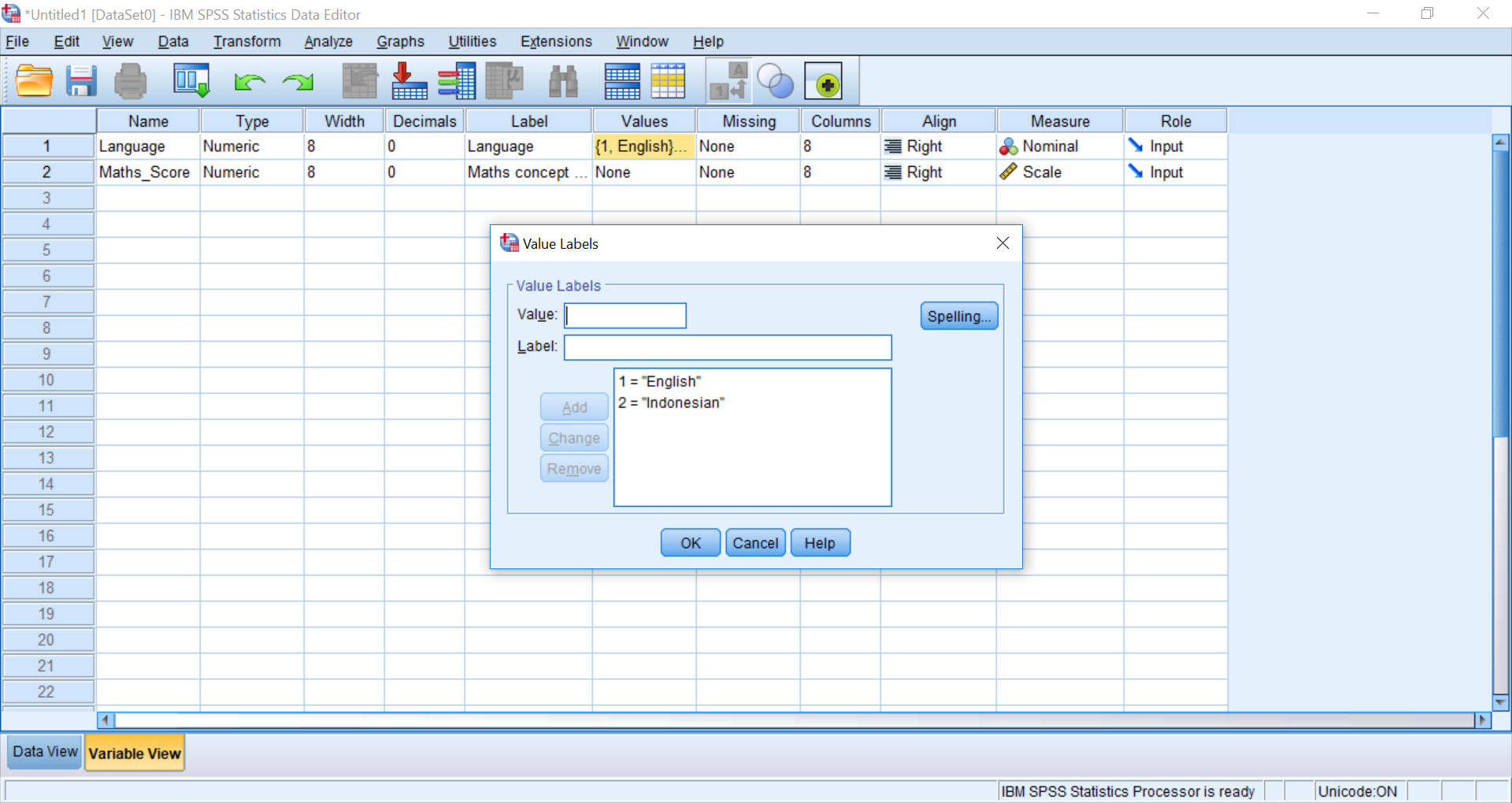
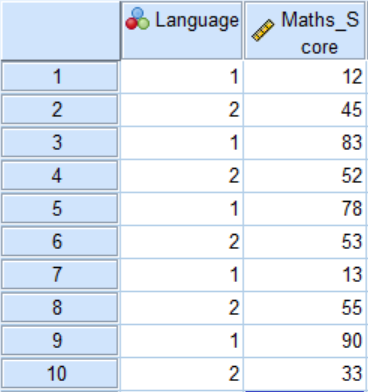
**Exercise 2 Answer Sheet**

