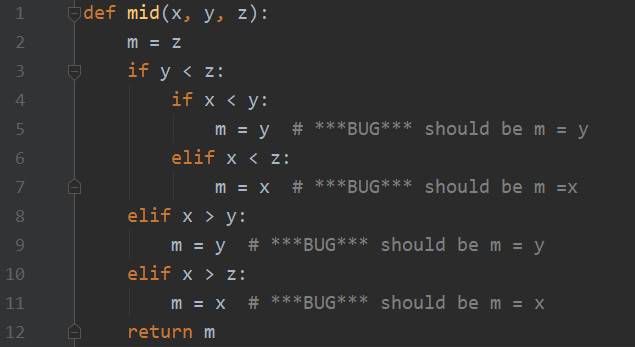
实验结果：

每个设置bug的句子改动方案参照bug数量为一个的时候

Mid.py



**100数据集**

**BUG 数量为一个**

*BUG version 1*：

Set line 5：m = z

TARAN:

state\_sus: [0, 0.5, 0.5, 0.7033898305084746, 1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 4 2 3 12 1 6 7 8 9 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.18906394810009264, 0.9999999999999999, -0.11028730305838738, -0.06467977171845274, -0.18906394810009267, -0.03901319563970167, -0.09638554216867469, -0.05120481927710844, 0]

The Buggy statement is Line: 5

[ 5 4 1 2 3 12 9 11 7 10 6 8]

*BUG version2*:

Set line 7：m = y

TARAN:

CROSSTAB：

Zeta: [0.0, 0, 0, 0.26035502958579887, -0.05776953969725053, 0.5238095238095238, 0.8931623931623929, -0.26035502958579887, -0.05372405372405372, -0.13273001508295626, -0.0705128205128205, 0]

The Buggy statement is Line: 7

[ 7 6 4 1 2 3 12 9 5 11 10 8]

*BUG version 3*：

Set line 9：m = x

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.20634920634920637, -0.03901319563970167, -0.10256410256410256, -0.06015037593984962, 0.2063492063492064, 0.9999999999999999, -0.0896358543417367, -0.047619047619047616, 0]

The Buggy statement is Line: 9

[ 9 8 1 2 3 12 5 11 7 10 6 4]

*BUG version 4*：

Set line11：m = y

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.23780487804878045, -0.04496032912136351, -0.11819887429643527, -0.0693196405648267, 0.23780487804878045, -0.041811846689895474, 0.46646341463414637, 0.878048780487805, 0]

The Buggy statement is Line: 11

[11 10 8 1 2 3 12 9 5 7 6 4]

**BUG数量为两个**

*BUG version1*

Set line 5，7

TARAN:  
state\_sus: [0, 0.5, 0.5, 0.8243243243243243, 1.0, 0.725797728501893, 0.9450704225352112, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 7 4 6 2 3 12 1 8 9 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.5901639344262294, 0.32035835650293476, 0.12882409729824615, 0.36819244411996793, -0.5901639344262294, -0.12177985948477753, -0.3008678881388621, -0.1598360655737705, 0]

The Buggy statement is Line: 4

[ 4 7 5 6 1 2 3 12 9 11 10 8]

*BUG version2*

Set line 5，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -4.638810608959803e-05, 0.41584519897772915, -0.2652123995407577, -0.1555380989787903, 4.638810608959803e-05, 0.3867243867243866, -0.23178226514486389, -0.12313432835820896, 0]

The Buggy statement is Line: 5

[ 5 9 8 1 2 3 12 4 11 7 10 6]

*BUG version3*

Set line 5，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.0025359256128486894, 0.3803786574870912, -0.28994082840236685, -0.17004048582995948, 0.0025359256128486894, -0.10256410256410257, 0.09340659340659344, 0.3324175824175824, 0]

The Buggy statement is Line: 5

[ 5 11 10 8 1 2 3 12 4 9 7 6]

*BUG version4*

Set line 7，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.008532497496843839, -0.12553439564710456, 0.1412153211813653, 0.38603937688023116, -0.008532497496843839, 0.31077694235588976, -0.28842504743833014, -0.1532258064516129, 0]

