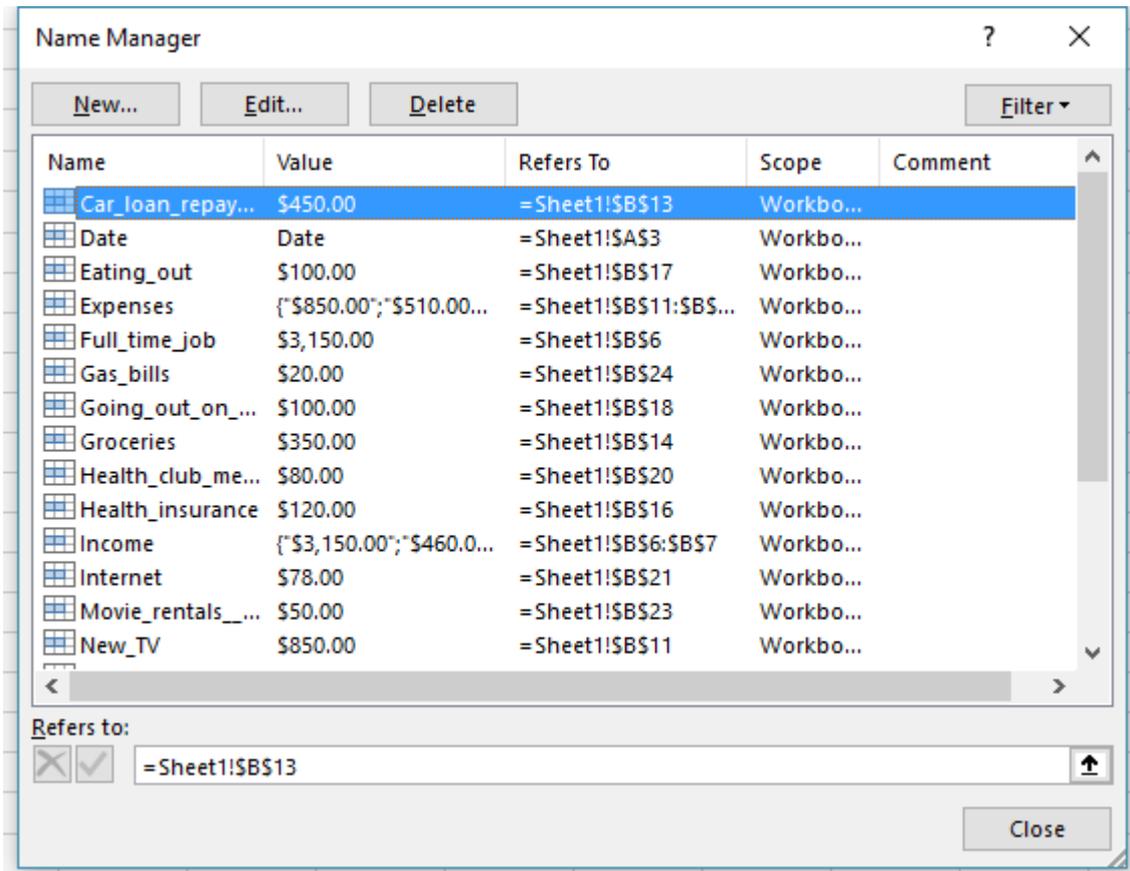


- 5) Select the cell range **A11:B25**. This should contain the expenses data and labels.
- 6) Click  **Create from Selection**.
- 7) Click **OK** to define names for these cells.



We can view, modify or delete the names that have already been created by using the **Name Manager** options.

8) Make sure the **Formulas** tab is still selected and click the **Name Manager** icon. 



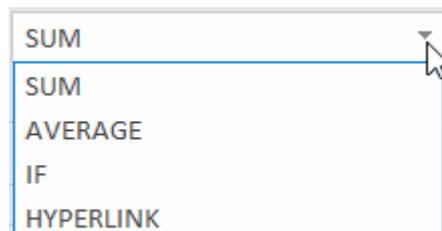
This dialog lists all the names in the current workbook. From here you can delete names and modify the cells that a name refers to.

9) Scroll through the list to see information about each of the names.

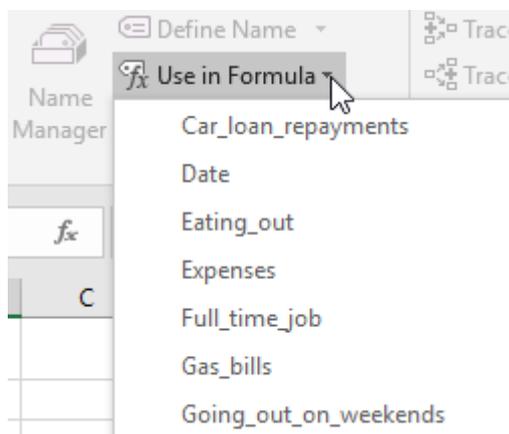
10) Click **Close** to close the dialog without making any changes.

Exercise 3. Pasting Names

When you are creating a formula you can use names as you have already seen. If your workbook has a lot of names, however, then it may be difficult to type a particular name from memory. You can't select names from the names box since when you are editing a formula; the names box changes in to a list of commonly used functions as shown to the right. Instead you can insert a name in to a formula.



- 1) Click in cell **B28**. This is where we will calculate the savings in the budget.
- 2) Type an equals sign = to begin a formula.
- 3) From the **Formulas** tab click Use in Formula ▾. Notice that many of the other ribbon options are not available while you are editing a cell. A list of names you can use in your formula will appear.



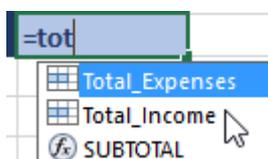
- 4) From the list select *Total_Income*. The name will be inserted in to the formula.
- 5) Type a minus sign. -
- 6) Click Use in Formula ▾.
- 7) Select *Total_Expenses* from the list and click **OK**.

The formula should appear as **=Total_Income-Total_Expenses**

- 8) Press **[Enter]** to complete the formula.

23	Movie rentals & subscriptions	\$50.00
24	Gas bills	\$20.00
25	Total Expenses	\$3,003.00
26		
27	Savings	607

Note When you are editing a formula, a list of names and functions will appear next to where you are typing. You can double-click from the list as you type to insert them in to your formula.



Cell Comments

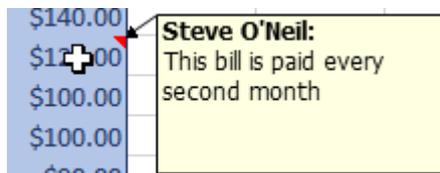
Cell comments can be used to provide handy information to a person who is using your spreadsheet. They can contain tips, and other information that may be helpful. They are indicated by a small red triangle in the corner of the cell. When the mouse is moved over the cell, the note will appear for the user. Comments can be formatted to match the look of the rest of the spreadsheet.

