

Max length of pair chain  
 $n = [[1,2], [2,3], [3,4]]$  output = 2 why?  $[1,2], [3,4]$

$n = [[5,3], [3,2], [7,2], [2,1]]$  output = 4 why?  $[2,1] - [3,2] - [5,3] - [7,2]$

We first sort  $n$  by the first num in each sub-list

$n = [[2,1], [3,2], [5,3], [7,2]]$   
 $3 \quad 1 \quad 2 \quad 1 \quad 1 \quad 0 = 6$

then we create another list of size  $\frac{n!}{(n/2)! (n-n/2)!}$

in this case combs =  $[N, N, N, N, N, N, N]$

each index will be a sum of pairs

•  $0+1 = T$   $[2,1], [3,2]$   $b < c$  in  $(a,b), (c,d)$   
 $list = [0,1]$   
 $combs[0] = link = T$   $best\_yet = 2$  ( $len(list)$ )

•  $0+2 = T$   $[2,1], [5,3]$   
 $list = [0,2]$   
 $combs[1] = link = T$

•  $0+3 = T$   $[2,1], [7,2]$   
 $list = [0,3]$   
 $combs[2] = link = T$

•  $1+2 = T$  •  $1+3 = T$  •  $2+3 = T$

•  $0+1+2 = T$  •  $0+1+3 = T$  •  $0+2+3 = T$  •  $1+2+3 = T$

•  $0+1+2 = T$   $0+1 = T$  or we check  $1+2 = T$  only check

•  $0+1+3 = T$   $0+1 = T$  or we check  $1+3 = T$

•  $0+2+3 = T$   $0+2 = T$  or we check  $2+3 = T$

•  $0+1+2+3 = T$   $0+1+2 = T$  or we check  $2+3 = T$

$0+1 = T$

best\_yet = 4