

Algorithm

LZ77 Encoding-Algorithm

- Find the longest match in the window for the lookahead buffer.
- If a match is found, output the pointer P. Move the coding position (and the window) L bytes forward.
- If a match is not found, output a null pointer and the first byte in the lookahead buffer. Move the coding position (and the window) one byte forward.
- If the lookahead buffer is not empty, return to step 2.

LZ77 Decoding-Algorithm

- Reverse the method used in encoding to generate the sequences.
- Do this operation using <encodedNumbers, encodedSizes, encodedLetters.>

LZ77 Encoding Example:

Input: "cabracadabrarrarrad"

Window Size: 13

Search Window Size: 7

Preview/Lookup Window Size: 6

LZ77 Encoding Example:

$\langle 0, 0, c \rangle$

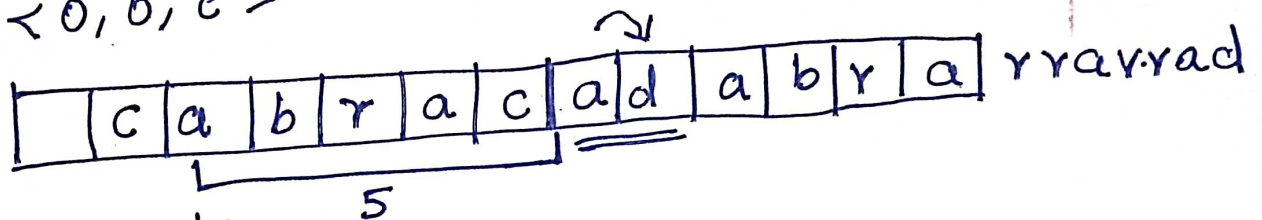
$\langle 0, 0, a \rangle$

$\langle 0, 0, b \rangle$

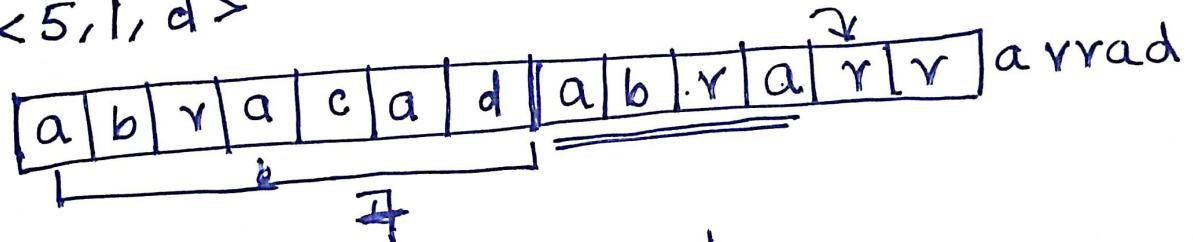
$\langle 0, 0, r \rangle$

$\langle 0, 0, a \rangle$

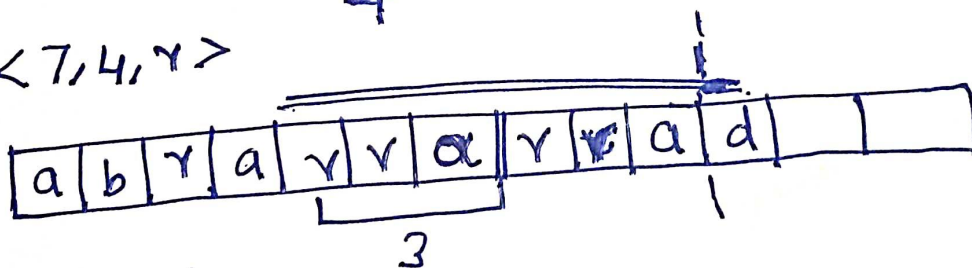
$\langle 0, 0, c \rangle$



$\langle 5, 1, d \rangle$



$\langle 7, 4, r \rangle$



$\langle 3, 5, d \rangle$

LZ77 Decoding Example:

$\langle 0, 0, c \rangle$

$\langle 0, 0, a \rangle$

$\langle 0, 0, b \rangle$

$\langle 0, 0, r \rangle$

$\langle 0, 0, a \rangle$

$\langle 0, 0, c \rangle$

$\langle 5, 1, d \rangle$

$\langle 7, 4, r \rangle$

$\langle 3, 5, d \rangle$

					c
				c	a
			c	a	b
		c	a	b	r
	c	a	b	r	a
c	a	b	r	a	c

5

c	a	b	r	a	c	a	d
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7

c	a	b	r	a	c	a	d	a	b	r	a	r
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3

c	a	b	r	a	c	a	d	a	b	r	a	r	r	a	r	a	d
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