Exercise 4. Creating a Cell Comment

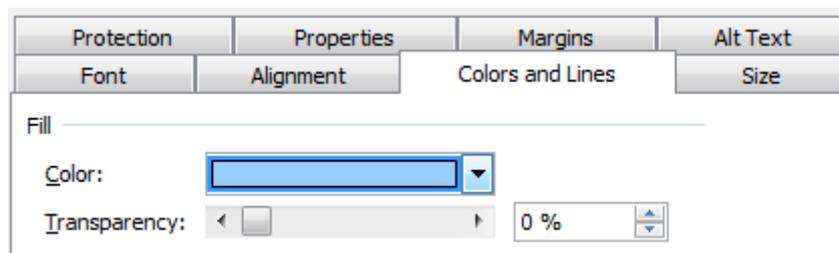
- 1) Select cell **B16**. This is the cell with the *Health Insurance* amount.
- 2) From the **Review** tab on the **Ribbon** click **New Comment** (You can also **right click** on the cell and select  **Insert Comment**). A comment will appear next to the cell with your name on it. The name is taken from the one that was entered when Excel was installed, though this can be changed from Excel's options.
- 3) Enter the text, "*This bill is paid every second month*" as shown below in the comment.



- 4) Click outside the comment to finish editing it. A red mark is visible in the top right corner of cell **B20**.
- 5) Move your mouse over the cell to view the comment.



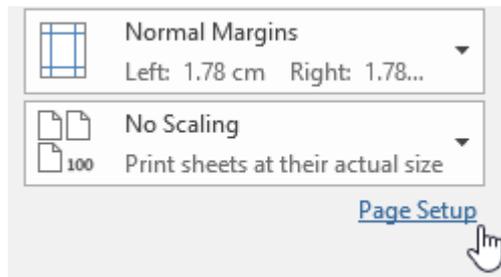
- 6) Click the **Edit Comment** icon on the ribbon (you can also **right click** on the cell and select  **Edit Comment**).
- 7) **Right click** on the border of the comment and select  **Format Comment...**. It is important to make sure your mouse is over the comment's border, otherwise you will only be able to format font options.
- 8) Use the Format options to change the background colour of the comment under the **Colors and Lines** tab.



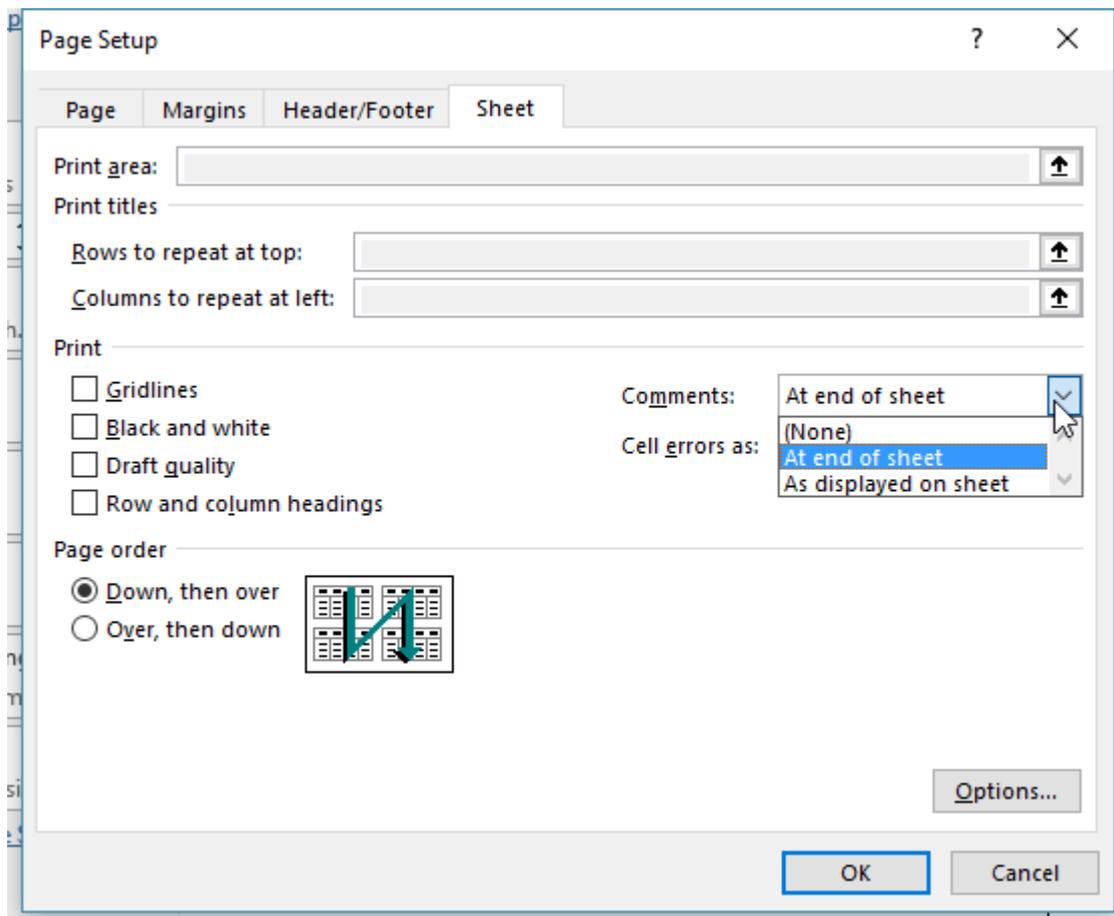
- 9) Make any other formatting changes you like and then click **OK** to close the options.
- 10) Save the changes to the file.

11) Click the **File** tab on the **Ribbon** and then click **Print**.

12) From the bottom of the **Print** options select **Page Setup**.



13) On the **Sheet** tab you will find a **Comments** option. This allows you to choose whether or not comments will appear when you print your sheet.



14) Click **Cancel** and then press the **[Esc]** key to return to your sheet.

Conditional Formatting

Conditional formatting allows you to create rules that will change the formatting in a cell based on the values in the cell. It can be useful for highlighting certain parts of the spreadsheet when certain conditions are met. In our table we will apply conditional formatting to highlight different expenses.

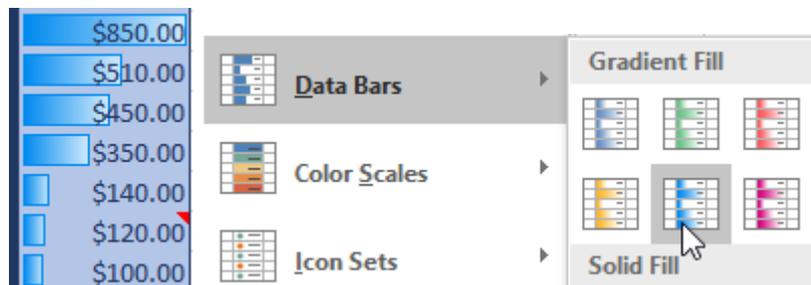
Exercise 5. Applying Conditional Formatting

- 1) From the **Names** drop down list, select *Expenses*. All of the expenses cells should be selected.
- 2) Make sure the Home tab is selected and click **Conditional Formatting**.

