**Zero/One (0/1), Binary, Boolean Variables**

|  |  |
| --- | --- |
|  | **Single variable** |
|  | **x** |
| **1** | **0** |
| **2** | **1** |

|  |  |
| --- | --- |
|  | **Two variables** |
|  | **u** | **v** |
| **1** | **0** | **0** |
| **2** | **0** | **1** |
| **3** | **1** | **0** |
| **4** | **1** | **1** |

|  |  |
| --- | --- |
|  | **Three variables** |
|  | **a** | **b** | **c** |
| **1** | **0** | **0** | **0** |
| **2** | **0** | **0** | **1** |
| **3** | **0** | **1** | **0** |
| **4** | **0** | **1** | **1** |
| **5** | **1** | **0** | **0** |
| **6** | **1** | **0** | **1** |
| **7** | **1** | **1** | **0** |
| **8** | **1** | **1** | **1** |

|  |  |
| --- | --- |
|  | **Four variables** |
|  | **X13** | **X23** | **X43** | **X53** | **SUM** | **Equation** |
| **1** | **0** | **0** | **0** | **0** | **0** | **violated** |
| **2** | **0** | **0** | **0** | **1** | **1** | ***satisfied*** |
| **3** | **0** | **0** | **1** | **0** | **1** | ***satisfied*** |
| **4** | **0** | **0** | **1** | **1** | **2** | **violated** |
| **5** | **0** | **1** | **0** | **0** | **1** | ***satisfied*** |
| **6** | **0** | **1** | **0** | **1** | **2** | **violated** |
| **7** | **0** | **1** | **1** | **0** | **2** | **violated** |
| **8** | **0** | **1** | **1** | **1** | **3** | **violated** |
| **9** | **1** | **0** | **0** | **0** | **1** | ***satisfied*** |
| **10** | **1** | **0** | **0** | **1** | **2** | **violated** |
| **11** | **1** | **0** | **1** | **0** | **2** | **violated** |
| **12** | **1** | **0** | **1** | **1** | **3** | **violated** |
| **13** | **1** | **1** | **0** | **0** | **2** | **violated** |
| **14** | **1** | **1** | **0** | **1** | **3** | **violated** |
| **15** | **1** | **1** | **1** | **0** | **3** | **violated** |
| **16** | **1** | **1** | **1** | **1** | **4** | **violated** |