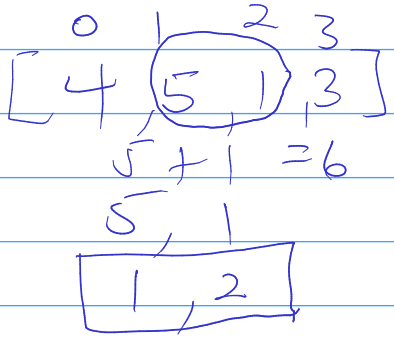
TWO SUM PROBLEM

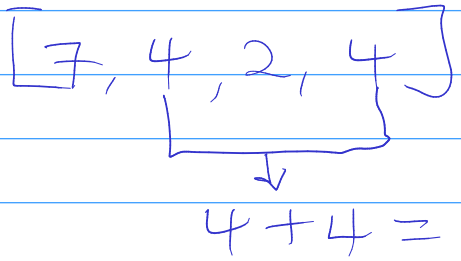
Find all the pair of two integers in an unsorted array that sum up to a given target and return the indices of the pair.

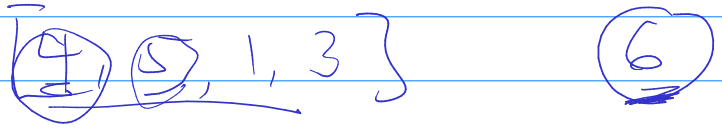
Condition: You may assume that each input would have exactly one solution, and you may not use the same element twice

[4; 5, 1, 3] → target = 6

[7, 4 , 2, 4] target = 8







Brute Force

4	~~4+4=8~~	4+5=9	4+1=5	4+3=7
5	5+4=9	~~5+5=10~~	5+1=6	5+3=8
1	1+4=5		X	
3				X

Choose a member from the list, then add this member to each member of that to see if you target

repeat till we get the answer

4 5 1 3

for a member in this list: (x)

for each member in the list (y)

If (x + y) == target

return index(x), index(y)

4 → 4

4 × 4

4 x 4
n x n ⇒ n^2

O(n^2)

4x O(n)

O O(n)

[4, 5, 1, 3] 6

4 + 2

4 Does 2??
5 Does 1??
→ 5 1
1 2

[4, 5, 1, 3]

4 - 6
5 - 6

4x