Nama : Ronaldo Damianus Parulian Silitonga

NIM : 211401057

UAS DAA LAB 5

PEMBUKTIAN METODE KMP ( Knuth Morris Pratt )

Masalah

Text : AENCNALDONEONCIEONALDONADNECGNALJXONALDONALDOINNSW

Kata yang ingin dicari (pattern) : NALDONALDO

Penyelesaian

X = NALDONALDO

m = 10

Table kmpNext dari pattern (kata yang ingin dicari)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N | A | L | D | O | N | A | L | D | O |
| -1 |  |  |  |  |  |  |  |  |  |

Diketahui : i=0; m=10; j=0;

Karena I < m terpenuhi tetapi tidak dengan j > -1 maka nilai I dan j ditambah 1 sehingga

I = 1, j = 0

Kemudian, karena x[1] yaitu A tidak sama dengan x[0] yaitu N maka dilakukan

kmpNext [1] = 0

|  |  |  |  |  |  |  |  |  |  |
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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 |  |  |  |  |  |  |  |  |

I=2;m=10;j=0;

Karena I < m dan x[1] yaitu A tidak sama dengan x[0] maka nilai I dan j ditambah 1 sehingga

I = 2, j = 0

Kemudian, karena x[2] yaitu L tidak sama dengan x[0] yaitu N maka nilai 1 dan j ditambah 1 sehingga

I = 2 , j = 0

Lakukan terus sampai (i !< m)

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 |  |  |  |  |  |  |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 |  |  |  |  |  |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 | 0 |  |  |  |  |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 | 0 | -1 |  |  |  |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 | 0 | -1 | 0 |  |  |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 | 0 | -1 | 0 | 0 |  |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 |  |

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| N | A | L | D | O | N | A | L | D | O |
| -1 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 |

Finished

String Matching

AENCNALDONEONCIEONALDONADNECGNALJXONALDONALDOINNSW

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| A | E | N | C | N | A | L | D | O | N | E | O | N | C | I | E | O | N | A | L | D | O | N | A | D | N | E | C | G | N |
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| A | L | J | X | O | N | A | L | D | O | N | A | L | D | O | I | N | N | S | W |
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| A | E | N | C | N | A | L | D | O | N | E | O | N | C | I | E | O | N | A | L | D | O | N | A | D | N | E | C | G | N |
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| A | L | J | X | O | N | A | L | D | O | N | A | L | D | O | I | N | N | S | W |
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| A | E | N | C | N | A | L | D | O | N | E | O | N | C | I | E | O | N | A | L | D | O | N | A | D | N | E | C | G | N |
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| A | L | J | X | O | N | A | L | D | O | N | A | L | D | O | I | N | N | S | W |
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| A | L | J | X | O | N | A | L | D | O | N | A | L | D | O | I | N | N | S | W |
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| A | E | N | C | N | A | L | D | O | N | E | O | N | C | I | E | O | N | A | L | D | O | N | A | D | N | E | C | G | N |
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| A | L | J | X | O | N | A | L | D | O | N | A | L | D | O | I | N | N | S | W |
| D | O | N | A | L | D | O |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| A | E | N | C | N | A | L | D | O | N | E | O | N | C | I | E | O | N | A | L | D | O | N | A | D | N | E | C | G | N |
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