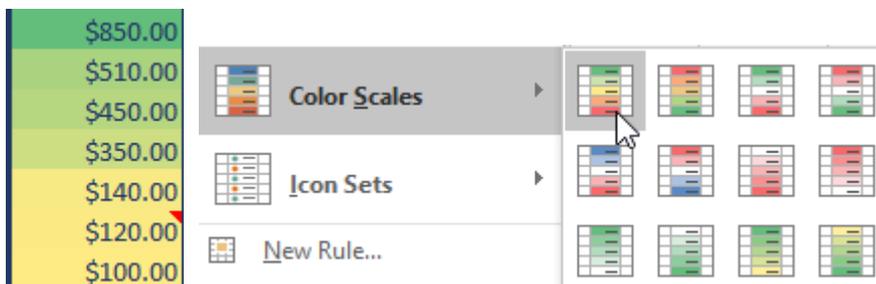


First we'll test out some of the Bars, scales and icon sets.

- 3) Select the **Data Bars** option from the list.
- 4) Move your mouse over some of the data bar options and your spreadsheet will show a preview of how that option looks.



- 5) Select the **Color Scales** option.
- 6) Move your mouse over some of the colour scales options to see how they would look.

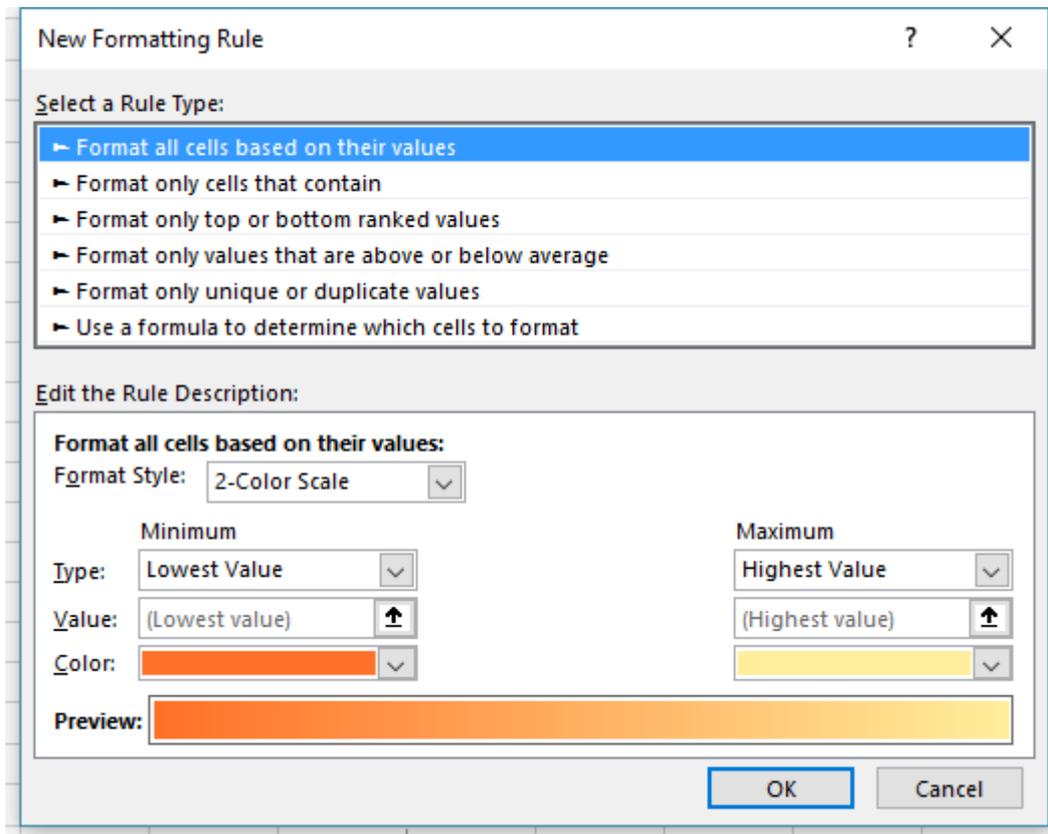


- 7) Select the **Icon Sets** option.
- 8) Move your mouse over some of the icon sets options to see how they would look.



In addition to the built in conditional format sets, you can create your own conditional format rules.

- 9) With the same cells still selected, click **Conditional Formatting** and then select  **New Rule...**



- 10) Under **Select a Rule Type**, make sure it is set to *Format only cells that contain*.

- 11) Change the **Edit the Rule Description** so that it appears as follows.

Format only cells with:

Cell Value 500 900

- 12) Click the **Format...** button. Format options will appear.

- 13) Select a dark blue text colour and click **OK** to return to the Formatting rule options.

- 14) Click **OK** again to complete the new formatting rule. If your cells already had dark blue text you might not notice a difference until we add additional rules.

15) Add three more rules. One to format values from 100 to 399 with green text. Another to format values from 50 to 99 with orange text. Another for format values below 50 with red text. Make sure you still have the same range of cells selected when you create each rule. Examples of each rule can be seen below.

Format only cells with:

Cell Value 100 399

Preview: AaBbCcYyZz

Format only cells with:

Cell Value 50 99

Preview: AaBbCcYyZz

Format only cells with:

Cell Value 50

Preview: AaBbCcYyZz

Each of the cells should now be formatted according to their value.