The Buggy statement is Line: 7

[ 7 9 6 4 1 2 3 12 8 5 11 10]

*BUG version5*

Set line 7，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.002403846153846151, -0.1365461847389558, 0.1172161172161172, 0.3512426900584796, -0.002403846153846151, -0.12698412698412698, 0.05177696078431373, 0.2604166666666667, 0]

The Buggy statement is Line: 7

[ 7 11 6 10 4 1 2 3 12 8 9 5]

*BUG version6*

Set line 9，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.5580808080808081, -0.1055129609346477, -0.2773892773892773, -0.16267942583732053, 0.5580808080808081, 0.36974789915966383, 0.10381933522071929, 0.34937611408199637, 0]

The Buggy statement is Line: 8

[ 8 9 11 10 1 2 3 12 5 7 6 4]

**BUG 数量为三个**

*BUG version 1*：

Set line 5，9，11 设置z, x, y

TARAN：

CROSSTAB：

Zeta: [0.0, 0, 0, -0.1452991452991453, 0.19678714859437754, -0.5604395604395606, -0.3286788399570355, 0.1452991452991453, 0.18300653594771243, 0.00519031141868512, 0.15216086434573828, 0]

The Buggy statement is Line: 5

[ 5 9 11 8 10 1 2 3 12 4 7 6]

*BUG version 2*:

Set line 5，7，9

TARAN:

state\_sus: [0, 0.5, 0.5, 0.7105263157894737, 1.0, 0.5806451612903226, 0.9, 0.29032258064516125, 1.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 9 7 4 6 2 3 12 8 1 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.175084175084175, 0.16757940854326395, 0.01343101343101343, 0.1715399610136452, -0.175084175084175, 0.15584415584415584, -0.5751633986928105, -0.3055555555555555, 0]

The Buggy statement is Line: 4

[ 4 7 5 9 6 1 2 3 12 8 11 10]

*BUG version 3*：

Set line 7，9，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.36555891238670696, 0.0, 0.570754716981132, 0.8962962962962963, 0.6561403508771929, 1.0, 0.5025380710659899, 0.8761061946902654, 0.5]

The Buggy statement is Line: 9

[ 9 7 11 8 6 10 2 3 12 4 1 5]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.0824279886779887, -0.2606790799561884, 0.01027543884686741, 0.16303542948279795, 0.08242798867798871, 0.1496598639455782, 1.1936592818945452e-05, 0.11728896103896103, 0]

The Buggy statement is Line: 7

[ 7 9 11 8 6 10 1 2 3 12 4 5]

*BUG version4*：

Set line 5，7，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.6935483870967742, 1.0, 0.5607587433313574, 0.8924528301886793, 0.3115942028985507, 0.0, 0.49236641221374045, 0.8716216216216217, 0.5]

The Buggy statement is Line: 5

[ 5 7 11 4 6 2 3 12 10 8 1 9]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.1432068543451652, 0.15451278799408164, 0.007536730914943891, 0.1548383402406465, -0.1432068543451652, -0.25249169435215946, -0.00010799913600691162, 0.11107711138310894, 0]

The Buggy statement is Line: 7

[ 7 5 4 11 6 1 2 3 12 10 8 9]

**BUG 数量为四个**

*BUG version 1*：

Set line 5，7，9，11

TARAN：

state\_sus: [0, 0.5, 0.5, 0.525974025974026, 1.0, 0.3849643551523007, 0.8027027027027027, 0.4731958762886598, 1.0, 0.3222811671087533, 0.7689873417721519, 0.5]

The Buggy statement is Line: 5

[ 5 9 7 11 4 2 3 12 8 6 10 1]

CROSSTAB：

Zeta: [0.0, 0, 0, 0.0021985455775410073, 0.07575507509490015, -0.028105329475192495, 0.05582703587990778, -0.0021985455775410077, 0.07045009784735813, -0.06698600292476196, 0.03665651953323186, 0]

The Buggy statement is Line: 5

[ 5 9 7 11 4 1 2 3 12 8 6 10]

