Aho-Corasick – Algorithm to Construct Suffix Links in a Trie

Aho-Corasick – Algorithm to Build Suffix Links

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(Node for word **x** has child **a**)

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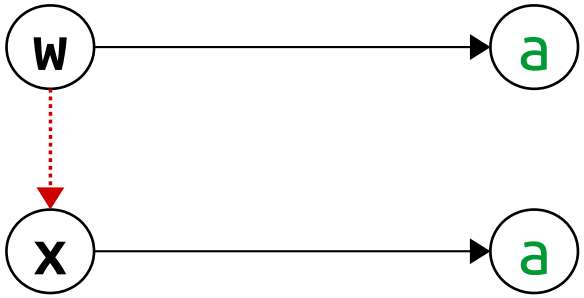

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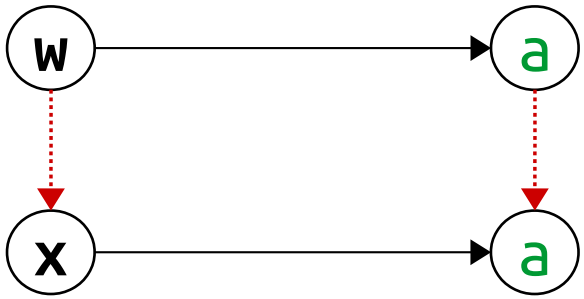

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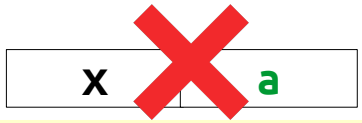

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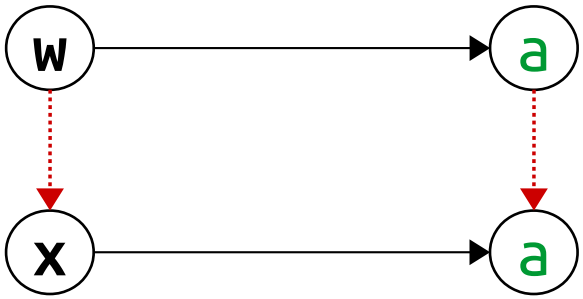

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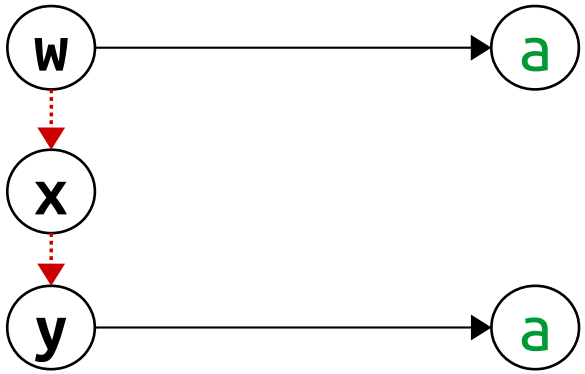
Check if **y** = **x**'s **suffix link** has node **ya**



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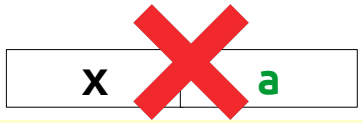

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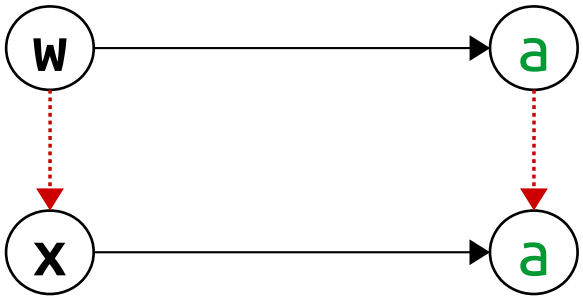

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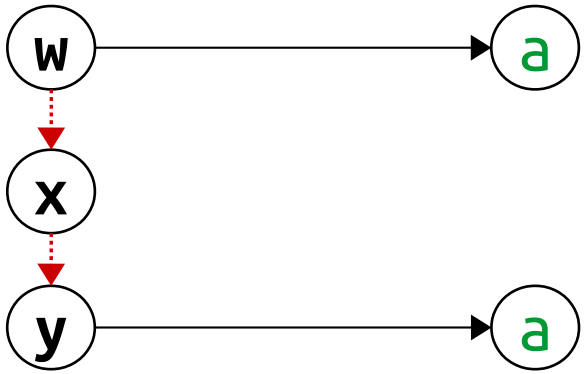


Aho-Corasick – Algorithm to Build Suffix Links

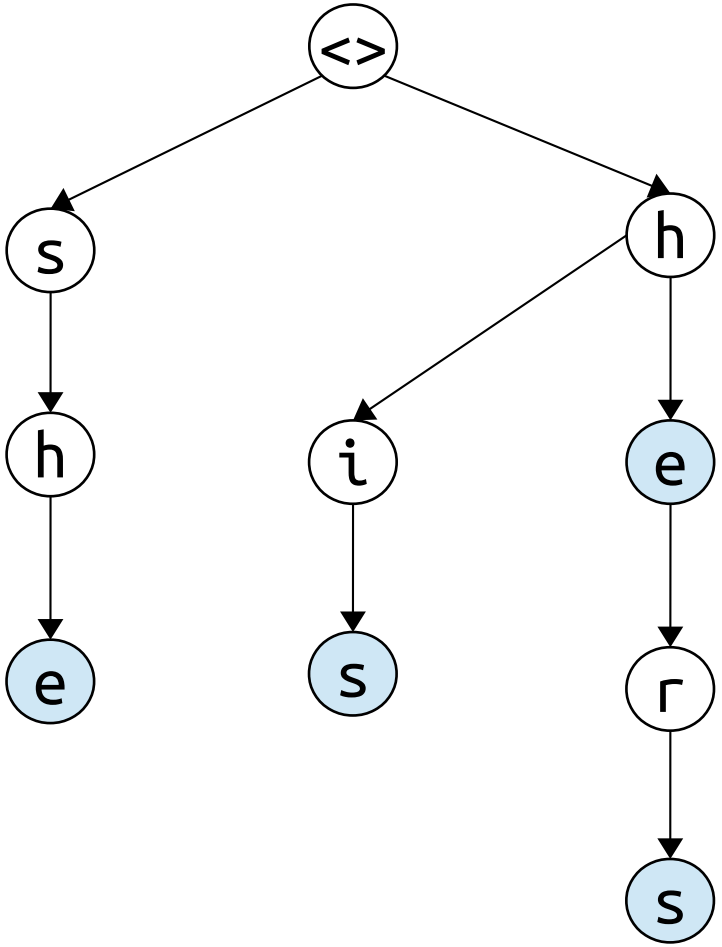
```
1  suffix link of the root is nullptr.
2
3  For each child i of the root
4      suffix link of root->child[i] is the root.
5
6  Visit each node w of the trie in "level-order" (except the root)
7
8      For each non-null child with letter a of node w:
9
10         /*** Create suffix link for node wa ***/
11
12         Let node x be the suffix link of w
13
14         While (node x is not nullptr) and (x has not child a):
15             x = suffix link of x;
16
17         If x is nullptr:
18             suffix link of node wa = root of the trie
19         Else:
19             suffix link of node wa = child a of x
20
21
22
```

