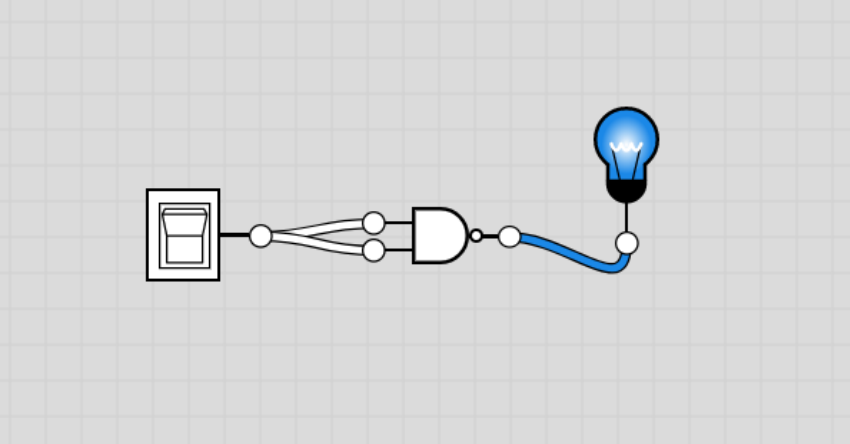
Name: Saad Ahmad Roll number: 20P-0051

Section: BS (CS) - 2D1

# Using NAND Gate to make other logic gates:

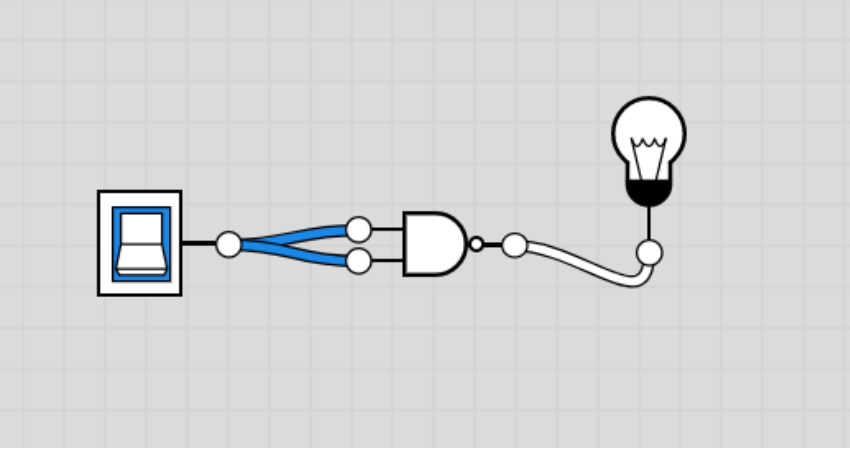
## NOT Gate:

### Combination#1



| Input | Output |
|---|---|
| 0 | 1 |

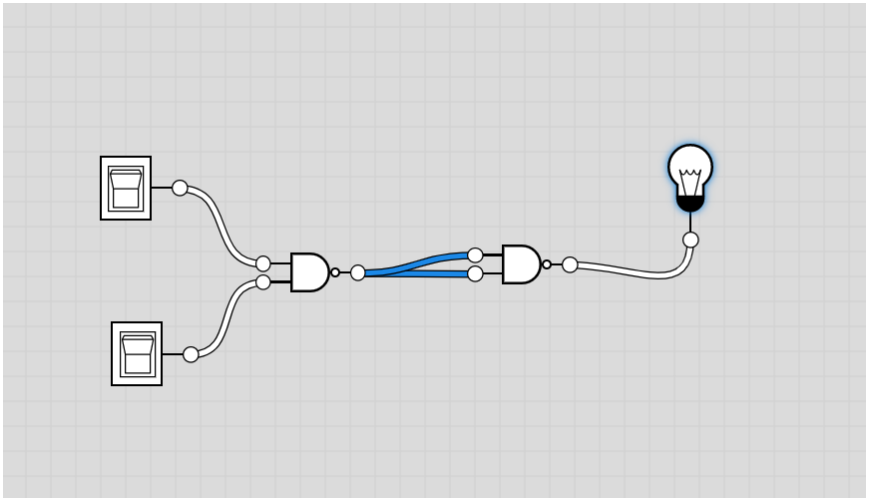
### Combination#2



| Input | Output |
|---|---|
| 1 | 0 |

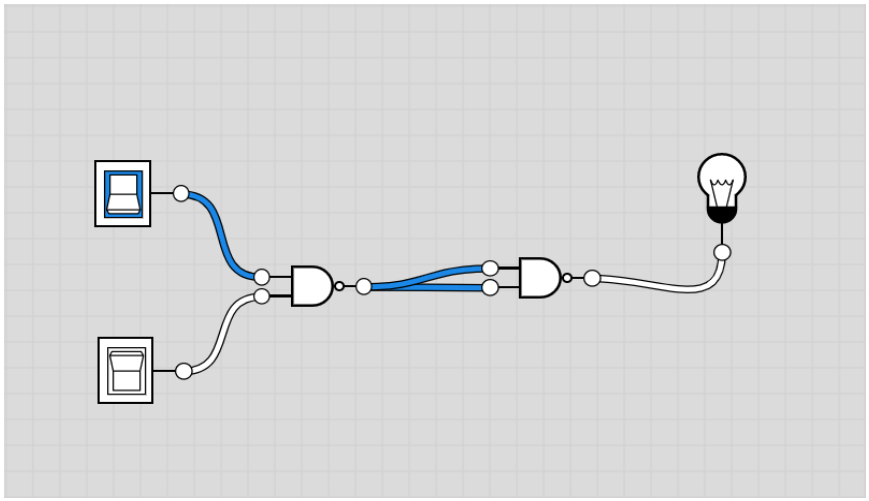
## AND Gate:

### Combination#1



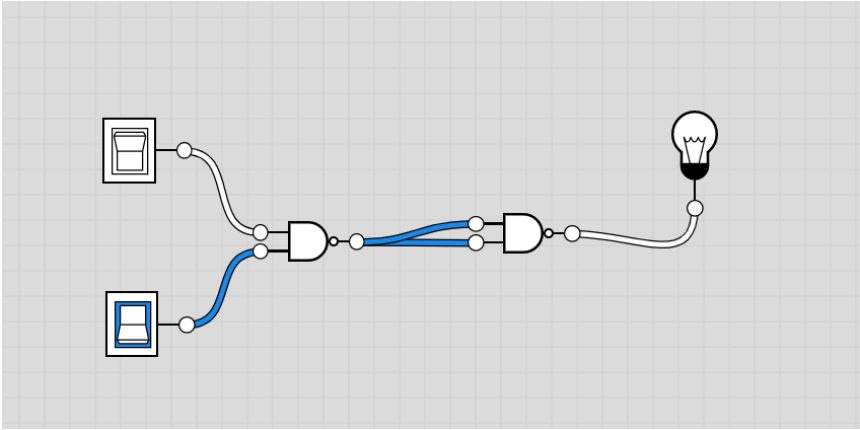
| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 0 | 0 |

### Combination#2



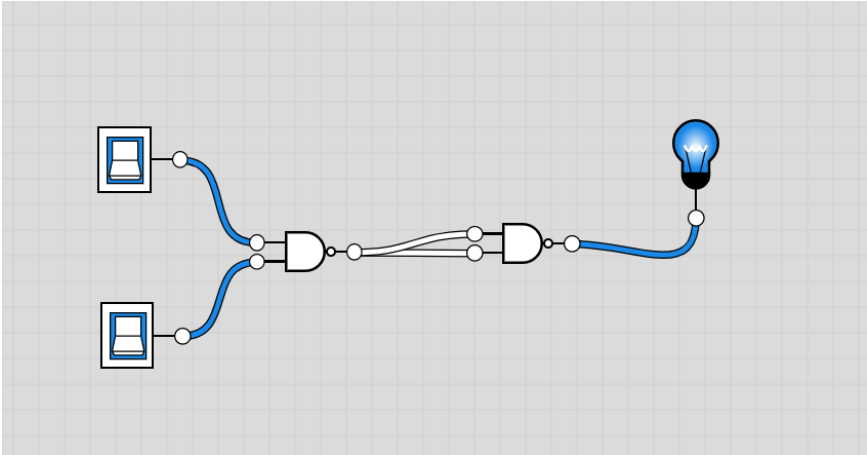
| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 0 | 0 |

