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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y

x t p x t d

↑

**Align both strings at their beginning position and begin comparing**

**Comparisons: 1**

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## Knuth-Morris-Pratt

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x	l	u	x	t	p	x	t	d	q	w	t	d	x	t	p	x	t	s	y	x	t	p	x	t	d	y
x	t	p	x	t	d																					
↑																										

If symbols match, compare the next symbols in both  $P$  and  $T$

Comparisons: **2**

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols don't match, and the current symbol in  $P$  is  $i > 1$ , align  $F(i)$  in  $P$  with the current symbol in  $T$

**Comparisons: 3**

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols don't match, and the current symbol in  $P$  is  $i = 1$ , align  $F(i)$  in  $P$  with the next symbol in  $T$

Comparisons: 4

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols don't match, and the current symbol in  $P$  is  $i = 1$ , align  $F(i)$  in  $P$  with the next symbol in  $T$

Comparisons: 5

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols match, compare the next symbols in both  $P$  and  $T$

**Comparisons: 6**



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## Knuth-Morris-Pratt

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x l u 

x	t	p
x	t	p

 x t d q w t d x t p x t s y x t p x t d y  
x t d  
↑

If symbols match, compare the next symbols in both  $P$  and  $T$

Comparisons: 8























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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols match, compare the next symbols in both  $P$  and  $T$

Comparisons: 18

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols match, compare the next symbols in both  $P$  and  $T$

Comparisons: 19

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols match, compare the next symbols in both  $P$  and  $T$

**Comparisons: 20**

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols don't match, and the current symbol in  $P$  is  $i > 1$ , align  $F(i)$  in  $P$  with the current symbol in  $T$

**Comparisons: 21**

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols don't match, and the current symbol in  $P$  is  $i > 1$ , align  $F(i)$  in  $P$  with the current symbol in  $T$

**Comparisons: 22**

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## Knuth-Morris-Pratt

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x l u x t p x t d q w t d x t p x t s y x t p x t d y  
x t p x t d  
↑

If symbols don't match, and the current symbol in  $P$  is  $i = 1$ , align  $F(i)$  in  $P$  with the next symbol in  $T$

**Comparisons: 23**