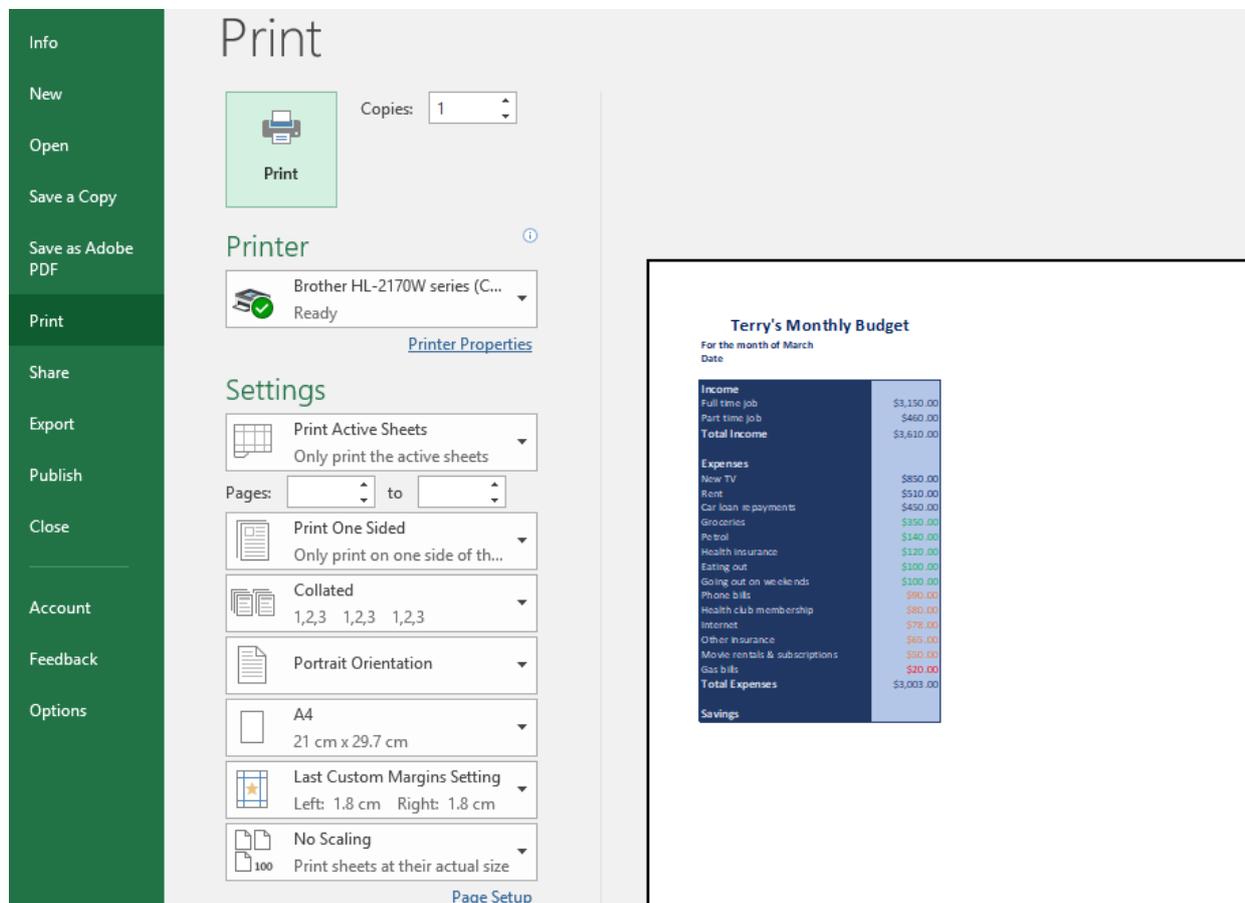
16) Try changing the values in some of the cells to see the formatting change.

17) Save the changes to the file.

10	Expenses	
11	New TV	\$850.00
12	Rent	\$510.00
13	Car loan repayments	\$450.00
14	Groceries	\$350.00
15	Petrol	\$140.00
16	Health insurance	\$120.00
17	Eating out	\$100.00
18	Going out on weekends	\$100.00
19	Phone bills	\$90.00
20	Health club membership	\$80.00
21	Internet	\$78.00
22	Other insurance	\$65.00
23	Movie rentals & subscriptions	\$50.00
24	Gas bills	\$20.00

Exercise 6. Printing Options

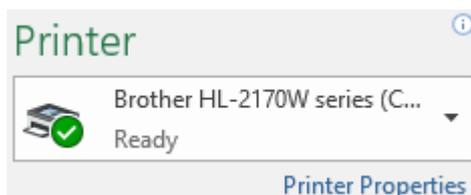
- 1) Select the **File** tab on the **Ribbon** and then select **Print** (or press **[Ctrl] [P]**). Options like the ones below will appear. The right section shows a preview of what your page will look like when printed with the selected options. If your sheet covers more than one page, you can use the buttons at the bottom to select which page is showing in the preview.



- 2) To print with the standard options, select the number of copies required and then click the **Print** button as shown below.

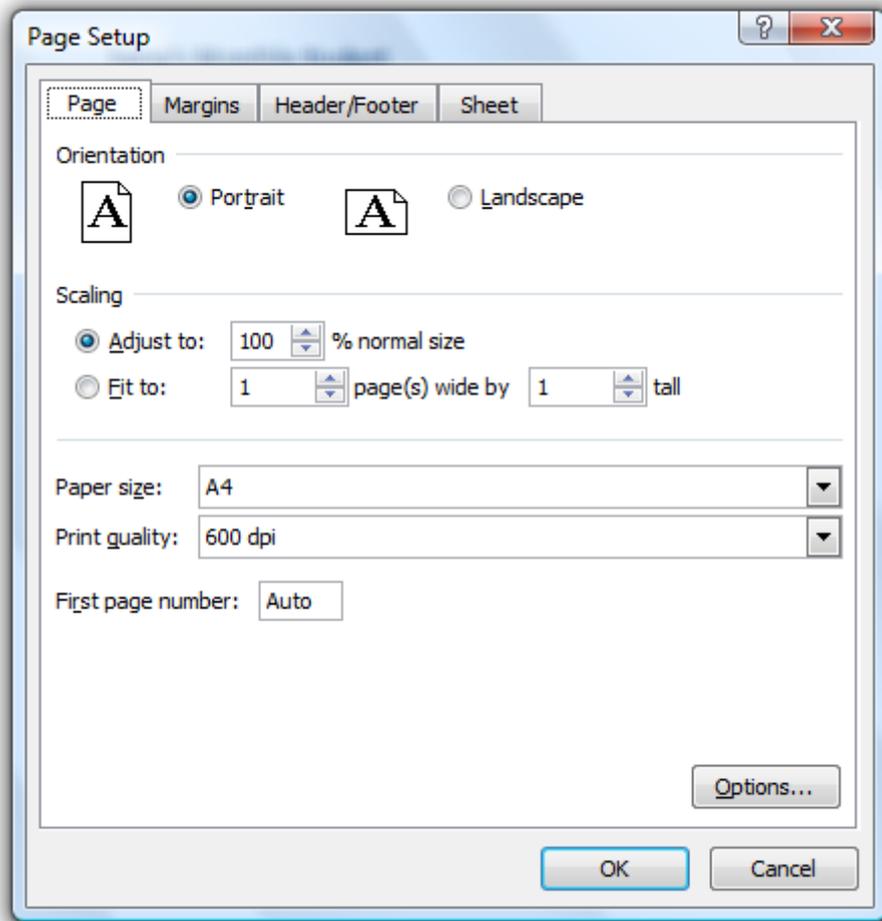


The next option shows the currently selected printer. If you click on it you can select from a list of the printers that are available on your computer. Many of the following options will depend on the printer that is selected. For instance, not all printers are capable of double sided printing.

