A good video explaining the different types of *t-test* clearly.

<http://www.youtube.com/watch?v=BlS11D2VL_U&feature=related>

The difference between the various t tests is as follows:

* Excel asks for the number of tails. If you can predict the direction of the test it is a one tailed. If you are not sure if there will be a difference it is a two tailed test.
* In Excel there are 3 types of t-test.

If the means come from the **same** group under different conditions it is called a related or **paired t-test** e.g. reaction time of people in morning and reaction time of same people in the evening. This is type 1 in Excel.

* Type 2: the means come from different groups but the two groups have equal variants.
* Type 3: the means come from different groups and they have unequal variants.
* The t- test in Excel gives the probability (p value) and if p<0.05 the difference is significant.