## Combination#3



| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 1 | 0 |

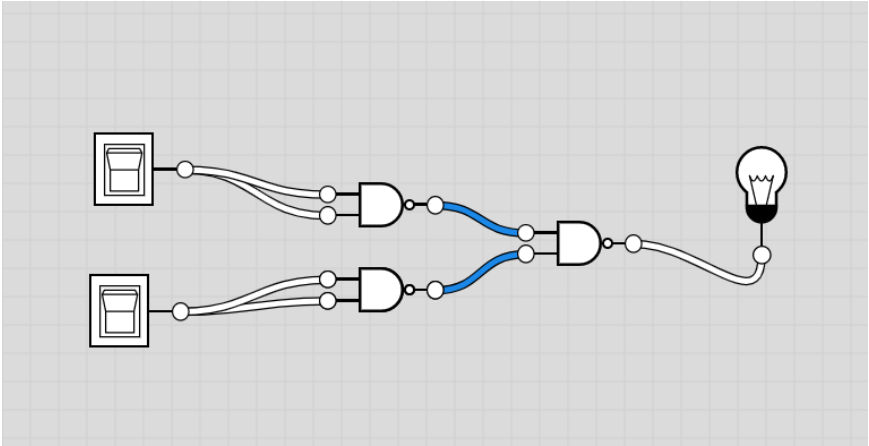
## Combination#4



| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 1 | 1 |

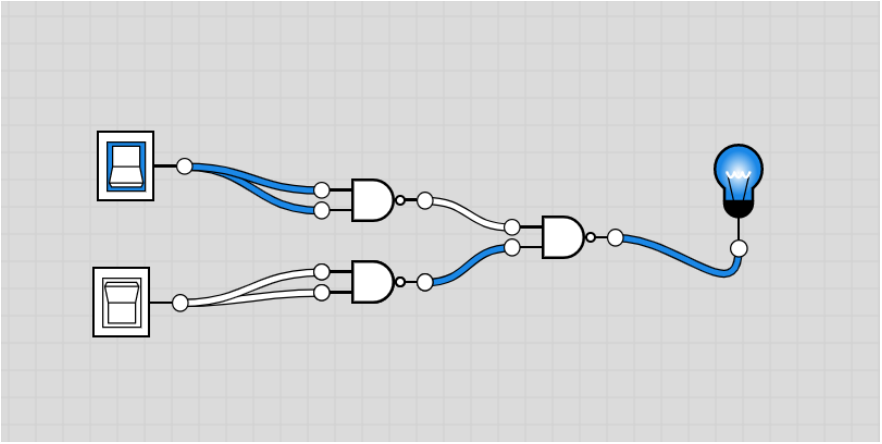
# OR Gate:

## Combination#1



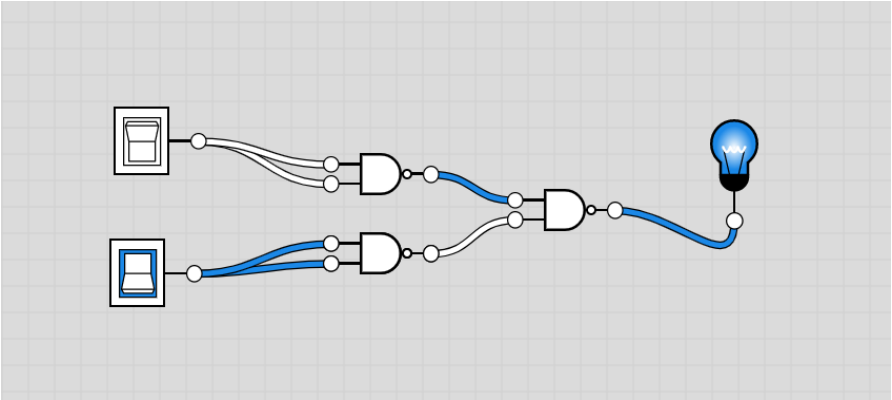
| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 0 | 0 |

## Combination#2



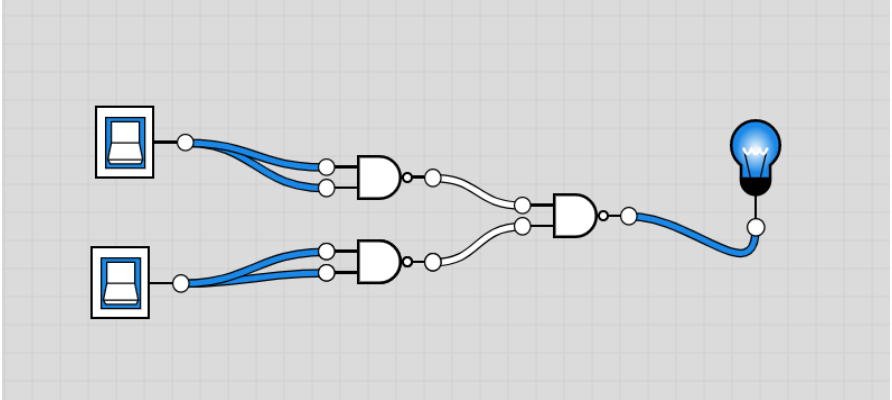
| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 0 | 1 |