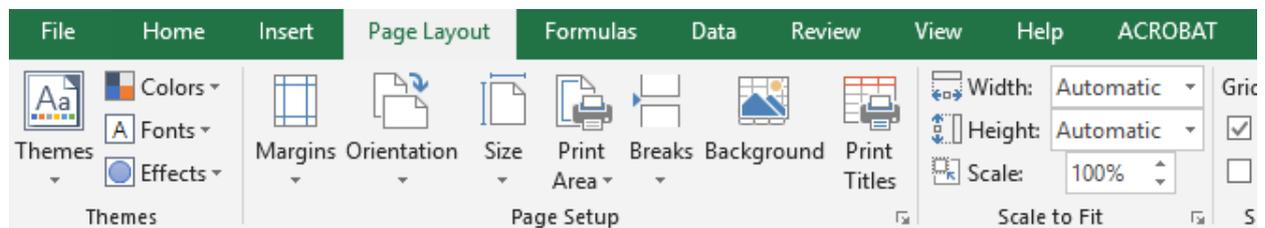


- 3) Select one of the printers in the list and then click **Printer Properties**. This will display some of the options that are specific to the selected printer. These often include options for print quality and paper types.

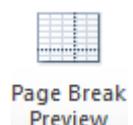
- 4) Click Cancel to close the **Printer Properties** and return to Excel's print options.
- 5) Under the printing options you will see a **Page Setup** link. Click on it to open the Page Setup options.



- 6) Have a look under each tab to see the options available. Click **Cancel** when done.
- 7) Press **[Esc]** to close the Print options and return to your sheet.
- 8) Click the **Print Layout** tab. Many of the options you have just seen are available on the Ribbon under the **Page Layout** tab.



- 9) Open the *Music Charts* file.
- 10) Click the **View** tab.
- 11) Click **Page Break Preview**.



The Page Break Preview view shows blue lines to indicate where the edge will be.

	A	B	C	D
1	ARIA Charts - End Of Year Charts - Top 100 Singles 2017			
2				
3	Position	Title	Artist	Platinum
4	95	Water Under The Bridge	Adele	
5	76	How Far I'll Go	Alessia Cara	
6	87	Scars To Your Beautiful	Alessia Cara	2
7	40	Adore	Amy Shark	3
8	46	Fresh Eyes	Andy Grammer	3
9	81	Moments	Bliss N Eso Featuring Gavin James	1
10	82	24K Magic	Bruno Mars	4
11	25	That's What I Like	Bruno Mars	4
12	41	Slide	Calvin Harris Feat. Frank Ocean & Migos	2
13	28	Feels	Calvin Harris Feat. Pharrell Williams, Katy Perry & Big Sean	3
14	19	Havana	Camila Cabello Feat. Young Thug	4
15	24	Attention	Charlie Puth	3
16	65	No Promises	Cheat Codes Feat. Demi Lovato	2
17	49	Redbone	Childish Gambino	2
18	30	Rockabye	Clean Bandit Feat. Sean Paul & Anne-Marie	4
19	18	Symphony	Clean Bandit Feat. Zara Larsson	3
20	69	2U	David Guetta Feat. Justin Bieber	2
21	34	Waves	Dean Lewis	3
22	43	Sorry Not Sorry	Demi Lovato	1
23	13	I'm the One	DJ Khaled Feat. Justin Bieber, Quavo, Chance the Rapper & Lil Wayne	5
24	29	Wild Thoughts	DJ Khaled Feat. Rihanna & Bryson Tiller	4
25	66	Passionfruit	Drake	1
26	22	New Rules	Dua Lipa	2

Currently the table will be 3 pages wide and just over 3 pages high. We'd like to print so that it is one page wide and 2 pages high. You can make this possible by dragging the dotted page border markers.

12) Drag the dotted line in the middle of the table so that it is to the right of the table content.



The table will now fit on one page. If you scroll down you will see that it no longer goes over 2 pages.

	A	B	C	D
1	ARIA Charts - End Of Year Charts - Top 100 Singles 2017			
2				
3	Position	Title	Artist	Platinum
4	95	Water Under The Bridge	Adele	
5	76	How Far I'll Go	Alessia Cara	
6	87	Scars To Your Beautiful	Alessia Cara	2
7	40	Adore	Amy Shark	3
8	46	Fresh Eyes	Andy Grammer	3

You can check the **Print Preview** in the print options again to make sure.



13) Click the **Normal** icon to return to normal view.



Note When you are in normal view, thin dotted lines will mark the page borders. These lines will often appear after you have viewed print options.

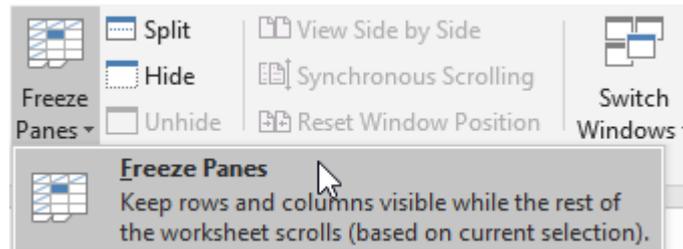
	D	E
17		
	Platinum	

Exercise 7. Freezing Panes

When you have a long table, you might need to keep the headings visible when you scroll downward. This is possible with the Freeze Panes option.

When you choose the Freeze Panes option, Excel will freeze any cells to the top and left of your current selection so that they don't scroll. If you only want to freeze the top rows then make sure the cell you select is in the first column so that there is nothing to the left to freeze.

- 1) Click in the first cell under the headings. (**A4**)
- 2) Select the **View** tab.
- 3) Click the **Freeze Panes** icon and then select **Freeze Panes**.

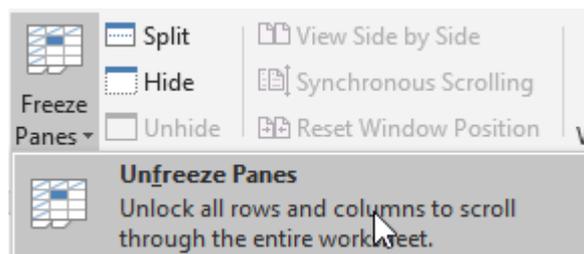


A thin line will appear above the cell you have selected.

- 4) Scroll down the sheet and anything above the line will be frozen in place.

	A	B	C
1	ARIA Charts - End Of Year Charts - Top 100 Singles 2017		
2			
3	Position	Title	Artist
13	28	Feels	Calvin Harris Feat. Pharrell Williams, Katy Perry & Big Sean
14	19	Havana	Camila Cabello Feat. Young Thug
15	24	Attention	Charlie Puth

- 5) Click the **Freeze Panes** icon again and select **Unfreeze Panes**.