**500数据集**

**BUG 数量为一个**

*BUG version 1*：

Set line 5：m = z

TARAN:

state\_sus: [0, 0.5, 0.5, 0.7295918367346939, 1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 4 2 3 12 1 6 7 8 9 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.19428397689267257, 1.0, -0.07716916514570474, -0.029206088029617445, -0.19428397689267257, -0.03152403152403153, -0.10143619821039174, -0.03389782907855197, 0]

The Buggy statement is Line: 5

[ 5 4 1 2 3 12 7 9 11 6 10 8]

*BUG version2*:

Set line 7：m = y

TARAN:

state\_sus: [0, 0.5, 0.5, 0.7311643835616438, 0.0, 0.8323586744639376, 0.9953379953379954, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 7

[ 7 6 4 2 3 12 1 5 8 9 10 11]

CROSSTAB：

Zeta: [0.0, 0, 0, 0.20069239384991344, -0.02829411026132337, 0.36665046470181023, 0.9687743950039033, -0.20069239384991347, -0.032563845210215235, -0.10478205031351517, -0.03501594198809289, 0]

The Buggy statement is Line: 7

[ 7 6 4 1 2 3 12 5 9 11 10 8]

*BUG version 3*：

Set line 9：m = x

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.16225749559082892, -0.03152403152403153, -0.08881441139505655, -0.03361344537815125, 0.16225749559082892, 1.0, -0.11674347158218126, -0.039013195639701646, 0]

The Buggy statement is Line: 9

[ 9 8 1 2 3 12 5 7 11 6 10 4]

*BUG version 4*：

Set line11：m = y

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.1598486847893024, -0.031056038181928928, -0.08749590766294468, -0.03311443342182479, 0.1598486847893024, -0.03574256305847754, 0.3061632704088011, 0.9161659913371523, 0]

The Buggy statement is Line: 11

[11 10 8 1 2 3 12 5 7 9 6 4]

**BUG数量为两个**

*BUG version1*

Set line 5，7

TARAN:  
state\_sus: [0, 0.5, 0.5, 0.8054298642533937, 1.0, 0.677264672156781, 0.9890394276145532, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 7 4 6 2 3 12 1 8 9 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.47484123106985837, 0.40915565915565916, 0.06658390364374894, 0.4042067513647157, -0.47484123106985826, -0.07704654895666133, -0.24791591156216017, -0.08284824692026534, 0]

The Buggy statement is Line: 4

[ 4 5 7 6 1 2 3 12 9 11 10 8]

*BUG version2*

Set line 5，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.00018117049708277045, 0.38251593880732954, -0.2017410447949315, -0.07635260407888084, -0.00018117049708277045, 0.4402396720277515, -0.2651816249191237, -0.08861808264576933, 0]

The Buggy statement is Line: 9

[ 9 5 4 1 2 3 12 8 7 11 6 10]

*BUG version3*

Set line 5，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.0003067249444061038, 0.3861693861693862, -0.1998324256388773, -0.07563025210084032, -0.0003067249444061038, -0.08163265306122448, 0.039130083272697874, 0.38638587965306603, 0]

The Buggy statement is Line: 11

[11 5 10 4 1 2 3 12 8 7 9 6]

*BUG version4*

Set line 7，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.0005205112080673584, -0.07297313637371274, 0.05147813863167064, 0.37006419979605865, -0.0005205112080673582, 0.43199502023031433, -0.27024263270428556, -0.09030936425818546, 0]

The Buggy statement is Line: 9

[ 9 7 6 4 1 2 3 12 8 5 11 10]

*BUG version5*

Set line 7，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.0007219830630493732, -0.07228786539131367, 0.05302646756242443, 0.3736581141833624, -0.0007219830630493732, -0.08319649698960042, 0.03620019473776649, 0.3786344266786372, 0]

The Buggy statement is Line: 11

[11 7 6 10 4 1 2 3 12 8 5 9]

*BUG version6*

Set line 9，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.0, 0.0, 0.0, 0.0, 0.754424778761062, 1.0, 0.6041760114829101, 0.9657978704334421, 0.5]