Aho-Corasick – Algorithm to Build Suffix Links

Example

patterns:

h	e		
h	i	s	
h	e	r	s
s	h	e	



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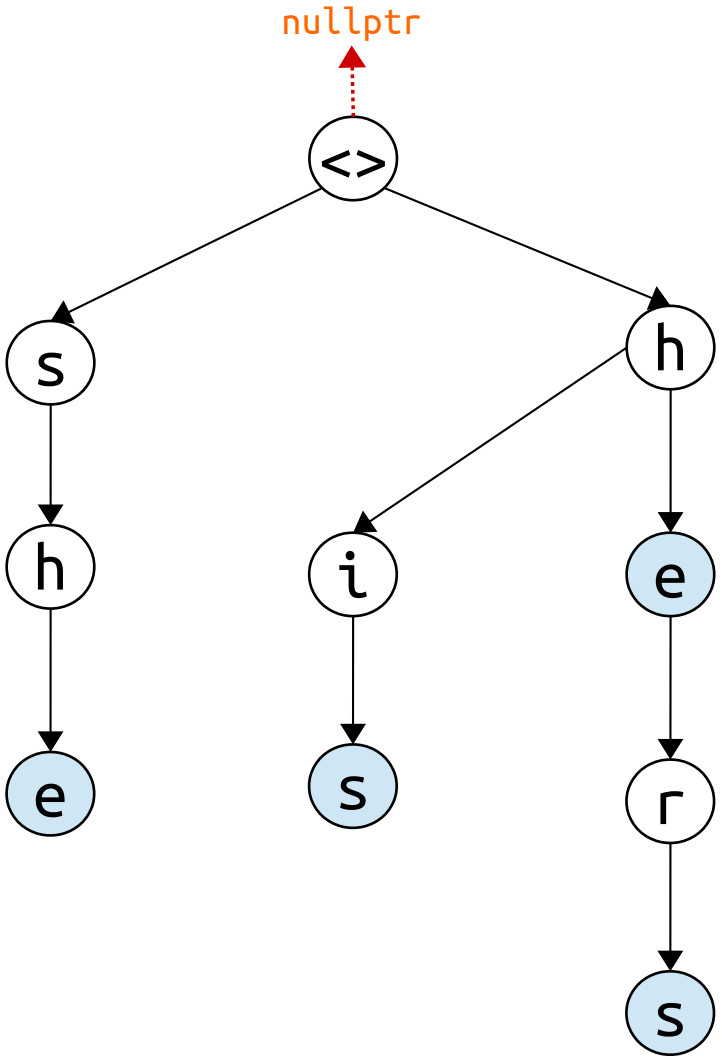

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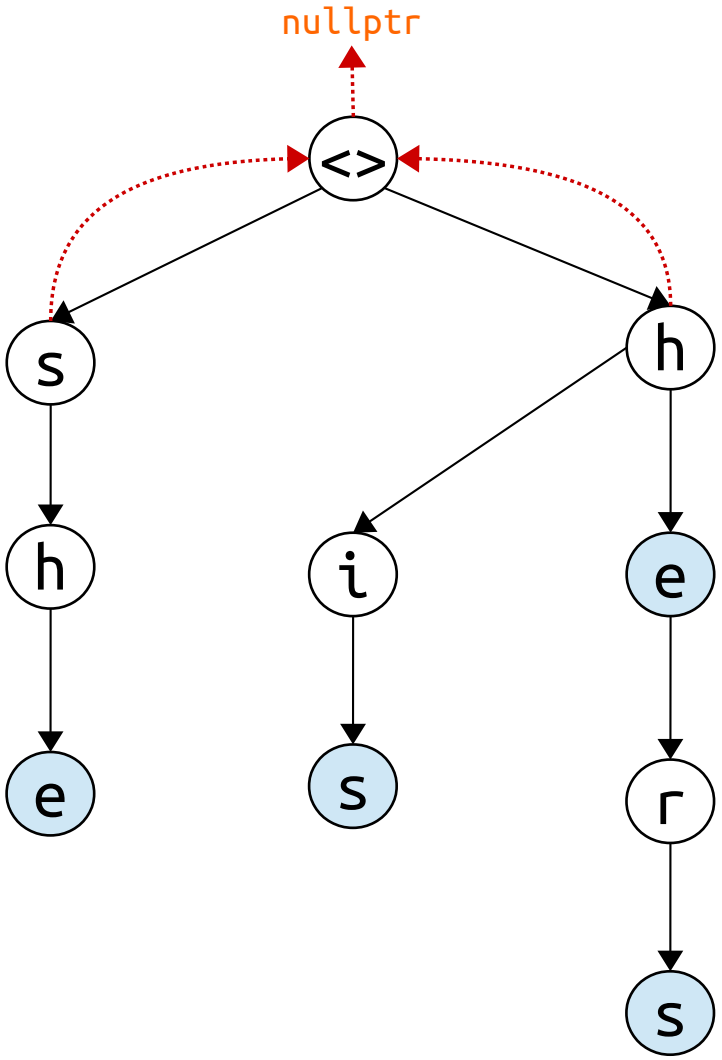

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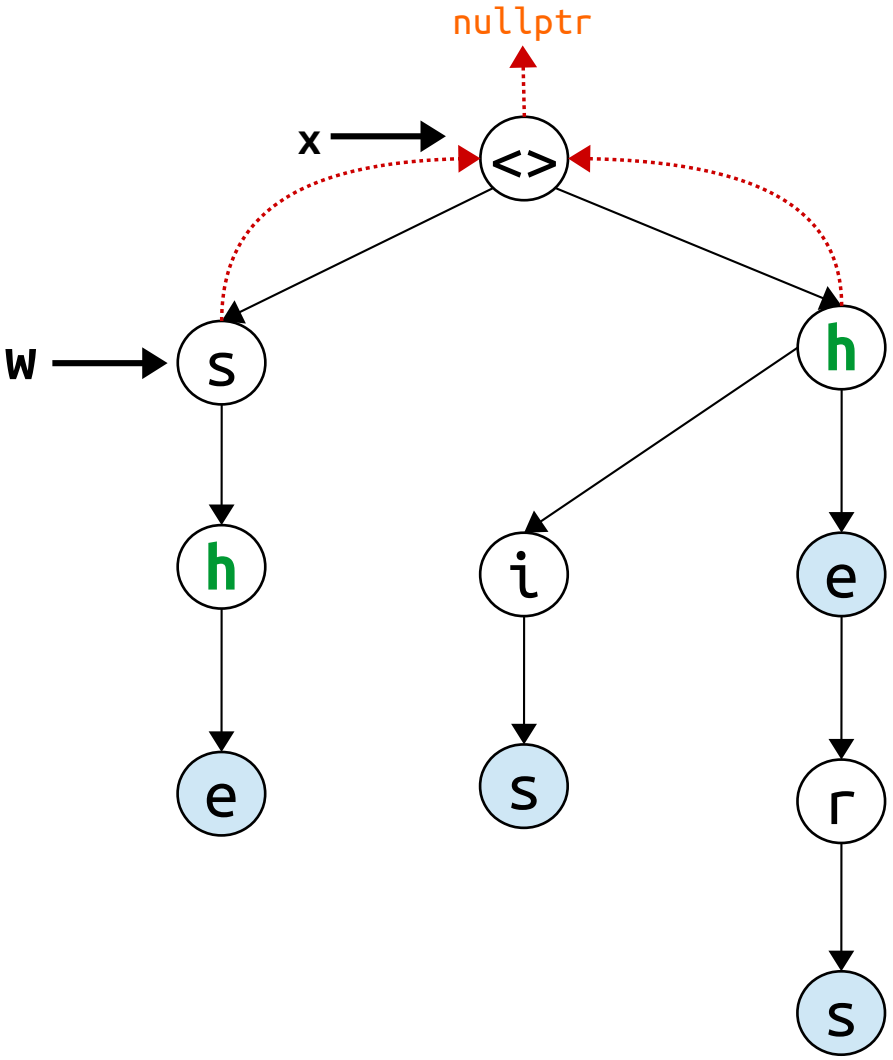