Data Validation

If you are creating an Excel spreadsheet that will be used by other people it is important to make it as easy to use as possible, especially if the eventual users will be people who are not skilled at using Excel. Reducing the possibility of errors can make a workbook easier to use and this is where Excel's data validation feature can be useful. Data Validation can be used in the following ways.



- Restrict the data that can be entered in to certain cells.
- Provide a list of accepted values to assist in data entry.
- Provide prompts to assist a user in data entry.
- Produce meaningful error messages when incorrect data has been added.

Exercise 8. Viewing Existing Data

- 1) Open the workbook called *Theatre Ticket*, and close any other workbooks that are open.
- 2) Look through the existing contents of the workbook.

	A	B	C	D	E	F
2						
3						
4						
5	Ticket Number	53				
6						
7	Date	12/04/2006				
8	Time	19:30				
9	Duration	120				
10	Show Title	Fiddler on the Roof				
11	Ticket Type	18 Adult				
12	Seating	1 Main				
13	No. Seats	2				
14	Ticket Total	36				
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						

Ticket Types	
Adult	18
Child	8
Concession	12
Pensioner	10

Seating	
Balcony	0.8
Main	1
Lounge	1.5
Front Row	1.8

Cells **A1:C23** contain the information for generating a ticket.

- 3) Click in the **Names** box and you will see that this range of cells has a name *Print_Area*.

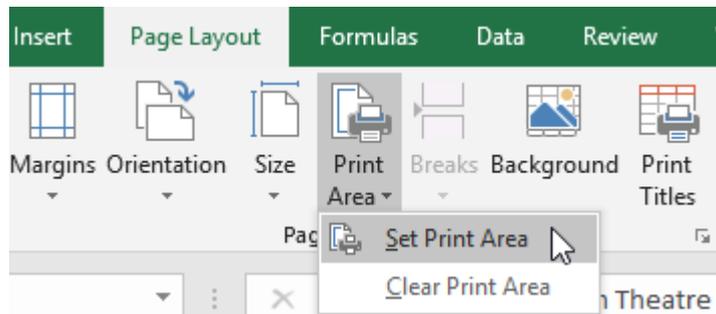


- 4) **Print Preview** the workbook [**Ctrl**] [**P**] and you will see that only these cells will print, due to the settings in **Page Setup**.
- 5) Click **Page Setup** and then click on the **Sheet** tab. You will see that the print area is set to **A1:C23**.

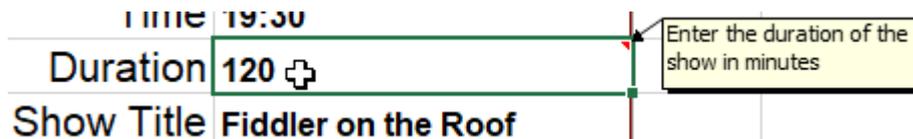


- 6) Press [**Esc**] twice to close the page setup options and close the print options.

Tip You can easily set the print range in a sheet by first selecting the cells, then from the **Page Layout** tab, click the **Print Area** icon and select **Set Print Area**.



- 7) The ranges **E27:F31** and **E34:F38** won't print but both provide information that is used in 2 lookup functions. We can also use some of this information in our data validation. Look at these lookup functions in cells **B11** and **B12**. Notice the comment in cell **B9**.

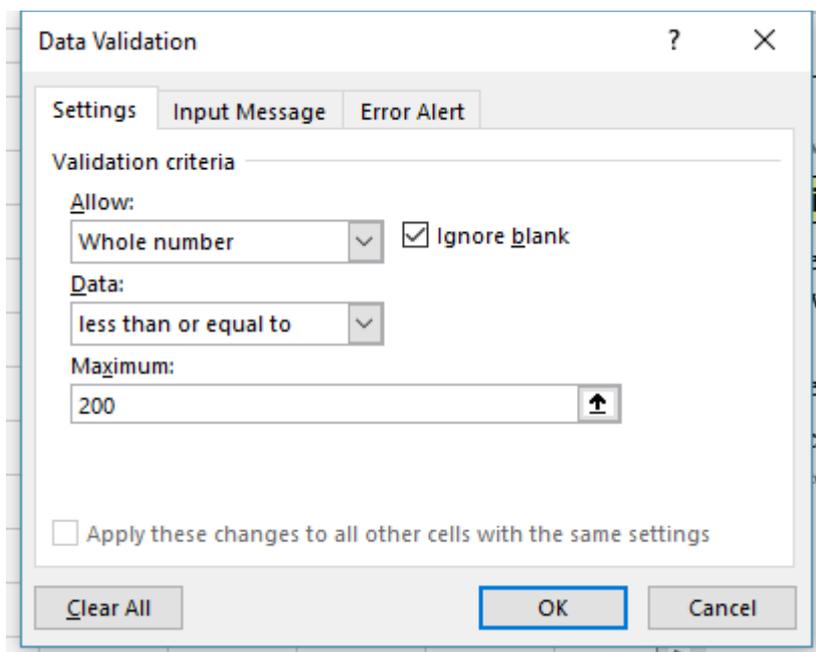


The function in **B11** checks what type of ticket has been entered in **C11** and then uses a **Vlookup** to insert a matching ticket price. The function in **B12** operates in a similar way to check the seat type and then return an amount to multiply the ticket price by. The formula in **B14** calculates the final ticket price.

We are going to use **Data Validation** to both restrict and assist data entry.

Exercise 9. Adding Data Validation Rules

- 1) Select cell **B9**. This cell contains the duration of the show in minutes. Since none of the shows go for longer than 200 minutes, we can put in a validation rule which restricts the data that can be entered.
- 2) Select the **Data** tab on the **Ribbon**.
- 3) Click the **Data Validation** icon (if you click the top part of the icon you won't need to select from the menu of options and will go straight to data validation). A dialog box like the one below will appear. 



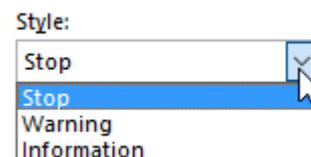
- 4) Change **Allow** to *Whole Number*. This will restrict the cell so that only whole numbers with no decimals can be entered.
- 5) Change **Data** to less than or equal to.
- 6) When the **Maximum** box appears, enter *200* in the box to set that as the upper limit. In addition to entering a number in this box you can also select a cell in your workbook which has a suitable value. The options should now look like the example above.

The **Input Message** tab allows us to enter a popup prompt that will appear when the cell is selected. Since the cell already has a comment, we'll leave the Input message for this cell blank.

