

| | 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 | 20.00 |
| 21 | | |

Lesson 2-7: Validate numerical data

In the next lessons you'll explore the power of Excel's data validation features. You can prevent a huge number of data entry errors by catching them when they are entered 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 but 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-14 | Depp, Julia | 22 | Aerobics | 22.00 | 12% | 19.36 |
| 8 | 01-Apr-14 | Nicholson, Johnny | 23 | Weight Training | 9.00 | | 9.00 |
| 9 | 12-Apr-14 | Dickens, Bob | 18 | Aromatherapy | 23.00 | 10% | 20.70 |
| 10 | 15-Apr-14 | 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.



You need to select the entire column when you 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.

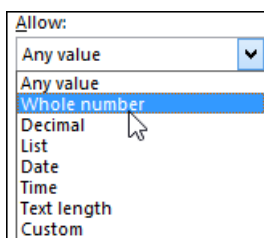
Whole number will not allow the user to enter decimal values such as 22.8. As ages cannot have decimal places this is a good validation rule for a column containing age data.

Criteria now appear that are relevant to whole numbers.

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

| | |
|--------------|---------|
| Data: | between |
|--------------|---------|

6. *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 watch this video lesson free of charge at our website.

1. Go to:

www.ExcelCentral.com.

2. Click the *Excel 2013* and *Essential Skills* tabs.

3. Click: *Session Three: Taking Your Skills to the Next Level*.

4. Click:

Lesson 3-12: Understand absolute and relative cell references.

You will then be able to watch the video lesson.

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

The dialog should now look like this:

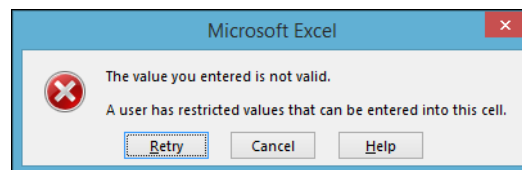
11. Click OK.

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 you'll discover how to make this message a little friendlier.

4 Add another 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.

Notice that cell E8 now violates the validation criteria. When you apply a new validation rule to a cell any values that already exist will remain, without any error warnings. It will, however, be impossible to change the value to another that violates the validation criteria.

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