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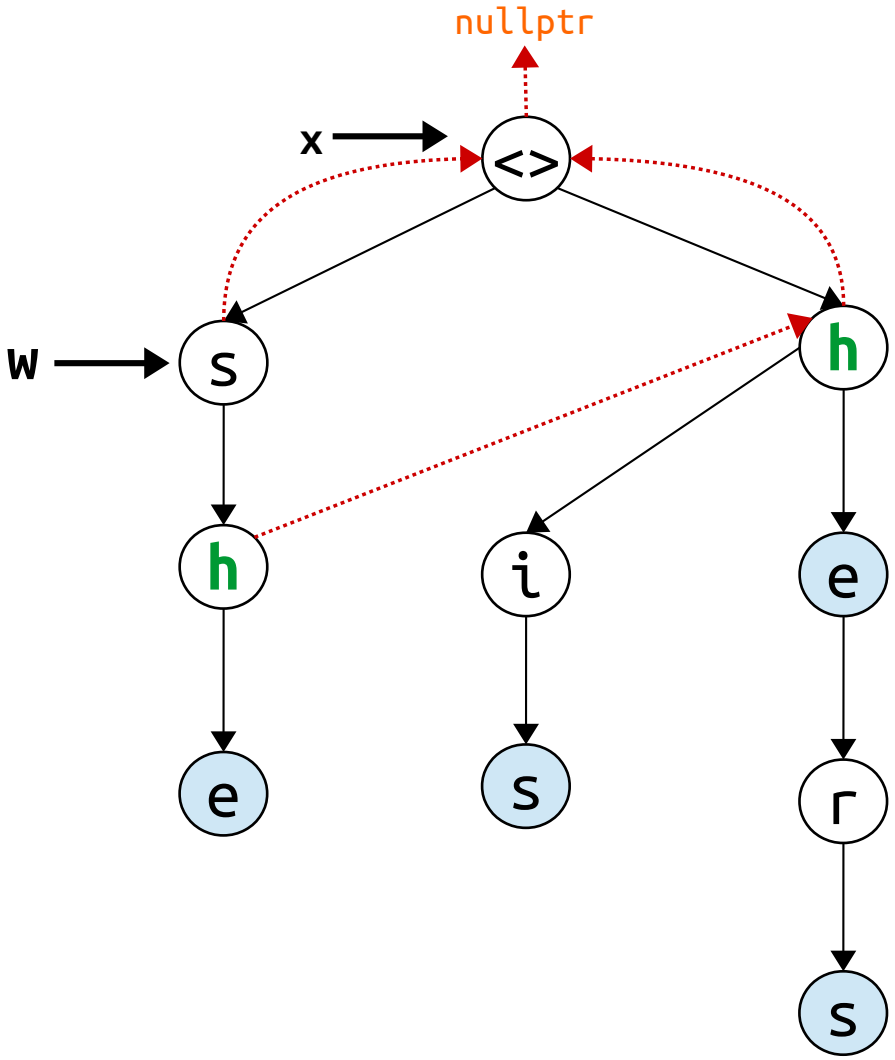

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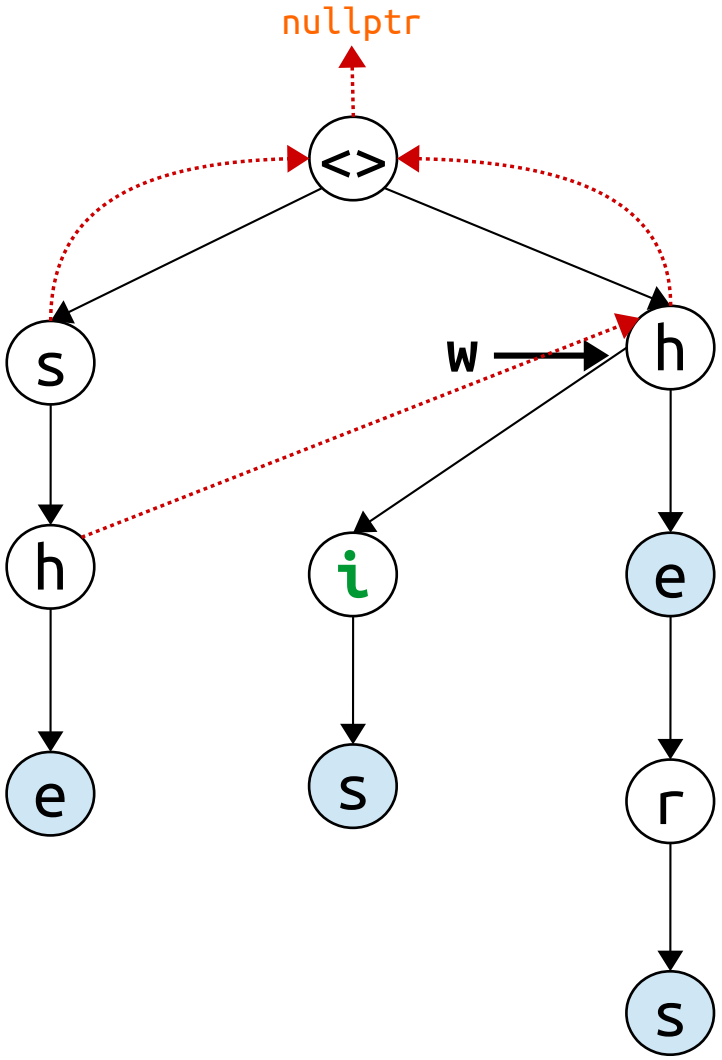