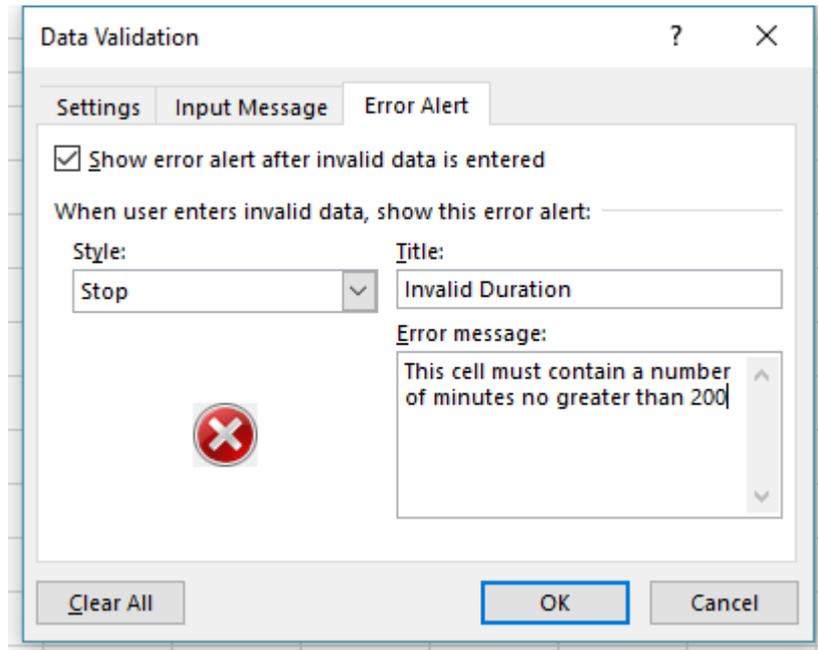
- 7) Click the **Error Alert** tab.

In this tab we can create a custom error message that will appear if the user enters a value not allowed under the **Validation Criteria**. In this case, the error message will appear if a number greater than 200 is entered, so we can create an error message appropriate for that situation.

The **Style** options determine the type of error message that will appear. For instance, a *Stop* style error message will prevent the entry of invalid data while the other types are only warnings.

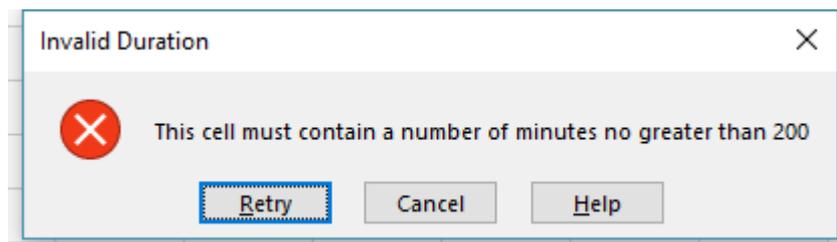


- 8) Make sure the **Style** is set to *Stop*.
- 9) In the **Title** enter *Invalid Duration*.
- 10) For the **Error Message** type, "This cell must contain a number of minutes no greater than 200". The options should look like the example below.



11) Click **OK** to complete the validation rule.

12) Type a number greater than 200 in the cell and press **[Enter]**. Your error message will appear.



13) Click **Cancel** to abort the change.

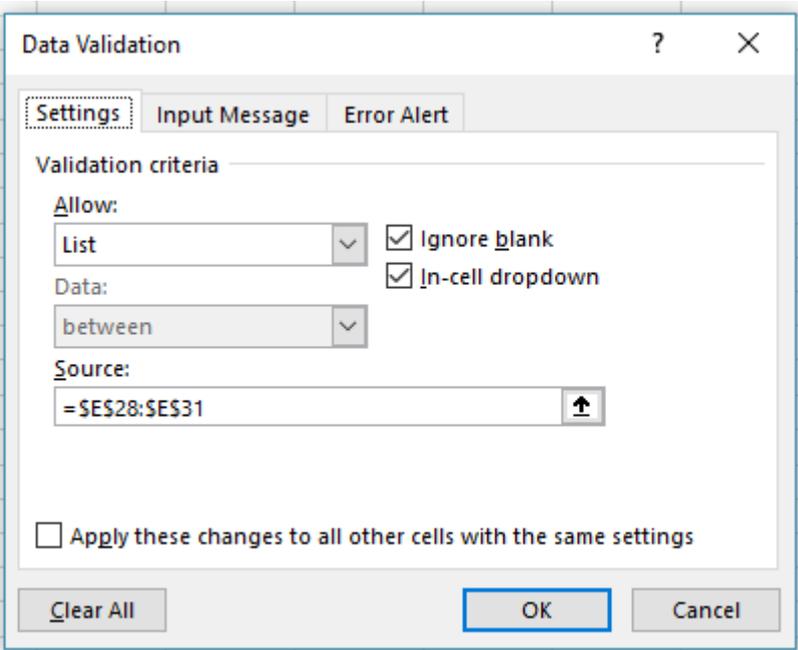
Note We have only created a validation rule for a single cell. If you have several cells that are all going to contain similar data, you can select them all so that you can create a validation rule for them all at the same time.

Exercise 10. Create Data Validation Lists

- 1) Select cell **C11**. This cell should contain the ticket type.
- 2) Click the **Data Validation** icon and make sure the **Settings** tab is showing.
- 3) Change the **Allow** option to *List*.

The **Source** box will appear. This allows us to provide a list of numbers or labels that will be accepted. Anything entered that doesn't match something in our list will produce an error. We can either type in each of the entries separated by a comma or select a range of cells which has an appropriate value in each cell. Since we already have a suitable range of cells being used in the Vlookup function, we can also use it for a data validation list.

- 4) Click in the source box and make sure you can see the *Ticket Types* table in cells **E28:F31** (you can still scroll down when the **Data Validation** options are showing). If you can't see it, you can click the icon  to the right of the source box to temporarily hide the dialog box.
- 5) Select cells **E28:E31**. The cell references will appear in the source box. If you hid the Data Validation Dialog in the previous step, click the icon  to display it again.

