**Input**

Car ignition on/off

Driver

Passenger

Seats fastened

Unfastened

**Output**

Alarm system~not

**Algorithm**

1. Check if the engine ignition is on or off. If it’s on
2. The Driver and passenger seats are respectively occupied.
3. Check if the seat belts fastened or unfastened the occupied seats. If unfastened, use the alert system to notify.

**Truth table**

| TRUTH TABLE |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IGN | DRIV | PASS | BELTD | BELTP | ALARM |
| 1 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 | 1 | 1 |
| 1 | 0 | 1 | 1 | 0 | 1 |
| 1 | 0 | 1 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 |

~ALARM = ING\*(DRIV\*~BELTD + PASS\*~BELTP)