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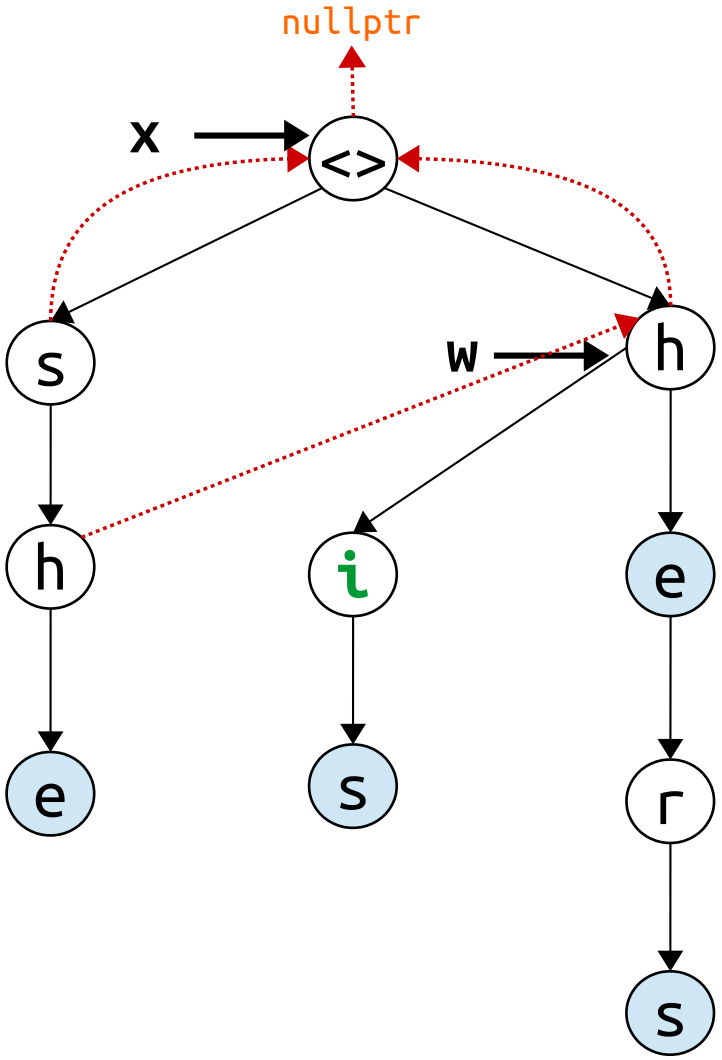

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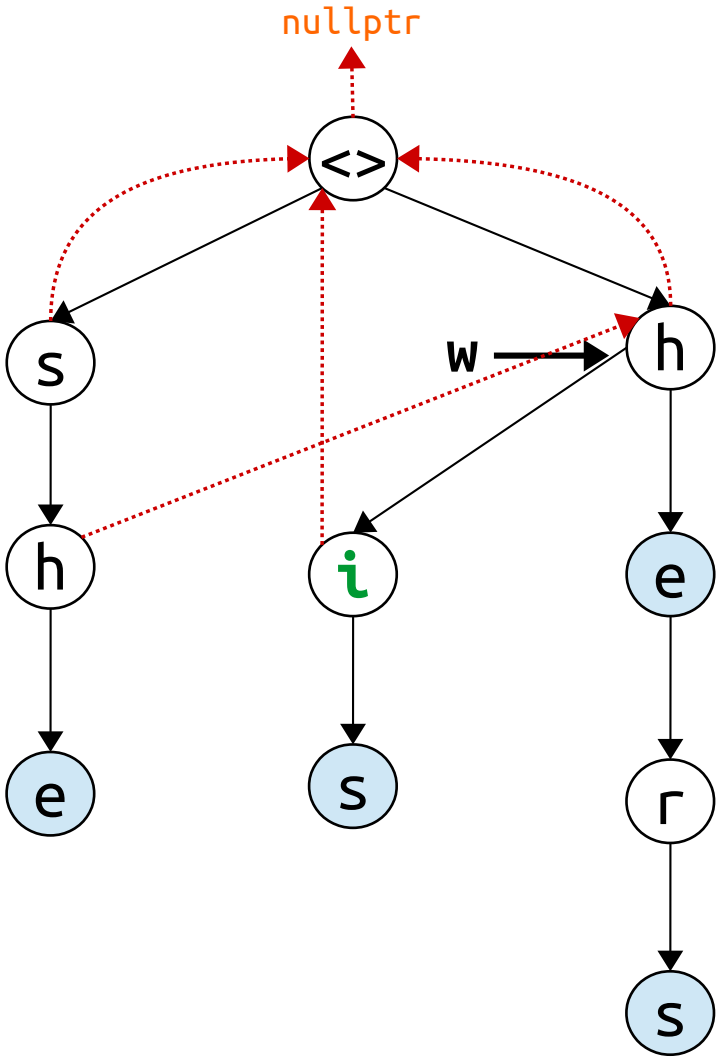

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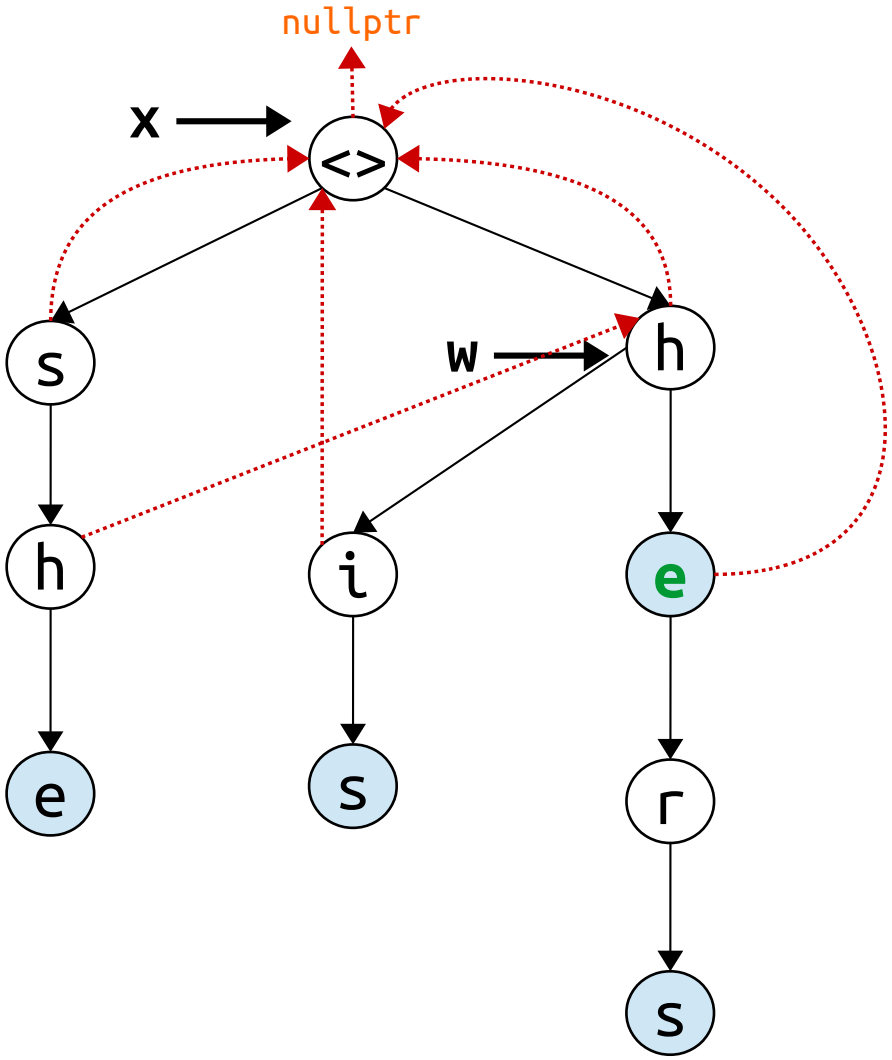

