

Data Converter Directions

Overview

In order to calculate traditional reliability estimates, data first must be in a format of correct and incorrect. Most data from closed ended items comes in a raw format related to the choices the item provides. The task is to convert these data to a format of correct or incorrect.

The Data Converter spreadsheet takes data that are in a raw answer format (A,B,C,D or 1,2,3,4) and convert it to a format of correct/incorrect (0,1).

For example, if you have items that allow a student to respond with one of five choices, say A, B, C, D, or E, the Data Converter will change the data to zero for incorrect responses and one for correct responses. An item that has a correct response of C would convert a response of C to one and responses of A, B, D, and E to zero.

Directions

To use the spreadsheet, data must be provided that has unique student information by row and data for each item in columns. The table below provides a brief example.

	Question 1	Question 2	Question 3
Student 1	A	C	C
Student 2	B	C	D
Student 3	D	A	E

Each row is a unique student and their response of A, B, C, or D to three items. With the Data Converter, the correct response is provided for each question and the students' responses are converted to correct or incorrect. For example, correct responses of A for question 1, C for question 2, and D for question 3 would be converted to the table below.

	Question 1	Question 2	Question 3
Student 1	1	1	0
Student 2	0	1	1
Student 3	0	0	0

Exercise

1. Locate the data file titled Student Data – Set A.
2. In this data set you will find ten students with ten items. The ten items had four choices of A, B, C, or D.
3. Open the Data Converter spreadsheet which is an Excel file.
4. We want to copy the student data into the Data Converter. Within the Student Data – Set A file, select the data from B2 to K11. Edit → Copy.
5. Switch to the Data Converter. Click in C4. Edit → Paste Special → Values. This will paste only the data into the cells. You should see:

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2		ANSWER										
3			Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10
4		Student 1	a	c	d	b	a	c	a	a	d	c
5		Student 2	a	c	d	a	b	b	b	c	d	a
6		Student 3	a	c	d	a	c	b	a	a	d	a
7		Student 4	a	a	d	c	b	b	a	b	c	a
8		Student 5	a	b	d	a	c	b	b	c	d	a
9		Student 6	a	c	d	d	c	b	c	b	d	b
10		Student 7	a	c	d	a	b	b	c	b	d	b
11		Student 8	a	d	d	c	b	b	d	c	c	a
12		Student 9	a	c	d	c	b	b	b	b	d	a
13		Student 10	d	c	a	c	c	b	b	b	b	a
14		Student 11										

6. In the Data Converter, insert the correct responses to the questions into the Yellow area above the questions where it says ANSWER. The answers for these ten items are:

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
a	c	D	a	B	b	b	c	d	a

7. Click on the tab at the bottom of the spreadsheet that says “New Data.” The data has been transformed to zeros and ones based on the correct response for the question. You should see:

	A	B	C	D	E	F	G	H	I	J	K	L
1	When Copying to other worksheet, use Paste Special - Values											
2		ANSWER	a	c	d	a	b	b	b	c	d	a
3			Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10
4		Student 1	1	1	1	0	0	0	0	0	1	0
5		Student 2	1	1	1	1	1	1	1	1	1	1
6		Student 3	1	1	1	1	0	1	0	0	1	1
7		Student 4	1	0	1	0	1	1	0	0	0	1
8		Student 5	1	0	1	1	0	1	1	1	1	1
9		Student 6	1	1	1	0	0	1	0	0	1	0
10		Student 7	1	1	1	1	1	1	0	0	1	0
11		Student 8	1	0	1	0	1	1	0	1	0	1
12		Student 9	1	1	1	0	1	1	1	0	1	1
13		Student 10	0	1	0	0	0	1	1	0	0	1