The Buggy statement is Line: 9

[ 9 11 8 10 2 3 12 1 4 5 6 7]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.3971977842945584, -0.07716916514570474, -0.2174129909443503, -0.08228393996894948, 0.3971977842945585, 0.40850554058101235, 0.02702493324641928, 0.3530424404613941, 0]

The Buggy statement is Line: 9

[ 9 8 11 10 1 2 3 12 5 7 6 4]

**BUG 数量为三个**

*BUG version 1*：

Set line 5，9，11 设置z, x, y

TARAN：

CROSSTAB：

Zeta: [0.0, 0, 0, -0.0785082499008145, 0.19428397689267257, -0.3971977842945585, -0.1503267973856209, 0.0785082499008145, 0.2236024844720497, -0.0048227159764769635, 0.18168839039020532, 0]

The Buggy statement is Line: 9

[ 9 5 11 8 1 2 3 12 10 4 7 6]

*BUG version 2*:

Set line 5，7，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.1092474236771653, 0.20392107892107897, 0.00023312879898129593, 0.1969360207851256, -0.1092474236771653, 0.23469387755102036, -0.4974287050023376, -0.16623013794307667, 0]

The Buggy statement is Line: 9

[ 9 5 7 4 6 1 2 3 12 8 11 10]

*BUG version 3*：

Set line 7，9，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.07362083883431418, -0.14326966565772534, -4.4656961397581005e-05, 0.1840745562249604, 0.07362083883431418, 0.2200328407224959, -0.0057278664344689485, 0.1783868239145921, 0]

The Buggy statement is Line: 9

[ 9 7 11 8 1 2 3 12 6 10 4 5]

*BUG version4*：

Set line 5，7，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.675312362442014, 1.0, 0.5132363765577806, 0.9784197029080176, 0.33939760531050317, 0.0, 0.46922977956943135, 0.9423797424744844, 0.5]

The Buggy statement is Line: 5

[ 5 7 11 4 6 2 3 12 10 8 1 9]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.11181085423536327, 0.20557768091400383, 0.000324812310974107, 0.1986086497217268, -0.11181085423536326, -0.15334364792848548, -0.0022639345461283847, 0.19371383393506403, 0]

The Buggy statement is Line: 5

[ 5 7 11 4 6 1 2 3 12 10 8 9]

**BUG 数量为四个**

*BUG version 1*：

Set line 5，7，9，11

TARAN：

state\_sus: [0, 0.5, 0.5, 0.5212214750303164, 1.0, 0.35562204802294817, 0.959564956295456, 0.4822187326805838, 1.0, 0.31634685746808683, 0.8954030262930787, 0.5]

The Buggy statement is Line: 5

[ 5 9 7 11 4 2 3 12 8 6 10 1]

CROSSTAB：

Zeta: [0.0, 0, 0, 0.0014395392309038925, 0.10760306799910759, -0.04213104219919601, 0.09972962061807851, -0.0014395392309038925, 0.12384095552412387, -0.09287357337941785, 0.08972502980474654, 0]

The Buggy statement is Line: 9

[ 9 5 7 11 4 1 2 3 12 8 6 10]

**1000数据集**

**BUG 数量为一个**

*BUG version 1*：

Set line 5：m = z

TARAN:

CROSSTAB:

*BUG version2*:

Set line 7：m = y

TARAN:

CROSSTAB：

*BUG version 3*：

Set line 9：m = x

TARAN:

CROSSTAB:

*BUG version 4*：

Set line11：m = y

TARAN:

CROSSTAB:

**BUG数量为两个**

*BUG version1*

Set line 5，7

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.4752002641688558, 0.42625729752284724, 0.0450938760224773, 0.34823273607631117, -0.47520026416885575, -0.09980549368702883, -0.23076585915344797, -0.09841367132723843, 0]

The Buggy statement is Line: 4

[ 4 5 7 6 1 2 3 12 11 9 10 8]

*BUG version2*

Set line 5，9

TARAN:

CROSSTAB:

*BUG version3*

Set line 5，11

TARAN:

CROSSTAB:

*BUG version4*

Set line 7，9

TARAN:

CROSSTAB:

*BUG version5*

Set line 7，11

TARAN:

CROSSTAB:

*BUG version6*

Set line 9，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.0, 0.0, 0.0, 0.0, 0.8066095471236231, 1.0, 0.6726532596148005, 0.9908444086454558, 0.5]

The Buggy statement is Line: 9

[ 9 11 8 10 2 3 12 1 4 5 6 7]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.5195246334854838, -0.10523365271013772, -0.25717608788492813, -0.10003223224600809, 0.5195246334854839, 0.4042701067703993, 0.06541828517815661, 0.3776902031045188, 0]

The Buggy statement is Line: 8

[ 8 9 11 10 1 2 3 12 7 5 6 4]

**BUG 数量为三个**

*BUG version 1*：

Set line 5，9，11 设置z, x, y

TARAN：

CROSSTAB：

Zeta: [0.0, 0, 0, -0.11979207740760534, 0.19539416247846916, -0.5172919467188073, -0.20120792947250504, 0.11979207740760534, 0.2009863195580529, 5.513847416959231e-05, 0.1842461065436905, 0]

The Buggy statement is Line: 9

[ 9 5 11 8 10 1 2 3 12 4 7 6]

*BUG version 2*:

Set line 5，7，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.08881957596442774, 0.20664958658437171, -0.0020543047674753973, 0.15982719184431174, -0.08881957596442776, 0.21256387252798686, -0.47600207244124165, -0.20299844907806303, 0]

The Buggy statement is Line: 9

[ 9 5 7 4 1 2 3 12 6 8 11 10]

*BUG version 3*：

Set line 7，9，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, -0.14137566341244465, -0.19934231690317045, -0.0019285457872675637, 0.16053687339328235, 0.14137566341244462, 0.21341590023573095, 0.0008003003063773261, 0.19607223245338948, 0]

The Buggy statement is Line: 9

[ 9 11 7 8 10 1 2 3 12 6 4 5]

*BUG version4*：

Set line 5，7，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.09491731005068375, 0.21082493303040778, -0.0014653067339868188, 0.1634046554157297, -0.09491731005068377, -0.20179216663538768, 0.0011463246232100714, 0.19934797875209934, 0]

The Buggy statement is Line: 5

[ 5 11 7 4 10 1 2 3 12 6 8 9]

**BUG 数量为四个**

*BUG version 1*：

Set line 5，7，9，11

TARAN：

CROSSTAB：

Zeta: [0.0, 0, 0, -0.0016744346954438835, 0.1029098342829803, -0.08923637597169469, 0.07118170585724173, 0.0016744346954438833, 0.10585510117859588, -0.04791303245892387, 0.09376342814686375, 0]

The Buggy statement is Line: 9

[ 9 5 11 7 8 1 2 3 12 4 10 6]

**2000数据集**

**BUG 数量为一个**

*BUG version 1*：

Set line 5：m = z

TARAN:

state\_sus: [0, 0.5, 0.5, 0.711612079965972, 1.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 4 2 3 12 1 6 7 8 9 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.193512414020751, 1.0, -0.10024207557423997, -0.038903963499851625, -0.193512414020751, -0.03848320725945177, -0.09758211151447588, -0.036953275531576915, 0]

The Buggy statement is Line: 5

[ 5 4 1 2 3 12 11 9 7 10 6 8]

*BUG version2*:

Set line 7：m = y

TARAN:

state\_sus: [0, 0.5, 0.5, 0.711073398387781, 0.0, 0.8256157635467981, 0.9952494061757718, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 7

[ 7 6 4 2 3 12 1 5 8 9 10 11]

CROSSTAB：

Zeta: [0.0, 0, 0, 0.19139386599223454, -0.037785294163800456, 0.37694046085285227, 0.9712453633148345, -0.19139386599223454, -0.038061898253086125, -0.0965137956081625, -0.036548716013156304, 0]

The Buggy statement is Line: 7

[ 7 6 4 1 2 3 12 11 5 9 10 8]

