

765 Couple Holding Hands

each couple is even-odd pair

i.e. $(0, 1)$
 $(2, 3)$

GREEDY APPROACH

Note 1

If the number we are looking at is even (say it is x)
It is paired with odd number of value $x+1$

Note 2

If the number we are looking at is odd (say it is y)
It is paired with even number of value $y-1$

Algo

count = 0
for x in range(0, len(row), 2):

CASE 1

if $row[x] \% 2 == 0$ and $row[x+1] \neq row[x] + 1$:

considered number is even
∴ next number should be $row[x] + 1$
if not then shuffle

index = row.index($row[x] + 1$)

$row[index] = row[x + 1]$

$row[x + 1] = row[x] + 1$

count += 1

CASE 2

elif $row[x] \% 2 \neq 0$ and $row[x+1] \neq row[x] - 1$:

considered number is odd
∴ next number should be $row[x] - 1$
if not then there is switch

index = row.index($row[x] - 1$)

$row[index] = row[x + 1]$

$row[x + 1] = row[x] - 1$

count += 1

return count

eg:

[0, 2, 1, 3]

For $x = 0$ $count = 0$

0	2	1	3
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$row[0] = 0$

$row[1] = 2$

$row[0] \% 2 = 0$ and $row[1] \% 2 = row[0] + 1$

$ind = row_index(row[x] + 1)$ # (2)

$row[ind] = row[x + 1]$

$row[x + 1] = row[x] + 1$

$count + 1$

count = 1

0	1	2	3
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For $x = 2$

$row[2] = 2$

$row[2] = 3$

$row[2] \% 2 = 0$ and $row[3] = row[2] + 1$

no swapping

$\therefore count = 1$

return count