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Class SE 4367.001 - Software Testing

Assignment Homework #7

Cause-Effect Graph

1. Boolean expression
   1. C1 AND C2 = 1
   2. C3 AND C4 = 3
   3. (NOT C3) OR (1) = 2
   4. EF1 = 2
   5. EF2 = 3

**EF1 = 2 = (NOT C3) OR (1) = (NOT C3) OR (C1 AND C2)**

**EF2 = 3 = C3 AND C4**

**Excluding “O”**

1. Decision Table

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | C1 | C2 | C3 | C4 | EF1 | EF2 |
| V1 | 0 | 0 | 0 | 0 | 1 | 0 |
| V2 | 0 | 0 | 0 | 1 | 1 | 0 |
| V3 | 0 | 0 | 1 | 0 | 0 | 0 |
| V4 | 0 | 0 | 1 | 1 | 0 | 1 |
| V5 | 0 | 1 | 0 | 0 | 1 | 0 |
| V6 | 0 | 1 | 0 | 1 | 1 | 0 |
| V7 | 0 | 1 | 1 | 0 | 0 | 0 |
| V8 | 0 | 1 | 1 | 1 | 0 | 1 |
| V9 | 1 | 0 | 0 | 0 | 1 | 0 |
| V10 | 1 | 0 | 0 | 1 | 1 | 0 |
| V11 | 1 | 0 | 1 | 0 | 0 | 0 |
| V12 | 1 | 0 | 1 | 1 | 0 | 1 |
| V13 | 1 | 1 | 0 | 0 | 1 | 0 |
| V14 | 1 | 1 | 0 | 1 | 1 | 0 |
| V15 | 1 | 1 | 1 | 0 | 1 | 0 |
| V16 | 1 | 1 | 1 | 1 | 1 | 1 |

Only and only one of EF1 and EF2, so discard V16

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | C1 | C2 | C3 | C4 | EF1 | EF2 |
| V1 | 0 | 0 | 0 | 0 | 1 | 0 |
| V2 | 0 | 0 | 0 | 1 | 1 | 0 |
| V3 | 0 | 0 | 1 | 1 | 0 | 1 |
| V4 | 0 | 1 | 0 | 0 | 1 | 0 |
| V5 | 0 | 1 | 0 | 1 | 1 | 0 |
| V6 | 0 | 1 | 1 | 1 | 0 | 1 |
| V7 | 1 | 0 | 0 | 0 | 1 | 0 |
| V8 | 1 | 0 | 0 | 1 | 1 | 0 |
| V9 | 1 | 0 | 1 | 1 | 0 | 1 |
| V10 | 1 | 1 | 0 | 0 | 1 | 0 |
| V11 | 1 | 1 | 0 | 1 | 1 | 0 |
| V12 | 1 | 1 | 1 | 0 | 1 | 0 |