## Combination#3



| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 1 | 1 |

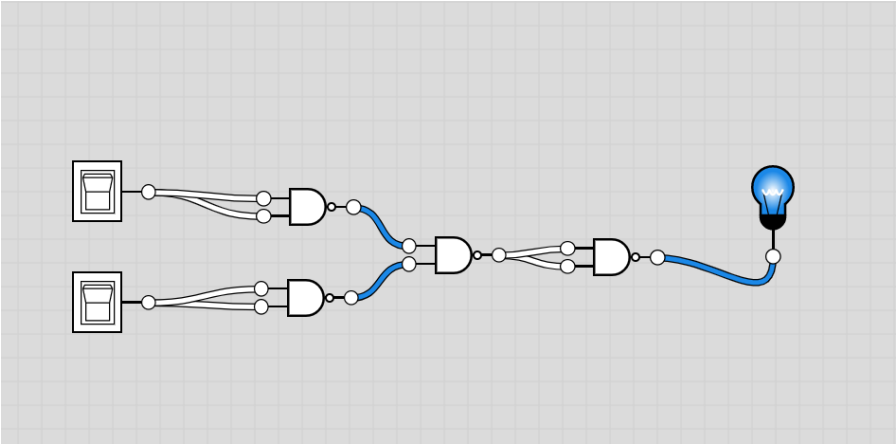
## Combination#4



| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 1 | 1 |

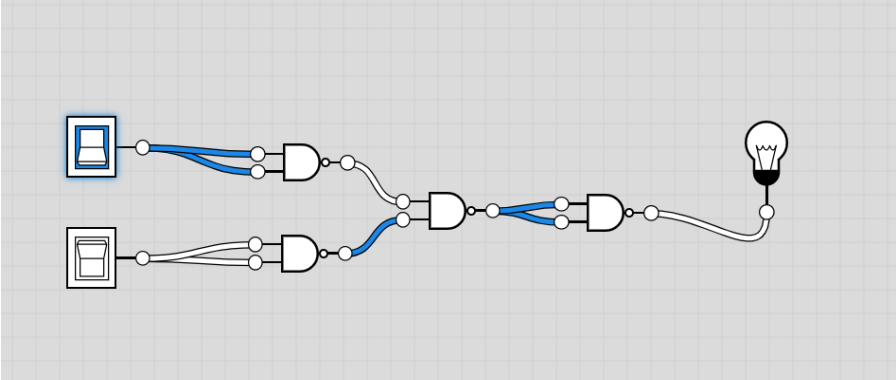
# NOR Gate:

## Combination#1



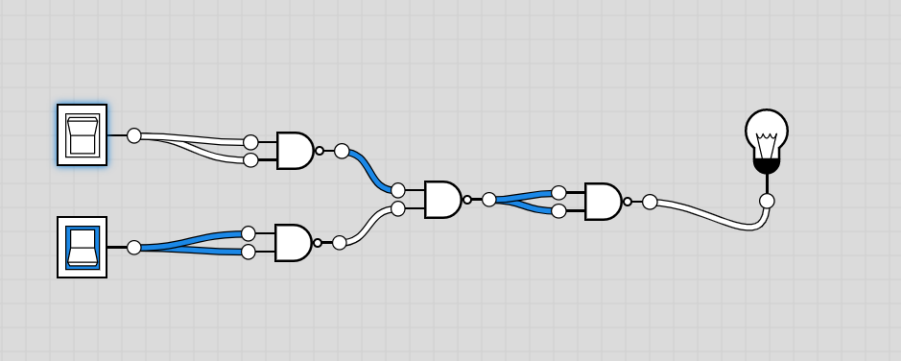
| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 0 | 1 |

