

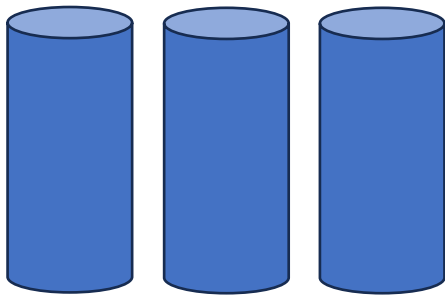
## Puzzle – 09

### Q- Torch and Batteries Puzzle

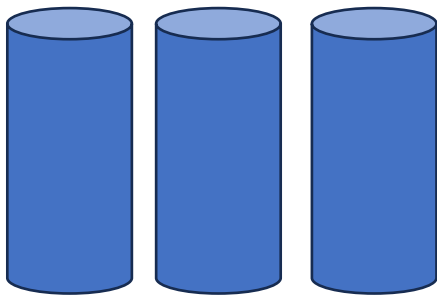
You have a Torch that takes 2 working batteries. You have 8 batteries but only 4 of them work. What is the fewest number of pairs you need to test to guarantee you can get the Torch on ?

### My Approach and Solution –

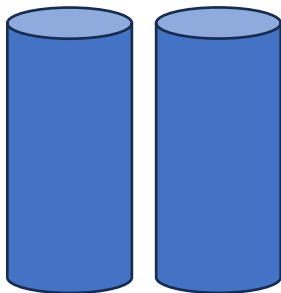
Break the batteries into 3 groups: with Two groups of 3 batteries and one group of 2 batteries. By doing this you guarantee that one of the groups has 2 working batteries.



Group 1 [3 Batteries]



Group 2 [3 Batteries]



Group 3 [2 Batteries]

Both of the groups of 3 have 3 possible combinations of 2 batteries and the group of 2 only has 1 combination.

So,  $3 + 3 + 1 = 7$  tries at most to find two working batteries.