

CODEXBY Macro Instructions

What is it?

This macro will quickly code a continuous X variable in the Minitab Worksheet in either quartiles or halves. You will need to specify 2 columns, one where the X variable data is stored, and one where the coded data will be placed. You need continuous X data for this macro.

How do I install it?

To install the macro, locate the Minitab root directory (MTBWIN), which is usually found here C: \ Program Files \ MTBWIN. Within the Minitab root directory, there is a directory of macros (MTBWIN \ Macros). Place a copy of the CODEXBY.MAC file into that directory. You are now ready to run the macro.

How do I run the CODEXBY Macro?

Start Minitab. Be certain to activate the session window (Click in it or type Control-M). Once the session window is on top and active, select the Editor menu. There you should see either “Enable Command Language” or “Enable Commands”, depending upon whether you are using version 12 or 13 of Minitab respectively. Select that choice so that a checkmark appears when you go back to the editor menu. You should see “**MTB>**” at the bottom of the session window.

You are now ready to run the macro.

At the “**MTB>**” prompt, type “ **%Codexby C1 C2** ” without the quotes. See the example that follows. For a single X variable with 25 rows in column C3, you will have the following in your session window after typing in the proper entries:

```
MTB>%Codexby C3 C4
```

Upon entering the command, the macro will run. You will get the following output:

```
Executing from file: C:\MTBWIN\MACROS\codexby.MAC
```

```
This macro codes an X input variable by either quartiles or median split
```

```
Macro is running ... please wait
```

```
Quartile coding assumed, since none was specified and N > 15
```

Quartile	Count	Start	End
1st	6	-2.53859	-0.75300
2nd	6	-0.75300	-0.19694
3rd	6	-0.19694	0.62217
4th	7	0.62217	2.20537

```
CodeX contains coded values of C3 by quartiles.
```

```
Coding macro execution completed.
```

```
MTB >
```

Options & Precautions

Quartile Coding vs. Median Split Coding:

There are 2 coding schemes possible with this macro, quartile coding, and median split coding.

The default method is chosen based upon the number of rows in the X variable input. If the number of rows exceeds 15, quartile coding will be used. If the number of rows is 15 or less, then median split coding will be assumed. However, these can be over-ridden if you so choose, see below.

Forced Quartile Coding option – The macro also allows you to force the selection to quartile coding if so desired. You do this by ending the first command with semi-colon, which tells Minitab that at least one subcommand will follow. Please note the syntax below, which is that the subcommand ends with a period:

```
MTB>>%codexby C3 C4;  
SUBC>quartile.
```

You can type the word “median” in place of “quartile” to force median-split coding.
A sample of the worksheet with quartile coding exists on the following pages.

Precautions:

If running this macro more than once, you need to re-name the CodeX column, otherwise you will receive an error stating that duplicate names are not permitted. The macro will still run, but it will not title the column CodeX, since that name already exists elsewhere from previously running the macro.

The macro requires an input column and an output column. Otherwise you cannot run the macro.

The macro will take some time to run as rows increase to 100. For an 800 Mhz Pentium III laptop, 100 rows takes about 10 seconds to code into quartiles. For median split coding, it takes about half the time of quartile coding.

What the output looks like with quartile coding:

This macro codes an X input variable by either quartiles or median split

Macro is running ... please wait

Quartile coding assumed, since none was specified and N > 15

Quartile	Count	Start	End
1st	6	-2.53859	-0.75300
2nd	6	-0.75300	-0.19694
3rd	6	-0.19694	0.62217
4th	7	0.62217	2.20537

CodeX contains coded values of X variable by quartiles.
Coding macro execution completed.

X variable CodeX

0.17883	3
0.35433	3
0.05968	3
-0.45055	2
-2.35607	1
1.03313	4
-0.19694	3
-0.45853	2
-0.52363	2
1.10257	4
-0.75300	2
-0.97839	1
-1.15788	1
-1.90418	1
-1.06742	1
0.53923	4
1.52781	4
-2.53859	1
-0.24801	2
0.70511	4
0.40399	3
-0.68302	2
1.29856	4
2.20537	4
0.39504	3

What the same output looks like with median split coding:

This macro codes an X input variable by either quartiles or median split

Macro is running ... please wait

Half	Count	Start	End
1st	12	-2.53859	-0.19694
2nd	13	-0.19694	2.20537

CodeX contains coded values of X variable by median split.
Coding macro execution completed.

X variable CodeX

0.17883	2
0.35433	2
0.05968	2
-0.45055	1
-2.35607	1
1.03313	2
-0.19694	2
-0.45853	1
-0.52363	1
1.10257	2
-0.75300	1
-0.97839	1
-1.15788	1
-1.90418	1
-1.06742	1
0.53923	2
1.52781	2
-2.53859	1
-0.24801	1
0.70511	2
0.40399	2
-0.68302	1
1.29856	2
2.20537	2
0.39504	2