1a) Design: This is a between-subjects or independent (unrelated) design, as you are comparing the performance of two groups of different children.

Variables: IV – Language (Nominal Level with 2 groups: English v Indonesian); DV – mathematical concepts score (Interval Scale Level, ranging 0-100)

1b) The SPSS File might look something like this (don’t worry if you’ve given your variables different names and labels… as long as it makes sense):



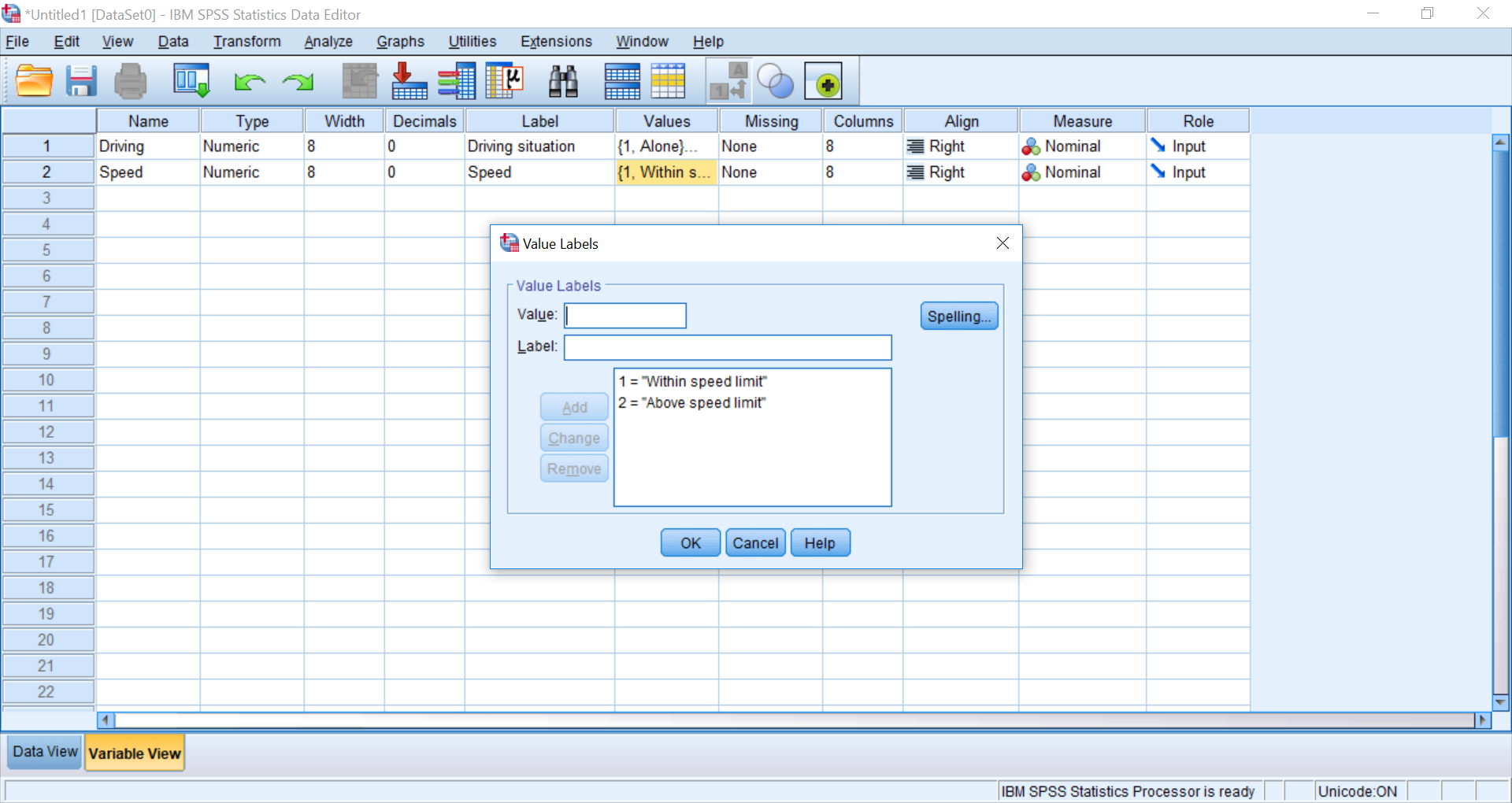


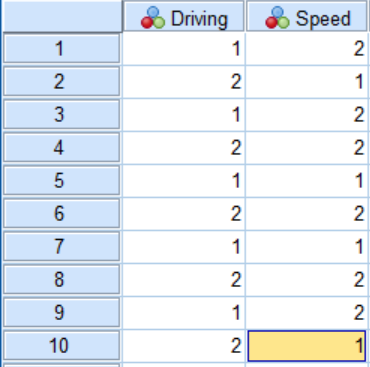
1c) Data entered into the Language Variable should only be given a value of 1 or 2 (or whatever numbers you chose to represent your two groups: English or Indonesian). Scores entered into the Maths\_Score column can be given a value of 0-100.

2a) Design: This is an independent or between-subjects (unrelated) design, as you are comparing the driving speeds of two different groups (those driving alone, or those with passengers)

Variables: IV – Driving Situation (Nominal Level with 2 groups: Alone v Passengers); DV – Speed (Nominal Level with 2 groups: Within or Above the speed limit)

2b) The SPSS File might look something like this (don’t worry if you’ve given your variables different names and labels… as long as it makes sense):