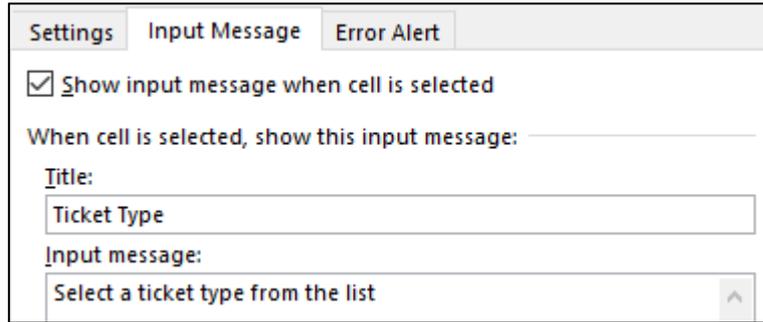


Ticket Types	
Adult	18
Child	8
Concession	12
Pensioner	10

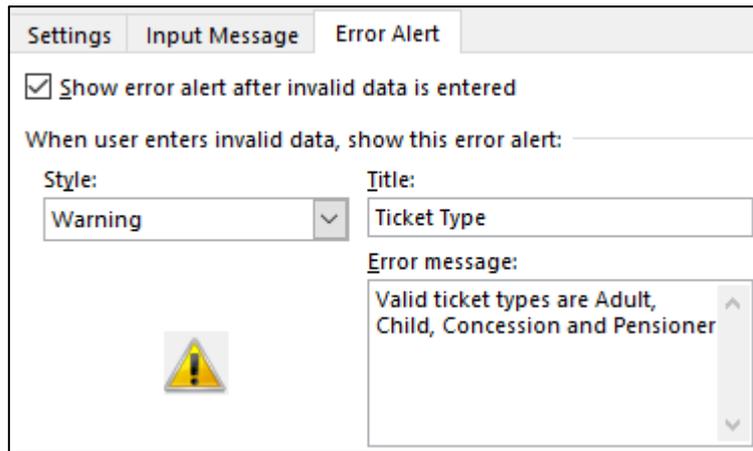
Seating	
Balcony	0.8
Main	1
Lounge	1.5
Front Row	1.8

- 6) Make sure the **In-cell dropdown** option is selected. This will mean that when the cell is selected, a dropdown list of the allowable data will appear to make data entry easier. The options should look like the example above.

7) Change the **Input Message** options so that they look like the example below.

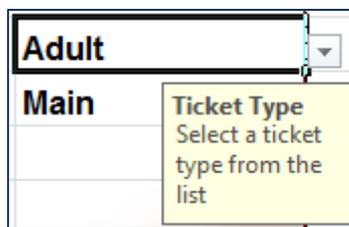


8) Change the **Error Alert** options to look like the example below.



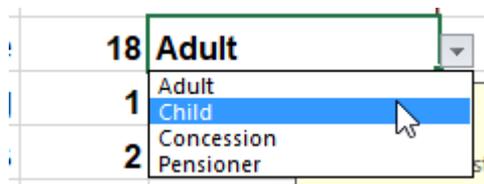
9) Click **OK** to complete the validation rule.

While the cell is selected, your input message will be visible next to the cell.



A dropdown arrow list will also appear next to the cell. If a value is entered in the cell which doesn't match an item in the ticket types list, a warning message will appear.

10) Select a ticket type from the dropdown list. Notice that all of the formulae in the worksheet recalculate based on the changed information.



11) Select **C12** – the Seating type cell.

Create a validation rule with the following options.

The 'Validation Criteria' tab is selected. The 'Allow:' dropdown is set to 'List'. The 'Data:' dropdown is set to 'between'. The 'Source:' field contains the formula '=SE\$35:SE\$38'. The 'Ignore blank' and 'In-cell dropdown' checkboxes are checked.

The 'Input Message' tab is selected. The 'Show input message when cell is selected' checkbox is checked. The 'Title:' field contains 'Seating Type'. The 'Input message:' field contains 'Select a seating type from the list'.

The 'Error Alert' tab is selected. The 'Show error alert after invalid data is entered' checkbox is checked. The 'Style:' dropdown is set to 'Information'. The 'Title:' field contains 'Seating Type'. The 'Error message:' field contains 'Seating type should be Balcony, Main, Lounge or Front Row'.

12) Test the validation rule in cell **C12** by using the list and entering invalid data.

11	Ticket Type	10	Pensioner
12	Seating	0.8	Lounge
13	No. Seats	2	
14	Ticket Total	16	
15			
16			

An input message box is displayed over cell C12 with the text: 'Seating Type Select a seating type from the list'.

Custom Number Formats

In the Exercise on formatting we created some custom number formats. In the following exercises we're going to create some additional custom number formats using the ticket workbook.

Exercise 11. Creating Custom Date and Time Formats

- 1) Select the date in cell **B7**.
- 2) Select Press **[Ctrl] [1]** shortcut.
- 3) Make sure the **Number** tab is selected.
- 4) Select *Custom* from the **Category** list.
- 5) Under **Type**, delete whatever is currently in there. The list below that contains several existing custom formats and will also keep any that you create so they can be reused later.
- 6) Enter the following custom date code.

Type:
dd mmm yy

- 7) Click **OK** to apply the custom format. The date in the cell will now take on the new format.

Date 12 Apr 06

- 8) Select **B8**, the time cell.
- 9) Create the following custom time format for that cell.

Type:
h:mm am/pm

The format should make the time in the cell look like the following example.

7:30 PM

Exercise 12. Creating Custom Number Formats

Remember that when you create a custom number format, it is possible to create four different formats at once. One for positive numbers, one for negative numbers, one for zero values and another for text values. Each section in the format is separated by a semi colon.

According to Excel's online help, if you specify only two sections, the first is used for positive numbers and zeros, and the second is used for negative numbers. If you specify only one section, it is used for all numbers. If you skip a section, include the ending semicolon for that section.

E.g.

Format for positive numbers	Format for zeros
#,###.00_	;0.00;"sales "@
Format for negative numbers	Format for text
[Red] (#,###.00);	

As you saw in the date and time formats, several symbols can be used in number formats to represent certain types of formats. Additionally, there are a couple of other guidelines to remember.

- Any text that is to appear as part of the format needs to be enclosed in quotation marks.
- Any colours that will be included as part of the format need to be enclosed in square brackets. []

- 1) Select **B9**, the cell with the show's duration.
- 2) Create the following custom format.

0 "Minutes"

The contents of the cell should now show a number (at least one digit) followed by the word Minutes. E.g. **120 Minutes**

- 3) Select **B11**, the ticket type amount cell.
- 4) Create the following custom currency format.

\$0

- 5) Select cell **B14**, the ticket price cell and enter the following custom format.

#,##0.00;[red]"Error";"0"

This format will result in positive numbers having a dollar sign with two decimal places. For negative numbers, the text *Error* will appear in red (since the total shouldn't result in a negative number unless there has been a mistake). If the value of the cell is zero a 0 will appear.

- 6) Change the number of seats in **B13** to test the format for the ticket total.

- 7) Save your workbook and try these custom formats on a blank worksheet and enter data in to the cells to test the formats.

Format	Suggested test data
"Remaining balance is" \$#,##0.00	Any number
h:mm AM/PM "-" dd mmmm yyyy	-now() ← function to calculate current date/time
\$0.00;[red]\$0.00;"Zero";[green]@"	+ and – numbers, 0, text
\$* #,##0.00 " Debit";[Red]\$* (#,##0.00)" Credit"	+ and – numbers
"You owe" 0 "dollars"; "You owe" -0 "dollars"	Any number

Tip Custom number formats can also be used in some other applications. For instance, they are very useful for formatting data in Microsoft Access databases.