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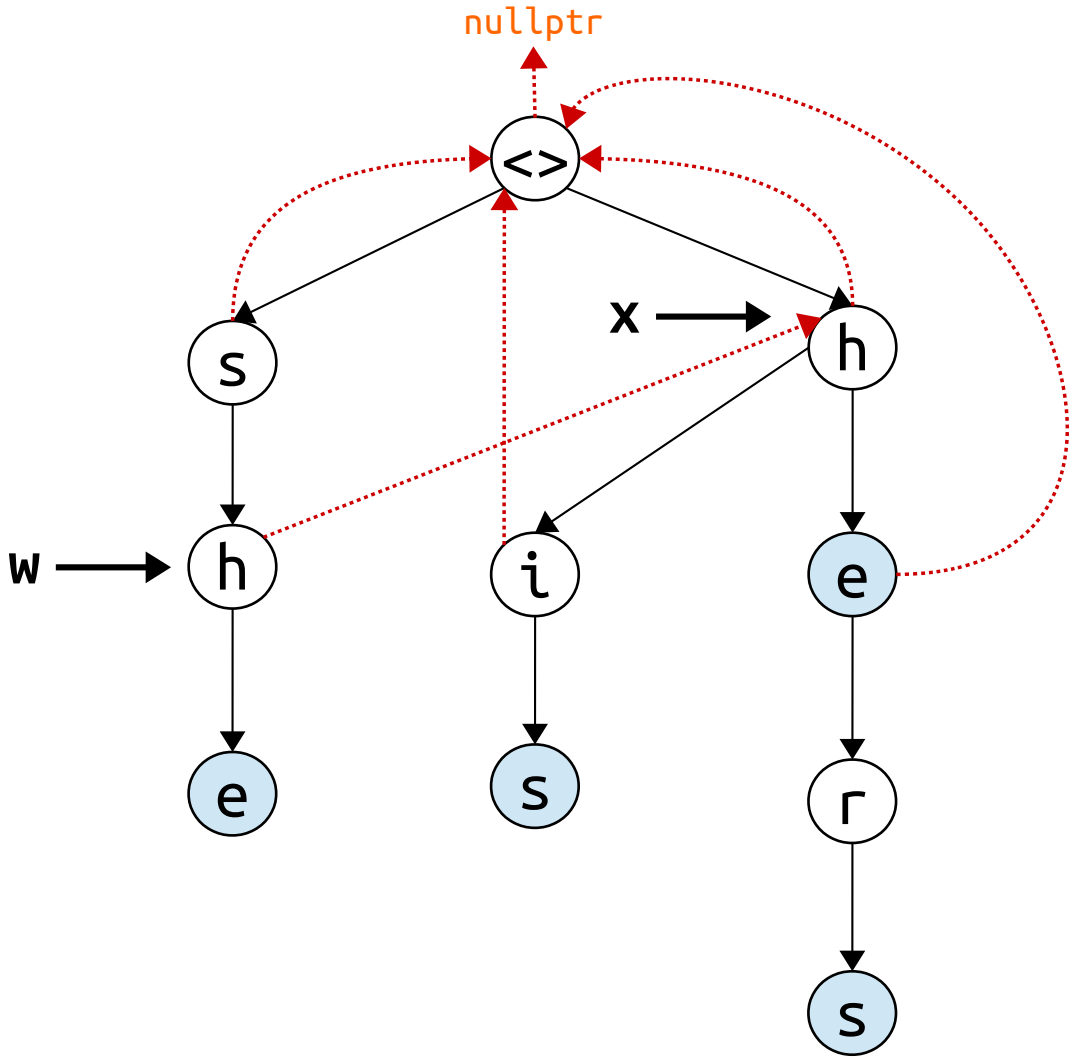

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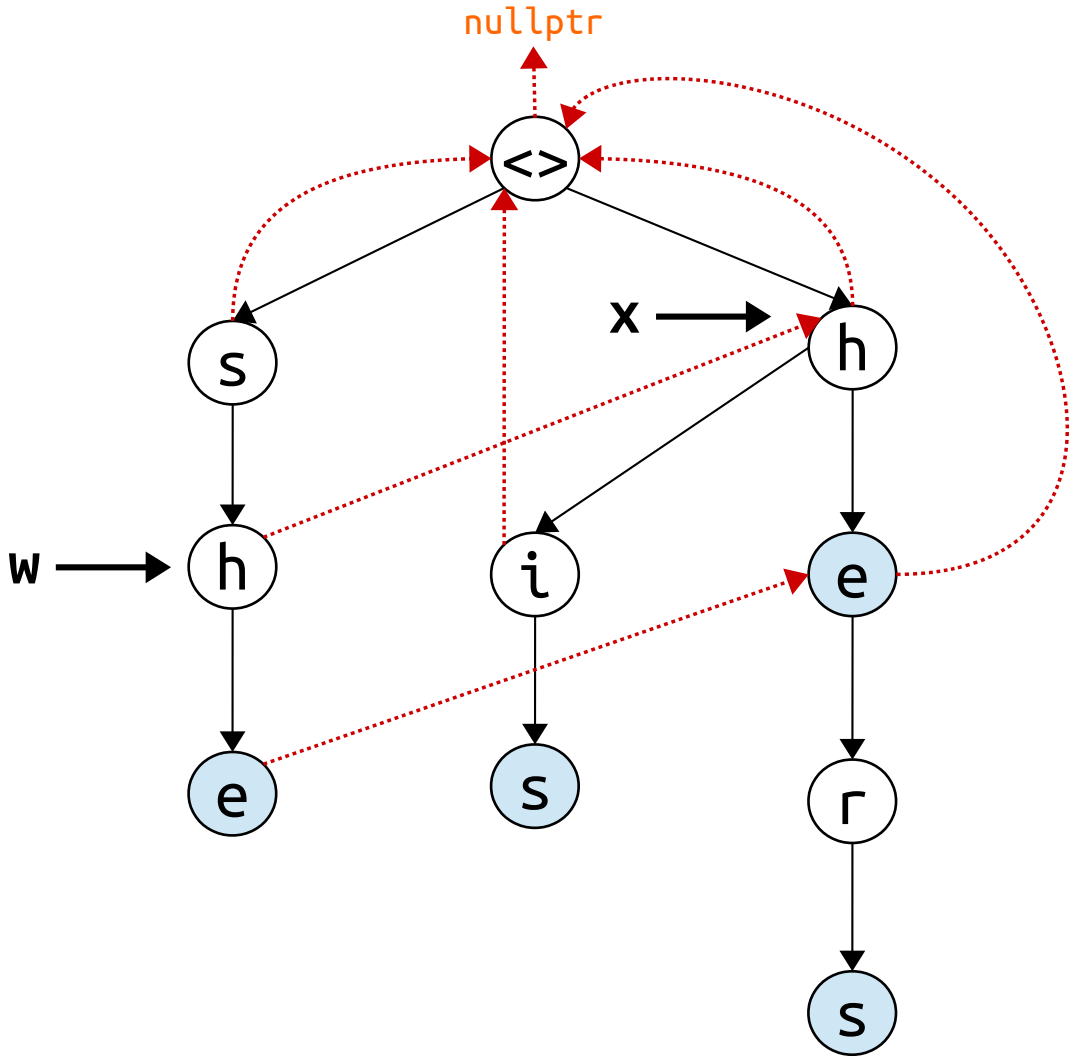