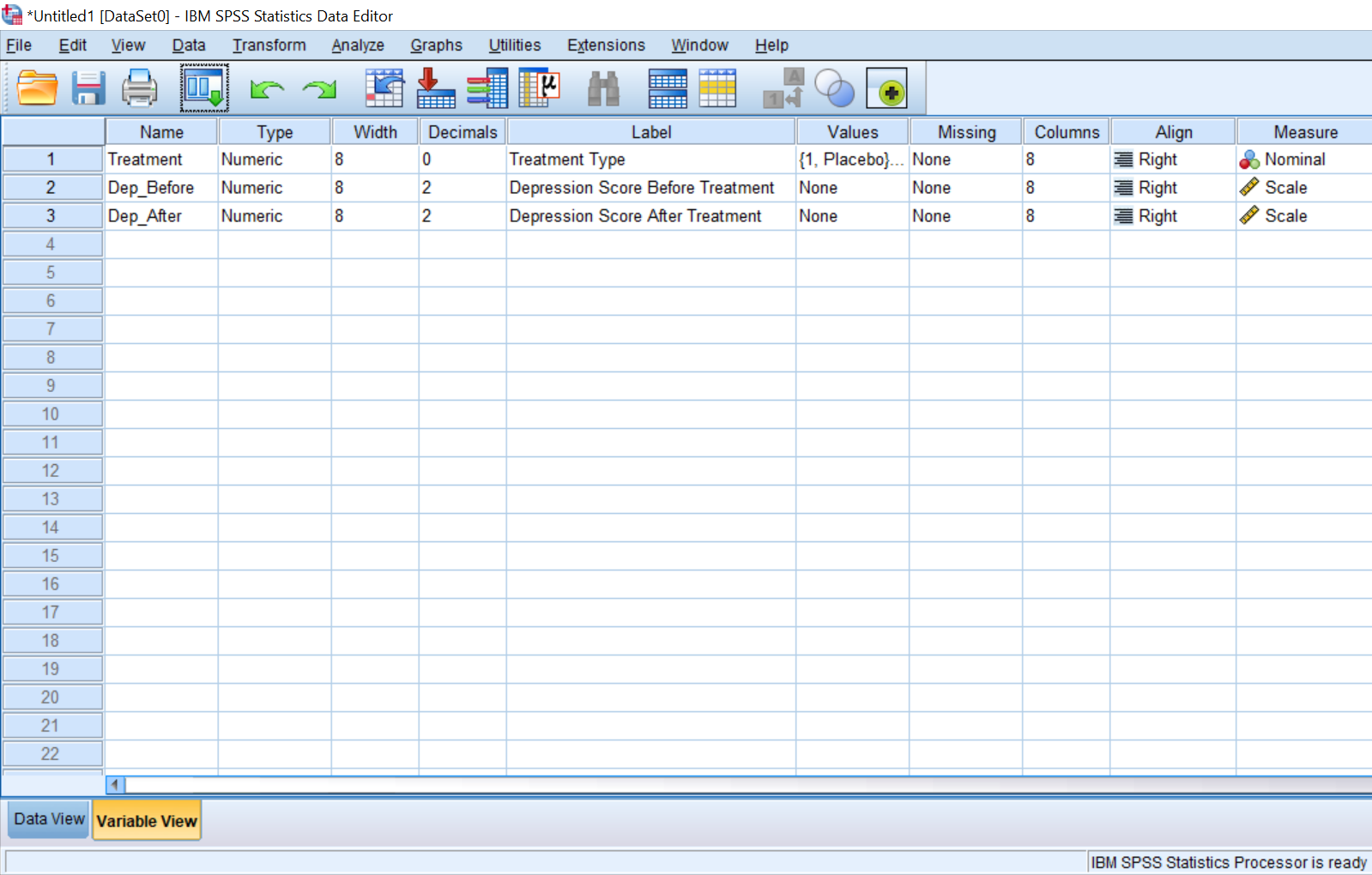


2c) Data entered for both variables should be nominal, which means the columns should only contain the numbers that represent the different two groups. In the example above, we have used 1=Alone; 2=Passenger; and 1=Within speed limit; 2=Above speed limit, so we would only enter the values 1 and 2 into the two columns of data.

3a) Design: This is a mixed design. This is because it contains both a between-subjects, independent groups variable (as you are comparing the performance of two groups of participants: treatment or placebo); and a repeated-measures variable (comparing performance of all participants before and after treatment).

Variables: IV1 – Treatment Type (Nominal Level with 2 conditions: Placebo v Treatment); IV2 – Time (Nominal Level with 2 conditions: Before v After treatment); DV – Depression Score (Interval Scale Level, ranging 0-50)

3b) The SPSS File might look something like this:

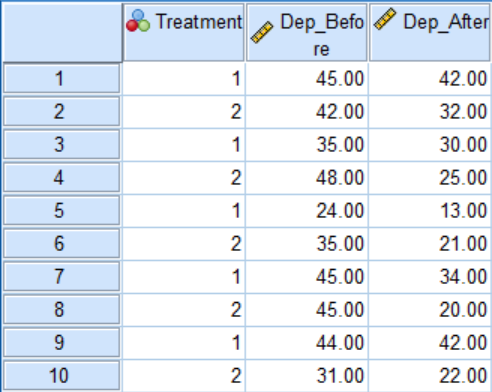


Remember, one row should contain all of the data collected from one participant.

To achieve this, Between Groups IVs (like Treatment Type) are represented in one column, containing the numbers that represent the different conditions for each variable.

