

## Possible Variables

1.  $T$  : Total number of medicine taken
2.  $V$  : Number of detected violation /  $T$ 
  - If higher than certain limit, patient definitely violated the rule
3.  $S$  : Number of times the patient switched medicine /  $T$  (switching tendency)
  - The closer this is to 0, the more likely that the patient never took  $B$  and  $I$  together
4.  $R_I$ , where  $R_B = 1 - R_I$  : Number of times medicine  $I$  was taken /  $T$  (medicine ratio)
  - The closer this is (but not equal) to extreme side (0 and 1), the more likely that the patient trialed a medicine
5.  $M_0$  : First medicine taken by the patient
  - values are either ' $B$ ', ' $I$ ', assuming that patient had to take at least 1 medicine

## Classification Parameter

All variables are automatically ruled as  $\geq 0$  so it is exempted from the parameter

1. Patients that violated by taking  $B$  and  $I$  together
  - $V \neq 0 \vee$  fail to belong to 3,4,5,6
2. Patients that did not violate, because they never took  $B$  and  $I$  together
  - $V = 0$
3. Patients that did not violate, because they switched from  $B$  to  $I$ 
  - $V \neq 0 \wedge (R_I \neq 0 \wedge R_I \neq 1) \wedge S \cong 0 \wedge M_0 = B$
4. Patients that did not violate, because they switched from  $I$  to  $B$ 
  - $V \neq 0 \wedge (R_I \neq 0 \wedge R_I \neq 1) \wedge S \cong 0 \wedge M_0 = I$
5. Patients that did not violate, because they simply trialed  $I$  during  $B$ 
  - $V \neq 0 \wedge R_I \cong 0$ , if a patient can trial medicine more than once
  - $V \neq 0 \wedge \Sigma I = 1$ , if a patient can only trial medicine once
6. Patients that did not violate, because they simply trialed  $B$  during  $I$ 
  - $V \neq 0 \wedge R_I \cong 1$ , if a patient can trial medicine more than once

- $V \neq 0 \wedge \Sigma B = 1$ , if a patient can only trial medicine once

## Decision Tree