*BUG version 3*：

Set line 9：m = x

TARAN:

state\_sus: [0, 0.5, 0.5, 0.0, 0.0, 0.0, 0.0, 0.7150192554557124, 1.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 9

[ 9 8 2 3 12 1 4 5 6 7 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.1988668657470476, -0.03848320725945177, -0.10097588931410706, -0.03918875671455652, 0.1988668657470476, 1.0, -0.09829645320966086, -0.03722378889797346, 0]

The Buggy statement is Line: 9

[ 9 8 1 2 3 12 11 5 7 10 6 4]

*BUG version 4*：

Set line11：m = y

TARAN:

state\_sus: [0, 0.5, 0.5, 0.0, 0.0, 0.0, 0.0, 0.7105152911604524, 0.0, 0.8241010689990282, 0.9918128654970761, 0.5]

The Buggy statement is Line: 11

[11 10 8 2 3 12 1 4 5 6 7 9]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.18104674314971078, -0.0350347923174954, -0.09192761110952531, -0.03567711868241256, 0.1810467431497108, -0.03529126158779626, 0.35902884016091563, 0.9480835409991692, 0]

The Buggy statement is Line: 11

[11 10 8 1 2 3 12 5 9 7 6 4]

**BUG数量为两个**

*BUG version1*

Set line 5，7

TARAN:  
state\_sus: [0, 0.5, 0.5, 0.7921315325895478, 1.0, 0.6547660779290818, 0.9882247605610874, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 7 4 6 2 3 12 1 8 9 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.4777779007114169, 0.40502587861977024, 0.05423742151907976, 0.3835084899715236, -0.4777779007114169, -0.09501419363768362, -0.2409280904395838, -0.09123682579864946, 0]

The Buggy statement is Line: 4

[ 4 5 7 6 1 2 3 12 11 9 10 8]

*BUG version2*

Set line 5，9

TARAN:

state\_sus: [0, 0.5, 0.5, 0.4970144392574097, 1.0, 0.0, 0.0, 0.5030031669760838, 1.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 9 8 2 3 12 4 1 6 7 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, -3.1620999584222725e-05, 0.4004490254107562, -0.2503241841365896, -0.09715085074797304, 3.1620999584222725e-05, 0.40338047904716023, -0.24368173056328976, -0.09227959911669781, 0]

The Buggy statement is Line: 9

[ 9 5 8 1 2 3 12 4 11 7 10 6]

*BUG version3*

Set line 5，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.5113337696649043, 1.0, 0.0, 0.0, 0.4883565654420281, 0.0, 0.6456365052327188, 0.9792146067151362, 0.5]

The Buggy statement is Line: 5

[ 5 11 10 4 2 3 12 8 1 6 7 9]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.0004559111950800696, 0.42405862476945777, -0.23638730524284762, -0.09174194610710265, -0.0004559111950800696, -0.0907497336727285, 0.04593201841299288, 0.3591141055229633, 0]

The Buggy statement is Line: 5

[ 5 11 10 4 1 2 3 12 8 9 7 6]

*BUG version4*

Set line 7，9

TARAN:

state\_sus: [0, 0.5, 0.5, 0.4953099517546398, 0.0, 0.6537365748438412, 0.9881716826822928, 0.504706392836033, 1.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 9

[ 9 7 6 8 2 3 12 4 1 5 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, -7.76632921418254e-05, -0.09475396610918597, 0.0534431579536324, 0.38172504478935393, 7.766329214182541e-05, 0.40613822132898575, -0.2420270933575529, -0.09165300615186608, 0]

The Buggy statement is Line: 9

[ 9 7 6 8 1 2 3 12 4 11 5 10]

*BUG version5*

Set line 7，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.5096652587262496, 0.0, 0.6666186791434228, 0.9888244296544115, 0.49009442608773307, 0.0, 0.6472260499298598, 0.9793556870479947, 0.5]

The Buggy statement is Line: 7

[ 7 11 6 10 4 2 3 12 8 1 5 9]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.000329922734336022, -0.08946586063338324, 0.06394045869674285, 0.4048347450922774, -0.00032992273433602197, -0.09012078799203704, 0.04703584064345643, 0.36172904677587686, 0]

