Othello, Part I: Count pieces to be flipped
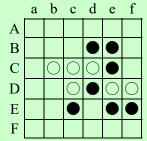
function countFlipPieces(gameboard, the player's color, a grid, a direction);
Output: the number of that opponent's pieces that can be flipped

Description

- The state of the game board is represented by a string of 36 characters, including + (for empty grid), X (for dark pieces), and O (for light pieces).
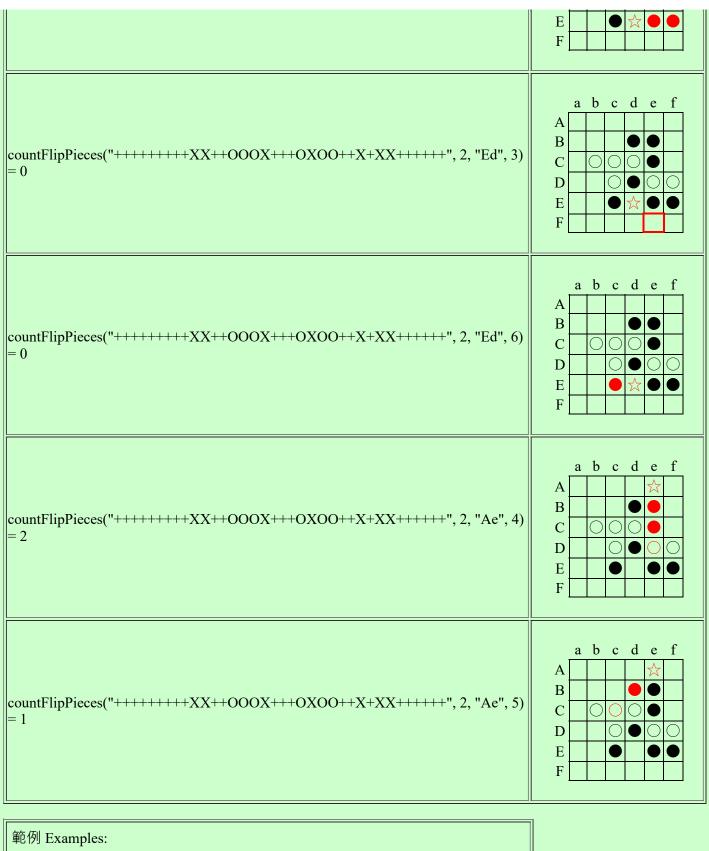 For example, "+++++++++XX++OOOX+++OXOO++X+XX++++++" means

- Player 1 uses dark pieces and Player 2 uses light pieces.

- The coordination of a grid is in the format of Xy, where the uppercased X denotes the row and the lowercased y denotes the column.

- Direction ID 0 ~ 7 denote the eight directions, i.e. 上 up, 右上 up-right, 右 right, 右下 down-right, 下 down, 左下 down-left, 左 left, and 左上 up-left.
  In this practice, when there is a tie (e.g. two moves having the same heuristic scores), choose the lower-ID direction.
  (In the future, you can break tie with random numbers.)

Some examples are given here.

Return Value	Explanation
countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ed", 0) = 1	
countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ed", 1) = 0	
countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ed", 2) = 0	

	a	b	c	d	e	f
E			●	☆	🔴	🔴
F						

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countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ed", 3) = 0

	a	b	c	d	e	f
A						
B				●	●	
C		○	○	○	●	
D			○	●	○	○
E			●	☆	●	●
F				▢		

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countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ed", 6) = 0

	a	b	c	d	e	f
A						
B				●	●	
C		○	○	○	●	
D			○	●	○	○
E			🔴	☆	●	●
F						

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countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ae", 4) = 2

	a	b	c	d	e	f
A					☆	
B				●	🔴	
C		○	○	○	🔴	
D			○	●	○	○
E			●		●	●
F						

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countFlipPieces("+++++++++XX++OOOX+++OXOO++X+XX++++++", 2, "Ae", 5) = 1

	a	b	c	d	e	f
A					☆	
B				🔴	●	
C		○	○	○	●	
D			○	●	○	○
E			●		●	●
F						

範例 Examples:	
Input	**Meaning**
7	Number of test data
+++++++++XX++OOOX+++OXOO++X+XX++++++	gameboard of test data #1
2	player's color of test data #1
Ed	grid of test data #1
0	direction of test data #1
+++++++++XX++OOOX+++OXOO++X+XX++++++	gameboard of test data #2
2	player's color of test data #2
Ed	grid of test data #2
1	direction of test data #2

`+++++++++XX++OOOX+++OXOO++X+XX++++++`	test data #3
2	test data #3
Ed	test data #3
2	test data #3
`+++++++++XX++OOOX+++OXOO++X+XX++++++`	test data #4
2	test data #4
Ed	test data #4
3	test data #4
`+++++++++XX++OOOX+++OXOO++X+XX++++++`	...
2	...
Ed	
6	
`+++++++++XX++OOOX+++OXOO++X+XX++++++`	
2	
Ae	
4	
`+++++++++XX++OOOX+++OXOO++X+XX++++++`	
2	
Ae	
5	

Output	Meaning
1	answer of test data #1
0	answer of test data #2
0	answer of test data #3
0	...
0	...
2	
1	