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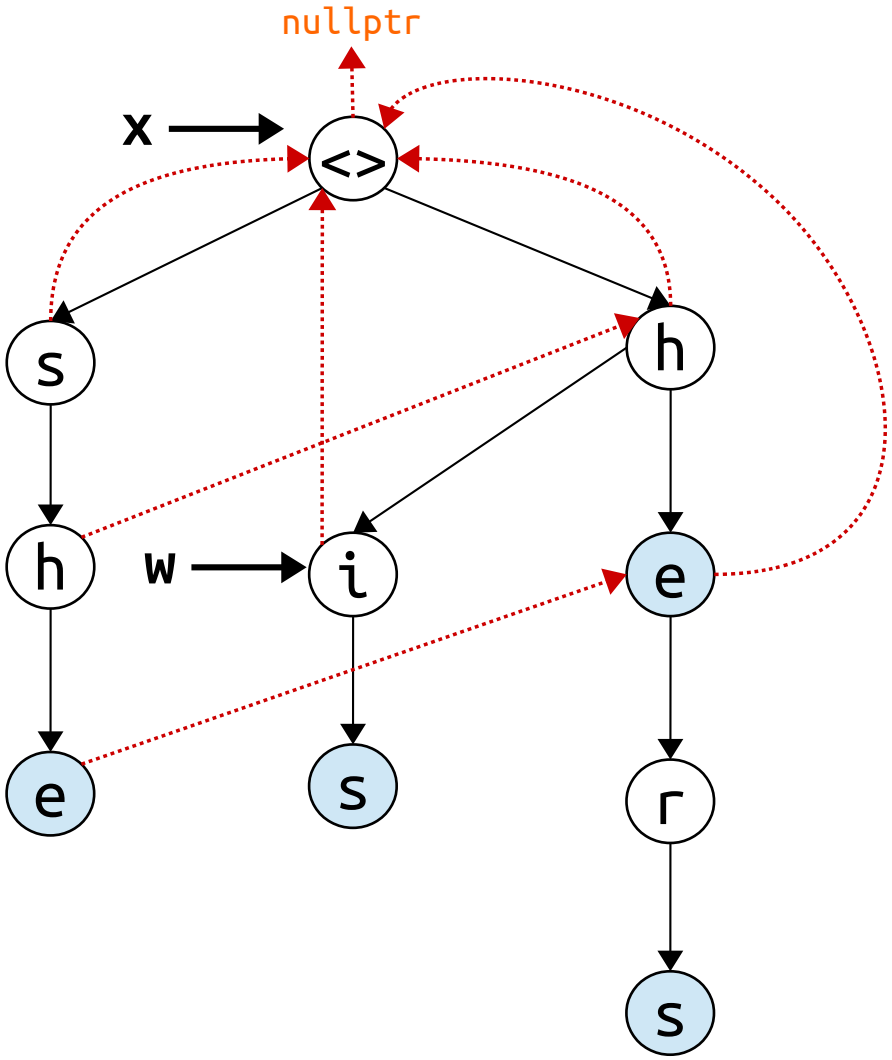

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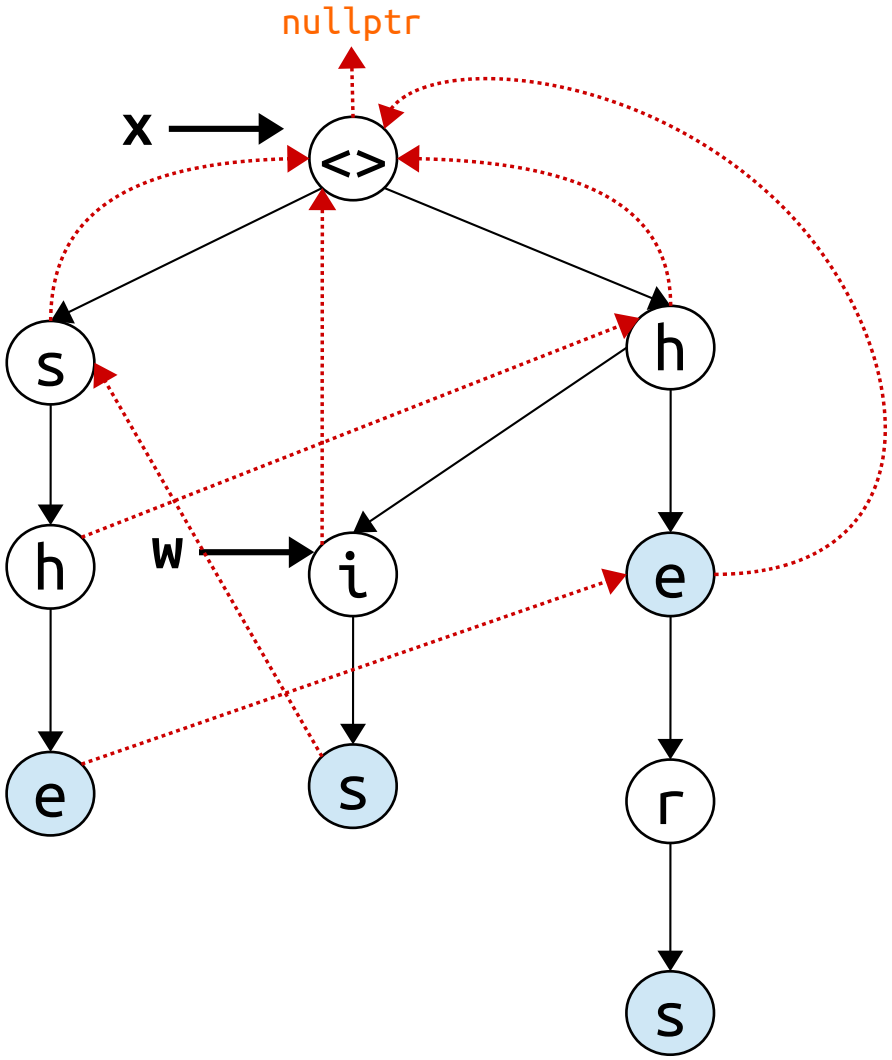