The Buggy statement is Line: 7

[ 7 11 6 10 4 1 2 3 12 8 5 9]

*BUG version6*

Set line 9，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.0, 0.0, 0.0, 0.0, 0.7906304222093696, 1.0, 0.64457728543199, 0.9791202318403506, 0.5]

The Buggy statement is Line: 9

[ 9 11 8 10 2 3 12 1 4 5 6 7]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.467711637926281, -0.09050800812071406, -0.23748349633184185, -0.09216737802150378, 0.467711637926281, 0.42519118538246053, 0.04520557966513253, 0.357384590468949, 0]

The Buggy statement is Line: 8

[ 8 9 11 10 1 2 3 12 5 7 6 4]

**BUG 数量为三个**

*BUG version 1*：

Set line 5，9，11 设置z, x, y

TARAN：

state\_sus: [0, 0.5, 0.5, 0.34318236861225476, 1.0, 0.0, 0.0, 0.6544977332378908, 1.0, 0.476374156219865, 0.9592233009708737, 0.5]

The Buggy statement is Line: 5

[ 5 9 11 8 2 3 12 10 4 1 6 7]

CROSSTAB：

Zeta: [0.0, 0, 0, -0.09675386115422115, 0.2117453676031082, -0.47340858838589556, -0.1837299391256226, 0.09675386115422113, 0.21329543187711955, -0.0011087087548856647, 0.17160286946929088, 0]

The Buggy statement is Line: 9

[ 9 5 11 8 1 2 3 12 10 4 7 6]

*BUG version 2*:

Set line 5，7，9

TARAN:

state\_sus: [0, 0.5, 0.5, 0.6568342334856668, 1.0, 0.4878653675819309, 0.9768266729723338, 0.33956651083722905, 1.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 9 7 4 2 3 12 6 8 1 10 11]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.10059516193787198, 0.20343510984788418, -0.0003016589603455502, 0.18805117031065988, -0.10059516193787198, 0.20492433957424977, -0.4796719287415116, -0.1816464992655802, 0]

The Buggy statement is Line: 9

[ 9 5 7 4 1 2 3 12 6 8 11 10]

*BUG version 3*：

Set line 7，9，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.34146651994798155, 0.0, 0.4993749168772443, 0.9778464530018404, 0.655855592741491, 1.0, 0.4778735987315864, 0.9594577420038128, 0.5]

The Buggy statement is Line: 9

[ 9 7 11 8 2 3 12 6 10 4 1 5]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.09864588405180712, -0.17934093971193266, -7.999877390421061e-07, 0.19734387704048803, 0.09864588405180712, 0.2145812736415101, -0.0009721761526951275, 0.17272924010158958, 0]

The Buggy statement is Line: 9

[ 9 7 11 8 1 2 3 12 6 10 4 5]

*BUG version4*：

Set line 5，7，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.6680266898410687, 1.0, 0.5003768565728219, 0.9779331061174976, 0.32496406962054447, 0.0, 0.47887366405884924, 0.9596133514574838, 0.5]

The Buggy statement is Line: 5

[ 5 7 11 4 6 2 3 12 10 8 1 9]

CROSSTAB:

Zeta: [0.0, 0, 0, 0.11735852966954698, 0.2138773185455478, 2.9077665827313706e-07, 0.1981731137071451, -0.11735852966954698, -0.17993122188529917, -0.0008861280307397958, 0.17348409888230054, 0]

The Buggy statement is Line: 5

[ 5 7 11 4 6 1 2 3 12 10 8 9]

**BUG 数量为四个**

*BUG version 1*：

Set line 5，7，9，11

TARAN：

state\_sus: [0, 0.5, 0.5, 0.506289021258847, 1.0, 0.3379129522810697, 0.9575985734099466, 0.49369305778858347, 1.0, 0.3189346962219695, 0.9237141402138856, 0.5]

The Buggy statement is Line: 5

[ 5 9 7 11 4 2 3 12 8 6 10 1]

