

# Monty Hall Constraints

Sumit Lahiri

March 16, 2021

Parse results after processing KLEE dump for Monty Hall Example.

```
Path : 1
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
!((!(car_door_sym == 2) && !(choice_pse_var_sym == 2)))
!(!(door_switch_pse_var_sym == 0))

Path : 2
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
(! (car_door_sym == 2) && !(choice_pse_var_sym == 2))
!(door_switch_pse_var_sym == 0)
!(choice_pse_var_sym == 1)

Path : 3
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
!((!(car_door_sym == 2) && !(choice_pse_var_sym == 2)))
!(door_switch_pse_var_sym == 0)
```

```
choice_pse_var_sym == 1
```

Path : 4

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
!((!(car_door_sym == 2) && !(choice_pse_var_sym == 2)))
!(door_switch_pse_var_sym == 0)
!(choice_pse_var_sym == 1)
```

Path : 5

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
(!(car_door_sym == 1) && !(choice_pse_var_sym == 1))
!(!(door_switch_pse_var_sym == 0))
choice_pse_var_sym == car_door_sym
```

Path : 6

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
(!(car_door_sym == 1) && !(choice_pse_var_sym == 1))
!(!(door_switch_pse_var_sym == 0))
!(choice_pse_var_sym == car_door_sym)
```

Path : 7

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
!((car_door_sym == 2) && !(choice_pse_var_sym == 2))
!(!(door_switch_pse_var_sym == 0))
```

```
choice_pse_var_sym == car_door_sym
```

Path : 8

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
!(car_door_sym == 2) && !(choice_pse_var_sym == 2)
!(!(door_switch_pse_var_sym == 0))
!(choice_pse_var_sym == car_door_sym)
```

Path : 9

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!(car_door_sym == 1) && !(choice_pse_var_sym == 1)
!(door_switch_pse_var_sym == 0)
!(choice_pse_var_sym == 2)
car_door_sym == 2
```

Path : 10

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!(car_door_sym == 1) && !(choice_pse_var_sym == 1)
!(door_switch_pse_var_sym == 0)
!(choice_pse_var_sym == 2)
!(car_door_sym == 2)
```

Path : 11

```
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!(car_door_sym == 1) && !(choice_pse_var_sym == 1)
```

```

!(door_switch_pse_var_sym == 0)
choice_pse_var_sym == 2
car_door_sym == 3

```

```

Path : 12
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
(! (car_door_sym == 1) && !(choice_pse_var_sym == 1))
!(door_switch_pse_var_sym == 0)
choice_pse_var_sym == 2
!(car_door_sym == 3)

```

```

Path : 13
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
(! (car_door_sym == 2) && !(choice_pse_var_sym == 2))
!(door_switch_pse_var_sym == 0)
choice_pse_var_sym == 1
car_door_sym == 3

```

```

Path : 14
0 <= door_switch_pse_var_sym
door_switch_pse_var_sym <= 1
0 <= choice_pse_var_sym
choice_pse_var_sym <= 3
0 <= car_door_sym
car_door_sym <= 3
!((!(car_door_sym == 1) && !(choice_pse_var_sym == 1)))
(! (car_door_sym == 2) && !(choice_pse_var_sym == 2))
!(door_switch_pse_var_sym == 0)
choice_pse_var_sym == 1
!(car_door_sym == 3)

```