	I	J
2	**The Rules**	
3		
4	**Age**	
5	Minimum age	17
6	Maximum age	100
7		
8	**Date**	
9	today or later	
10		
11	**Names**	
12	Min length	2
13	Max length	20
14		
15	**Price**	
16	Minimum	10.00
17	Maximum	100.00
18		
19	**Discounts**	
20	Minimum price for discount	10.00
21		
22	**Valid Groups**	
23		
24	**Group**	
25	Yoga	
26	Aerobics	
27	Weight Training	
28	Aromatherapy	
29	Massage	
30	Aquarobics	

Lesson 2-7: Validate numerical data

In the next lessons, we'll explore the power of Excel's data validation features. You can prevent a huge number of data entry errors by trapping them at source and then politely informing your users that they have made a mistake.

1 Open *Health Club Bookings-1* from your sample files folder.

This worksheet manages all of the treatments sold in a health club.

There are several rules that must not be broken when entering data (see sidebar). These types of rules are often referred to as *business rules* when designing data systems.

At the moment the worksheet doesn't police these rules itself, it relies upon all personnel understanding and applying them.

	A	B	C	D	E	F	G
1	**Health Club Bookings**						
2							
3	**Period**	**From:**					
4		**To:**					
5							
6	**Date**	**Name**	**Age**	**Group**	**Price**	**Discount**	**Total**
7	05-Apr-09	Depp, Julia	22	Aerobics	22.00	12%	19.36
8	01-Apr-09	Nicholson, Johnny	23	Weight Training	9.00		9.00
9	12-Apr-09	Dickens, Bob	18	Aromatherapy	23.00	10%	20.70
10	15-Apr-09	Oliver, Jamie	38	Weight Training	23.00	15%	19.55

2 Apply the Age rule (see sidebar) to column C.

1. Select all of column C by clicking the column header.

We select the entire column when we want to add data validation to every cell in the column.

2. Click: Data→Data Tools→Data Validation.

The data validation dialog appears.

3. Click the *Settings* tab.

At the moment Excel is allowing *Any value*. This is the default, meaning that the user is free to type anything at all into any cell in column C.

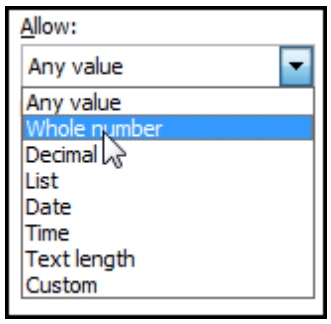
4. Choose *Whole number* from the *Allow* drop-down list.

Whole number will not allow the user to enter decimal values such as 22.8. As ages cannot have decimal places this is a good validation rule for a column containing age data.

Criteria now appear that are relevant to whole numbers.

5. Click in the *Data* box and Select:

between.



Health Club Bookings-1

note

Absolute and relative cell references

Absolute and relative cell references are covered in depth in Lesson 3-12 of the *Essential Skills* book in this series.

If you are unsure about how to use absolute and relative cell references you can download this lesson, and watch the matching video, free of charge at our website.

1. Go to:

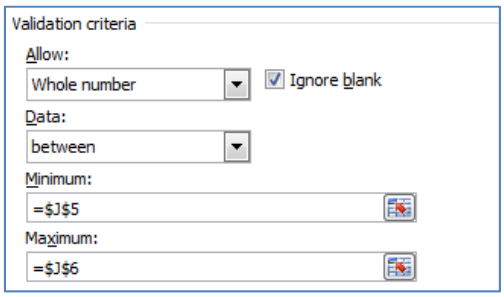
www.learnmicrosoftexcel.com.

2. Click: *Free Tutorials With Video* (on the top menu bar).

You will then be able to view the video and download the lesson in PDF format.

6. Click in the *Minimum* box and then click on cell J5.
7. Make J5 into an absolute reference (see sidebar).
8. Click in the *Maximum* box and then click on cell J6.
9. Make J6 into an absolute reference.

   The dialog should now look like this:



10. Click OK.

3 Test the data validation.

Data validation will now ensure that any new values entered into column C are valid. It will not change any existing invalid values in the column.

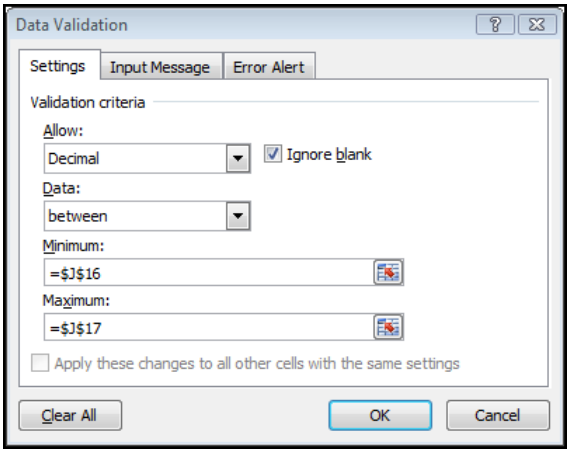
Enter an invalid value (such as an age of 101 or 15) into any cell in column C.

A rather unfriendly error message appears advising that an error has occurred:

In the next lesson we'll discover how to make this message a little friendlier.

4 Test the data validation.

Use the same technique to apply the business rule: *Prices must be between 10.00 and 100.00* (stated in cells I16:J17) to column E.



5 Save your work as *Health Club Bookings-2*.