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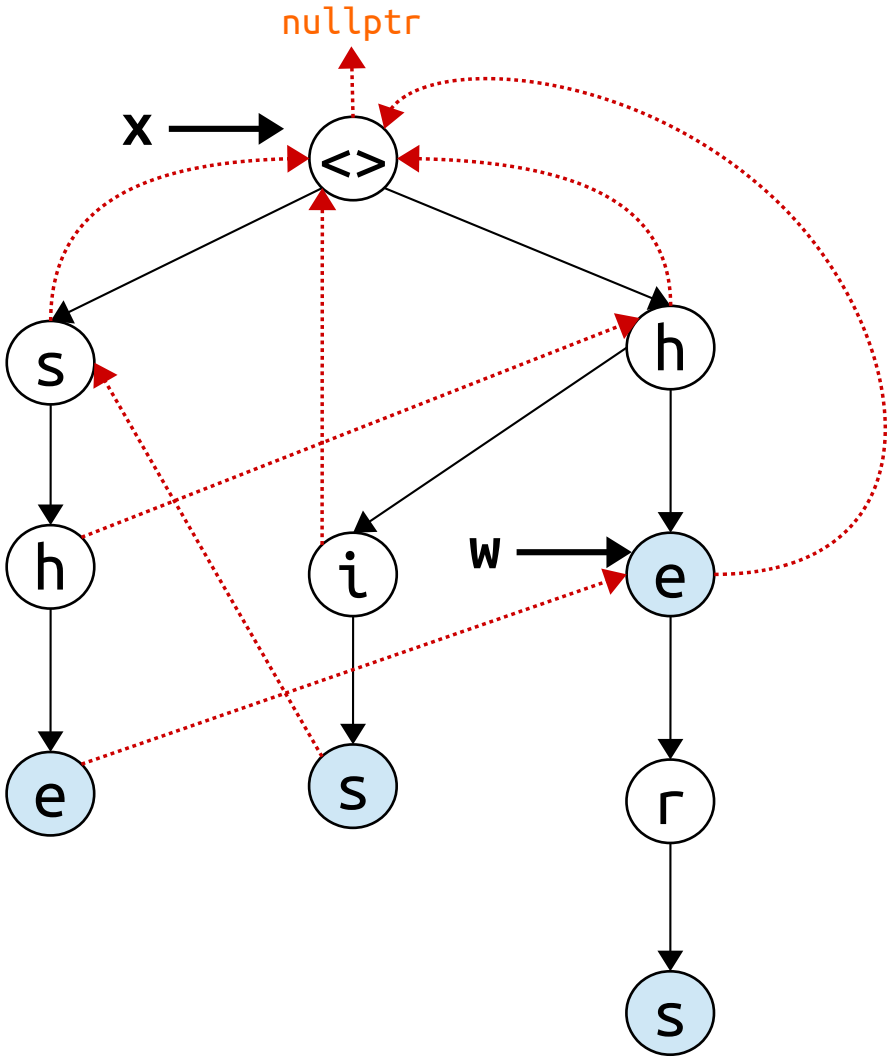

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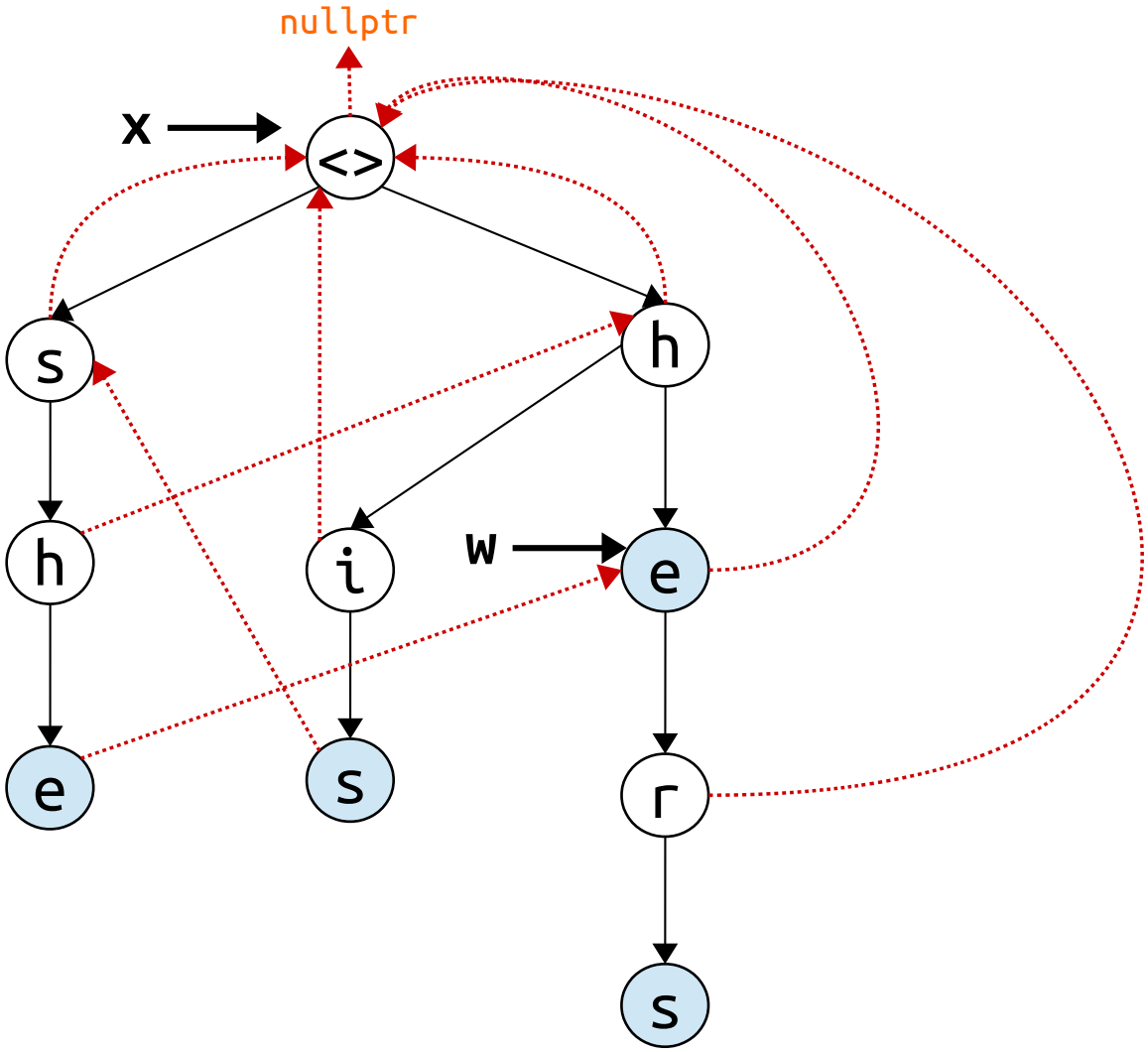