## Combination#2



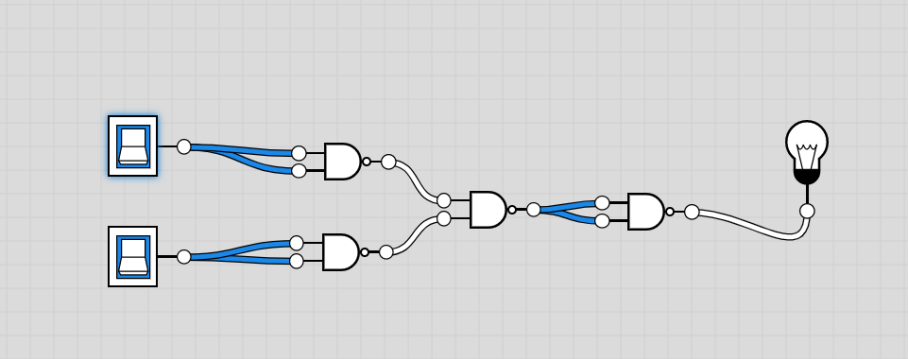
| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 0 | 0 |

## Combination#3



| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 1 | 0 |

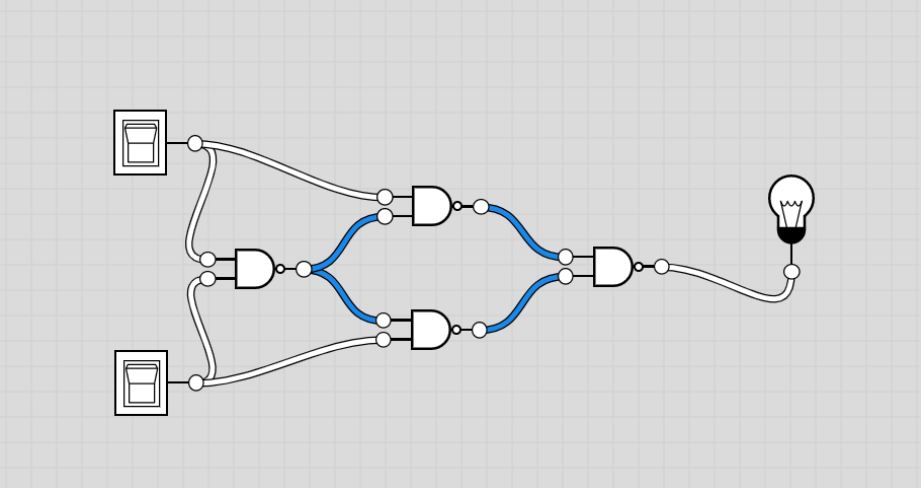
## Combination#4



| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 1 | 0 |

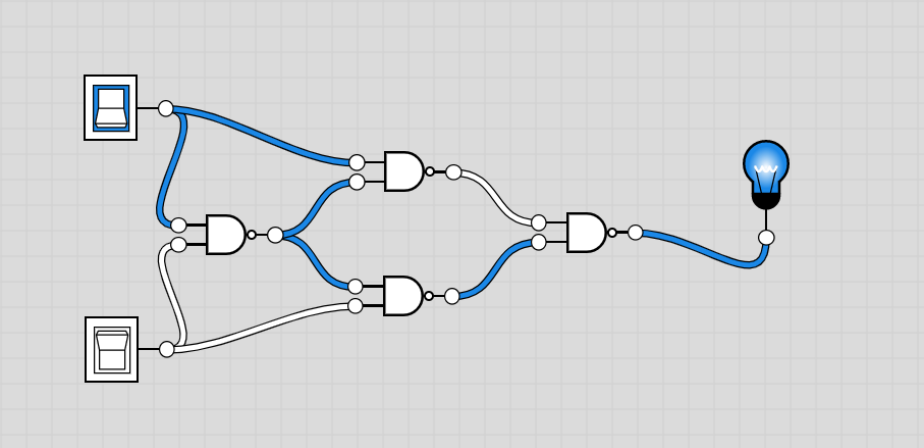
# Ex-OR Gate:

## Combination#1



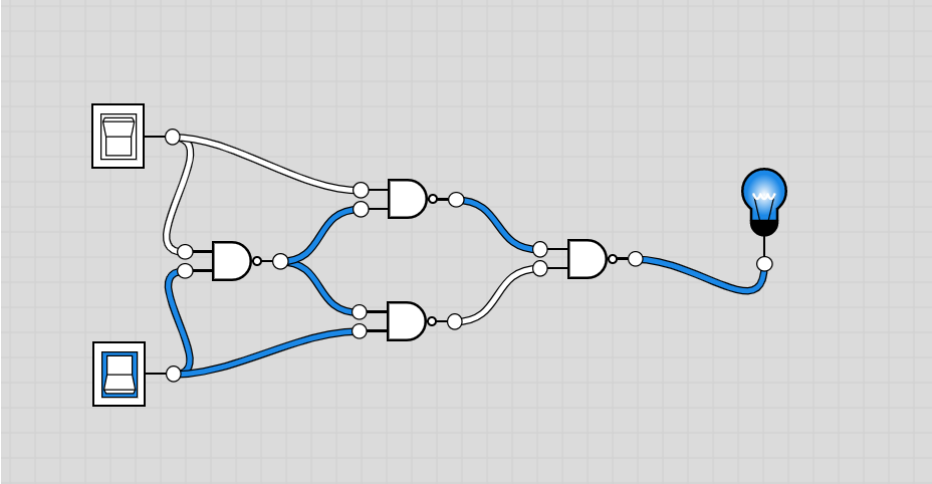
| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 0 | 0 |

## Combination#2



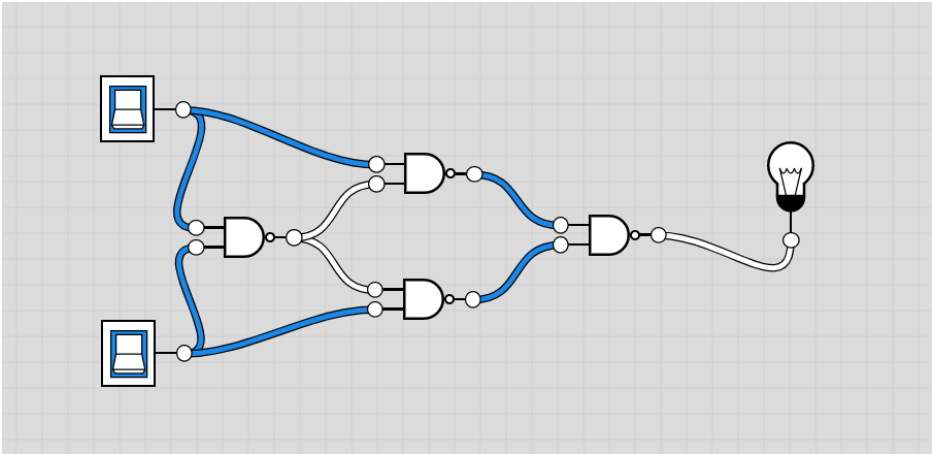
| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 0 | 1 |