When entering data for Repeated Measures variables, you need a column for each level of the grouping variable. In this case, we need one column for Before Treatment; and one for After Treatment.

The DV scores that are collected in each condition are entered directly into the columns representing the levels of the Repeated Measures Variable.



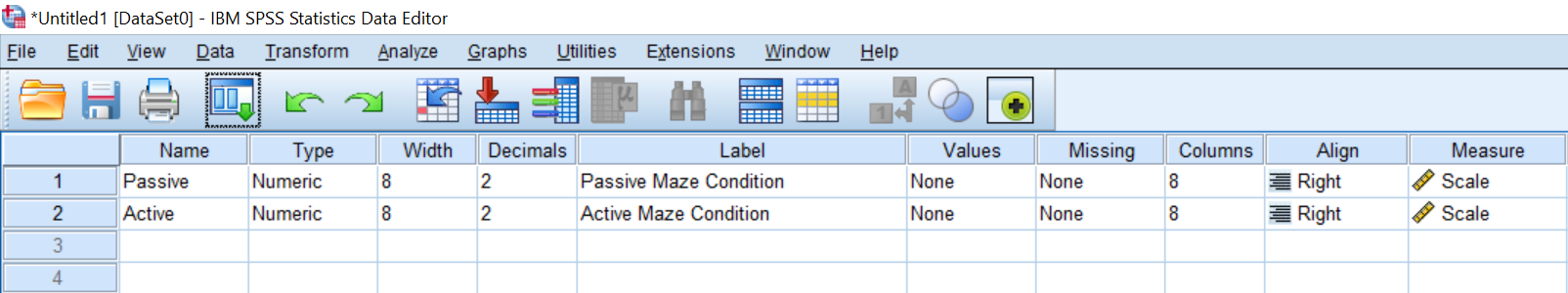
3c) In the example above, we have used 1=Placebo; 2=Treatment, so we would only enter the values 1 and 2 into this column.

Scores entered into the other two columns (representing depression scores before treatment vs depression scores after treatment) can be given a value of 0-50.

4a) Design: This is a within-subjects or repeated measures design. This is because it contains one repeated measures variable, as you are comparing how the same participants perform in two conditions.

Variables: IV1 – Learning Type (Nominal Level with 2 conditions: Passive v Active); DV – Time to Learn Maze (Interval Scale Level, measured in minutes)

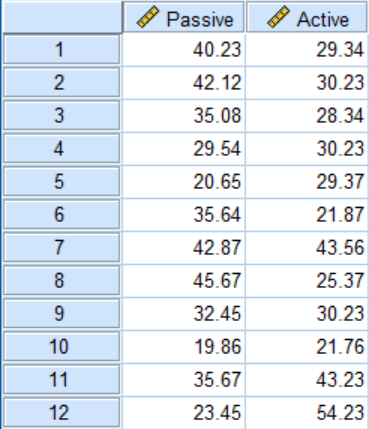
4b) The SPSS File might look something like this:



Remember, one row should contain all of the data collected from one participant.

As we have a Repeated Measures variables, one column is needed for each level of the grouping variable. In this case, we need one column for the Passive learning condition; and one for Active learning condition.

The DV scores that are collected in each condition are entered directly into the columns.

