# Orthogonal array testing:🡪

* **Also known as Pair wise testing**
* The aim of pair wise testing is to test all the possibilities of any combination of 2 factors.

#### In more detail

In the system under test (for ordering books via the Internet), the following 3 parameters play a role. For each parameter, there are 2 equivalence classes to be tested:

|  |  |
| --- | --- |
| Number of books | few / many |
| Sum | low / high |
| Membership card | none / gold card |

In order to test all the combinations relating to these 3 parameters, 2x2x2=8 test cases are required, namely:

| **Test case** | **Number of books** | **Sum** | **Membership card** |
| --- | --- | --- | --- |
| 1 | few | low | none |
| 2 | few | low | gold card |
| 3 | few | high | none |
| 4 | few | high | gold card |
| 5 | many | low | none |
| 6 | many | low | gold card |
| 7 | many | high | none |
| 8 | many | high | gold card |

For pair wise testing, as few as 4 test cases will suffice, as shown below:

| **Test case** | **Number of books** | **Sum** | **Membership card** |
| --- | --- | --- | --- |
| 1 | few | low | none |
| 2 (4) | few | high | gold card |
| 3 (6) | many | low | gold card |
| 4 (7) | many | high | none |

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|  |  |
| --- | --- |
| Runs | It is the number of rows which represents the number of test conditions to be performed. |
|  | It is the number of columns which represents in the number of variable to be tested Factors |
| Levels | It represents the number of values for a Factor |