## Combination#3



| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 1 | 1 |

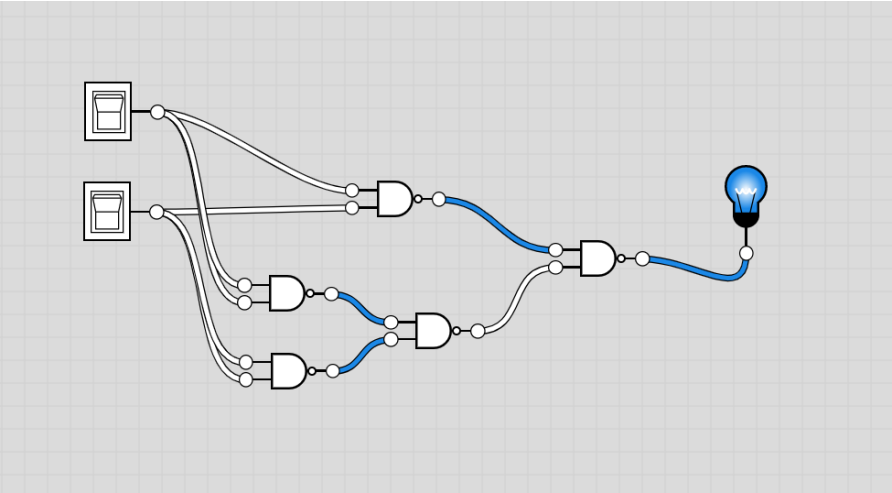
## Combination#4



| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 1 | 0 |

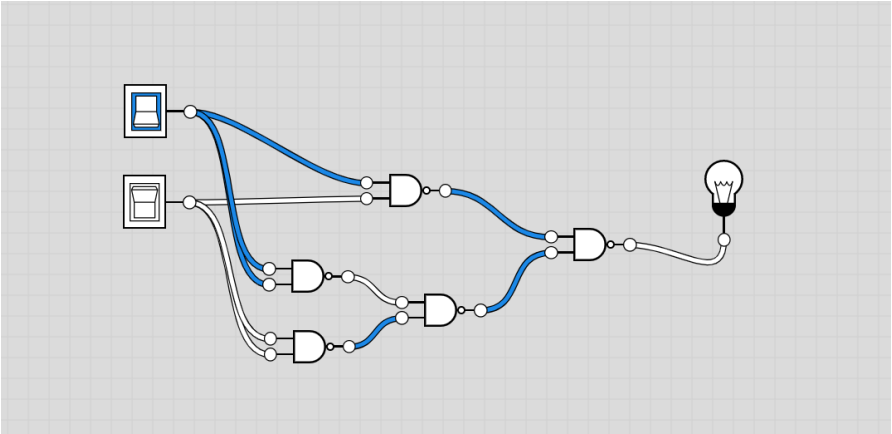
# Ex-NOR Gate:

## Combination#1



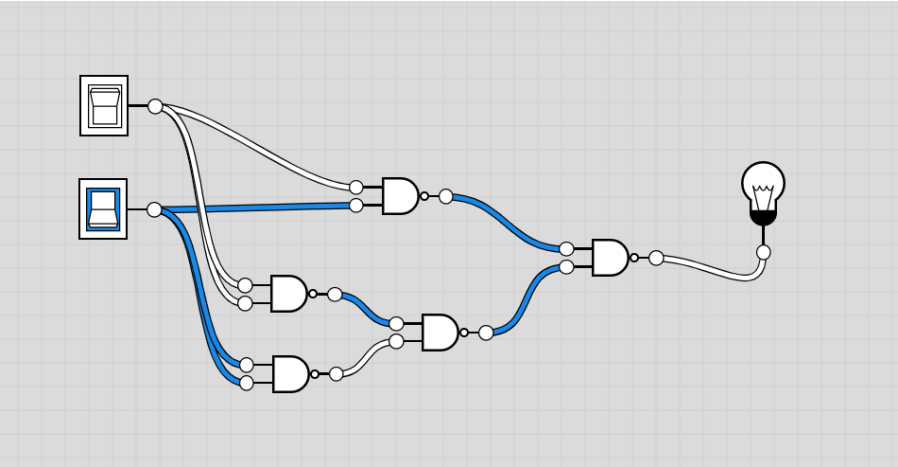
| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 0 | 1 |

## Combination#2



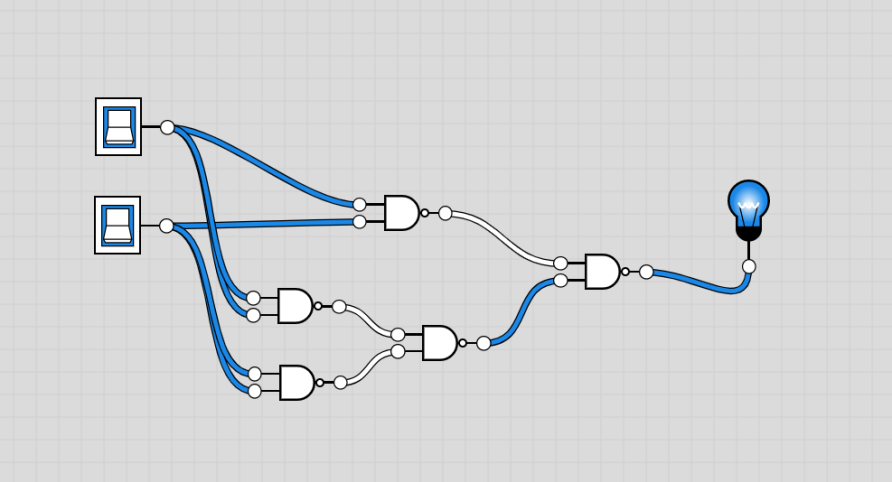
| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 0 | 0 |

## Combination#3



| Input 1 | Input 2 | Output |
|---|---|---|
| 0 | 1 | 0 |

## Combination#4



| Input 1 | Input 2 | Output |
|---|---|---|
| 1 | 1 | 1 |