

1. Srstr

Source: a b c d e f ; source.length() == 6

target: def ; target.length() == 3

index of source

0 1 2 3 4 5
a b c d e f

index of target

0 1 2
d e f

$6 - 3 + 1 = 4$



i: iterate source, (int i=0; i < source.length() - target.length() + 1; i++) {
j: iterate target, (int j=0; j < target.length(); j++) {

if (source.charAt(i+j) == target.charAt(j))

j++;

if (source.charAt(i) != target.charAt(j))

break;

}

}

i=0



0 1 2 3 4 5
a b c d e f

j=0



0 1 2
d e f

⇒

source.charAt(i+j) == 'a'

target.charAt(j) == 'd'

'a' != 'd'

break;

i++;

(i == 1 < 4)

i=1



0 1 2 3 4 5
a b c d e f

j=0



0 1 2
d e f

⇒

source.charAt(i+j) == 'b'

target.charAt(j) == 'd'

'b' != 'd'

break;

i++;

(i == 2 < 4)

i=2



0 1 2 3 4 5
a b c d e f

j=0



0 1 2
d e f

⇒

source.charAt(i+j) == 'c'

target.charAt(j) == 'd'

'c' != 'd'

break;

i++;

(i == 3 < 4)

i=3



0 1 2 3 4 5
a b c d e f

j=0



0 1 2
d e f

⇒

source.charAt(i+j) == 'd'

target.charAt(j) == 'd'

'd' == 'd'

j++;

(i == 3 < 4)

(j == 1 < 3)

i=3



0 1 2 3 4 5
a b c d e f

j=1



0 1 2
d e f

⇒

source.charAt(i+j) == source.charAt(4) == 'e'

target.charAt(j) == 'e'

'e' == 'e'

j++;

(i == 3 < 4)

(j == 2 < 3)

i=3



0 1 2 3 4 5
a b c d e f

j=2



0 1 2
d e f

⇒

source.charAt(i+j) == source.charAt(5) == 'f'

target.charAt(j) == 'f'

'f' == 'f'

j++;

i++;

(i == 3 < 4)

(j == 3 !< 3)

↳ jump out of the nested for loop.

if (j == target.length()) {

return i;

}

other wise ,

i++;

i == 4 !< 4

↳ jump out of outer for loop

return -1;

means we didn't find the target