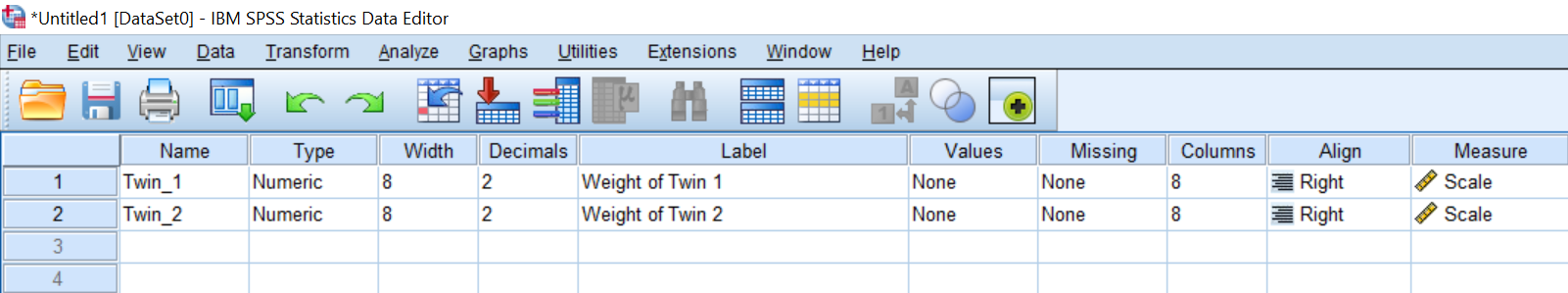


4c) The data in the two columns should be the raw scores for the DVs in each condition (in minutes).

5a) Design: This is a paired-samples design; as we need to keep the pairs of scores linked. Despite comparing the weights of different individuals, it is important to keep the twin-pairs linked (it wouldn’t make sense to compare the twin from one family with the twin from another). As such, we treat it similarly to a repeated measures design.

Variables: Paired Samples Variable – Twin 1 vs Twin 2 (Nominal Level); DV – weight

5b) The SPSS File might look something like this:

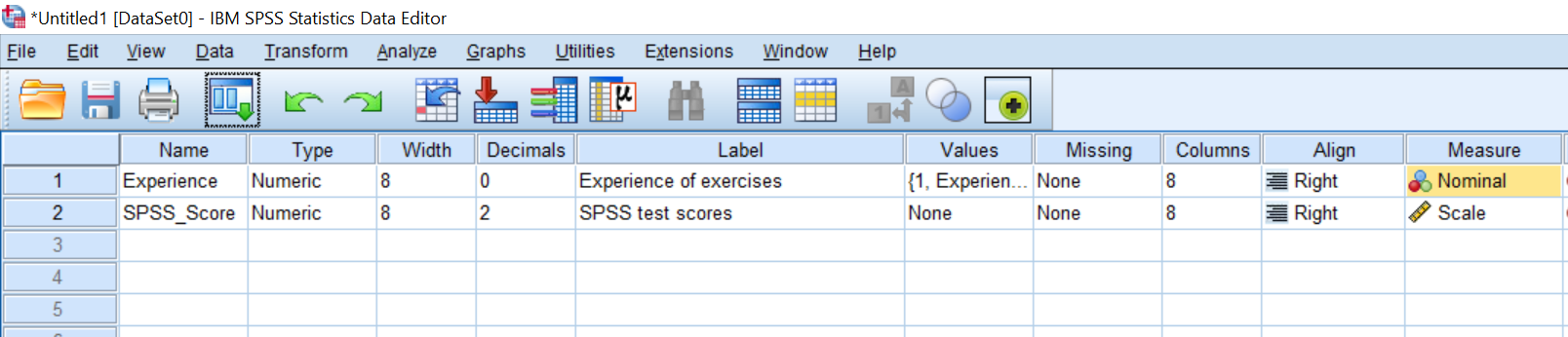


5c) The weights of each twin pair are entered into the two columns. Each pair on one row.

6a) Design: This is a between-subjects, independent design, as you are comparing the test scores of two groups (students who have done exercises like this; and students who haven’t).

Variables: IV - Experience (Nominal with two groups: students who have experience with practice exercises; and students who have not); DV – SPSS test scores

6b) The SPSS File might look something like this:



6c) Data entered into the Experience column should only be given a value of 1 or 2 (or whatever numbers you chose to represent your two groups: Experience vs No experience). Scores entered into the SPSS\_Score column can be given a reasonable test score value… perhaps a percentage between 0-100.