

## MTVarConcor

The program, MTVarConcor is a variable concordance program that will take a TRS-80 Model 100 BASIC program and extract the variables and the line number where they appear. The variables are sorted and listed in alphabetical order along with the line numbers where they appear.

It is designed to work with a BASIC program that is in text (not tokenized) format. The program, MTVarConcor is written in C and is designed to run on a PC running Windows. The program finds the variables by taking each line and converting all of the symbols and BASIC keywords into a space. If a remark or a DATA statement is found, the line is terminated. After this operation, what is left of the line are just variables and numbers separated by one or more spaces. The numbers (either constants or line numbers) are ignored. The variables are collected and recorded along with the line number where the variable was found. The variables are then sorted prior to generating the output. The output will consist of a list of variables in alphabetical order along with the line numbers in the order they appear. If a variable appears more than once on the same line, the number of times it appears is shown in parenthesis.

Here is an example using the following 8 line program that was found at <https://github.com/dplassgit/games/tree/trunk/tl00/drop>:

```
0 CLS:POKE-902,PEEK(63795):F=.25+RND(1)/4:W=-.25+RND(1)/2:X=0:Y=1:B%=5+25*RND(1)
1 C=0:PRINT@280+B%,CHR$(27)"Vý"SPACE$(9-E)"ý":PRINT@200,"S:S:PRINT"L:"5-L:PRINTUSING"W:#. #";W
2 C=C+F:PRINT@C," ýý":IFX<>0THENPRINT@OX+40*OY%," ":OX=X:OY%=Y:Y=Y+.3:X=X+W:GOTO6
4 IFINKEY$=" "THENX=C+2:F=F*2:OX=0:OY%=0
5 IFC>=37THENPRINT@37," ":C=0:GOTO2ELSE2
6 IFY<7.01THENPRINT@X+40*FIX(Y),"ý":GOTO4
7 IFX>=B%+1ANDX<=B%+10-ETHEPRINT@97,"Hit!":CALL4811:S=S+10*(E+1):E=E-(E<8):GOTO0
8 L=L+1:IFL<5THENPRINT@97,"MISS!":CALL4811:GOTO0ELSEPRINT@55,"Game over":END
```

This is the output from MTVarConcor when the above program was selected:

```
B% 0 1 7(2)
C 1 2(3) 4 5(2)
E 1 7(5)
F 0 2 4(2)
L 1 8(3)
OX 2(2) 4
OY% 2(2) 4
S 1 7(2)
W 0 1 2
X 0 2(4) 4 6 7(2)
Y 0 2(3) 6(2)
```

This program should be useful for debugging or developing large BASIC programs for the TRS-80 Model 100 or equivalent. An immediate application that comes to mind is that if for some reason, it is desired to modify a variable's name, this program will show you which lines will need to be modified by telling you the lines where the variable occurs.

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