CROSSTAB：

Zeta: [0.0, 0, 0, 0.00014586460834444163, 0.10899330208758123, -0.060106827758311755, 0.09655310024506202, -0.00014586460834444166, 0.10979117845004857, -0.0747811325200801, 0.08109102258609367, 0]

The Buggy statement is Line: 9

[ 9 5 7 11 4 1 2 3 12 8 6 10]

**5000数据集**

**BUG 数量为一个**

*BUG version 1*：

Set line 5：m = z

TARAN:

CROSSTAB:

*BUG version2*:

Set line 7：m = y

TARAN:

CROSSTAB：

*BUG version 3*：

Set line 9：m = x

TARAN:

CROSSTAB:

*BUG version 4*：

Set line11：m = y

TARAN:

CROSSTAB:

**BUG数量为两个**

*BUG version1*

Set line 5，7

TARAN:  
state\_sus: [0, 0.5, 0.5, 0.79976717112922, 1.0, 0.6670521661152169, 0.9845713159018962, 0.0, 0.0, 0.0, 0.0, 0.5]

The Buggy statement is Line: 5

[ 5 7 4 6 2 3 12 1 8 9 10 11]CROSSTAB:

Zeta: [0.0, 0, 0, 0.48378577109500437, 0.4056902321214967, 0.061480572467258215, 0.385363030962937, -0.48378577109500437, -0.09371359454178307, -0.23933807759018041, -0.09173383359668505, 0]

The Buggy statement is Line: 4

[ 4 5 7 6 1 2 3 12 11 9 10 8]

*BUG version2*

Set line 5，9

TARAN:

CROSSTAB:

*BUG version3*

Set line 5，11

TARAN:

CROSSTAB:

*BUG version4*

Set line 7，9

TARAN:

CROSSTAB:

*BUG version5*

Set line 7，11

TARAN:

CROSSTAB:

*BUG version6*

Set line 9，11

TARAN:

state\_sus: [0, 0.5, 0.5, 0.0, 0.0, 0.0, 0.0, 0.7863046044864227, 1.0, 0.642872333386894, 0.987273558613482, 0.5]

The Buggy statement is Line: 9

[ 9 11 8 10 2 3 12 1 4 5 6 7]

CROSSTAB:

Zeta: [0.0, 0, 0, -0.47228782180238493, -0.09269459032492205, -0.24589268851563933, -0.09723477058720612, 0.47228782180238493, 0.4101500399249728, 0.04658397821033101, 0.3718402956062298, 0]

The Buggy statement is Line: 8

[ 8 9 11 10 1 2 3 12 5 7 6 4]

**BUG 数量为三个**

*BUG version 1*：

Set line 5，9，11 设置z, x, y

TARAN：

CROSSTAB：

*BUG version 2*:

Set line 5，7，9

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.09867535302251337, 0.19737043265555723, -8.0327757381713e-05, 0.18123354445810452, -0.09867535302251337, 0.21964177119477882, -0.4919537285634011, -0.1885567141162471, 0]

The Buggy statement is Line: 9

[ 9 5 7 4 1 2 3 12 6 8 11 10]

*BUG version 3*：

Set line 7，9，11

TARAN:

CROSSTAB:

*BUG version4*：

Set line 5，7，11

TARAN:

CROSSTAB:

Zeta: [0.0, 0, 0, 0.10777925080440255, 0.20314682392827724, 1.2695011330327396e-06, 0.18689089478872664, -0.10777925080440255, -0.18714882756925905, -8.021800371150684e-06, 0.2006185803732487, 0]

The Buggy statement is Line: 5

[ 5 11 7 4 6 1 2 3 12 10 8 9]

**BUG 数量为四个**

*BUG version 1*：

Set line 5，7，9，11

TARAN：

CROSSTAB：

Zeta: [0.0, 0, 0, -1.1079146462013052e-05, 0.10084458345847036, -0.06189436411426726, 0.08679368569404441, 1.1079146462013052e-05, 0.11222391635971553, -0.06848313237383538, 0.09480966812129975, 0]

The Buggy statement is Line: 9

[ 9 5 11 7 8 1 2 3 12 4 6 10]