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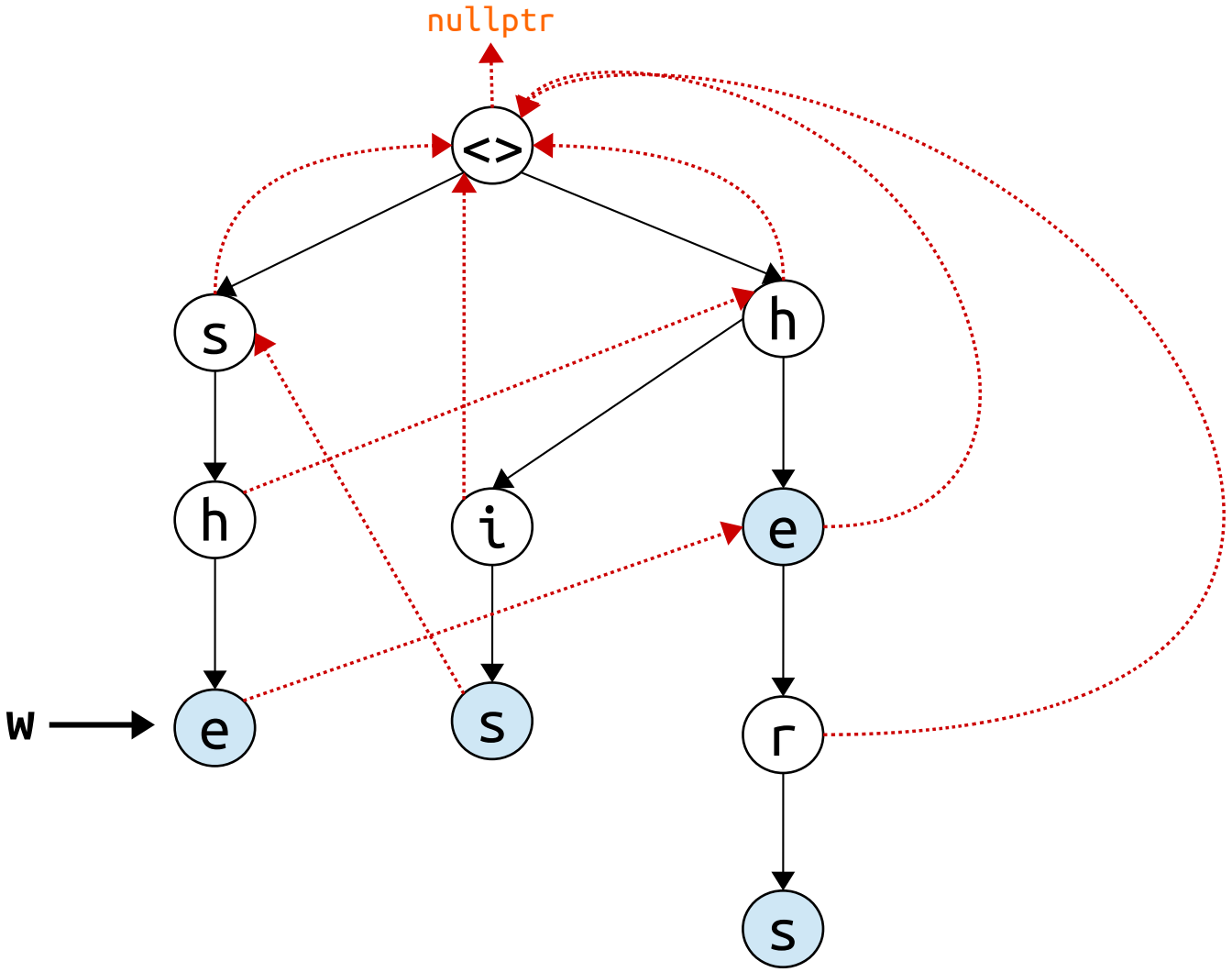

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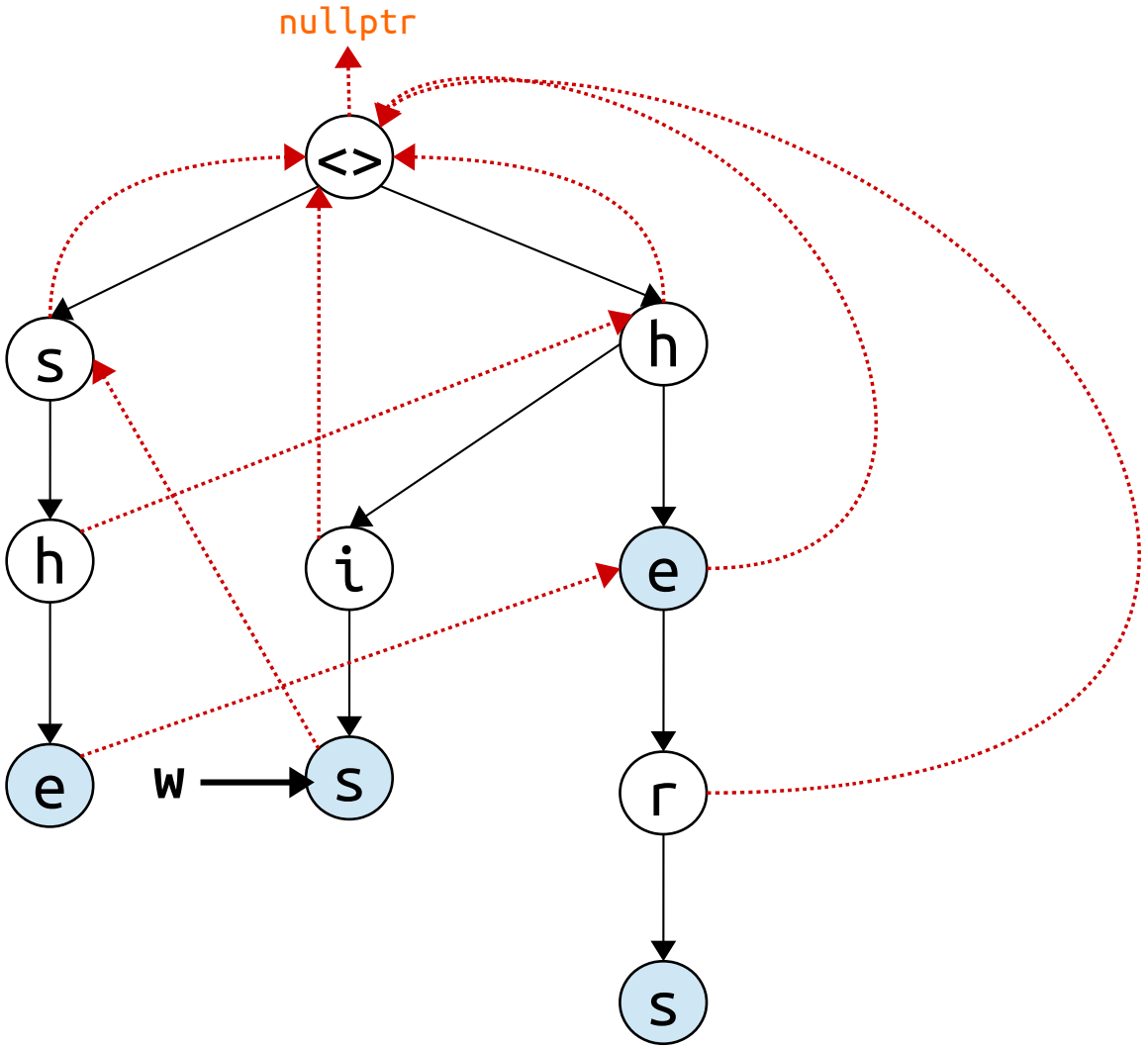

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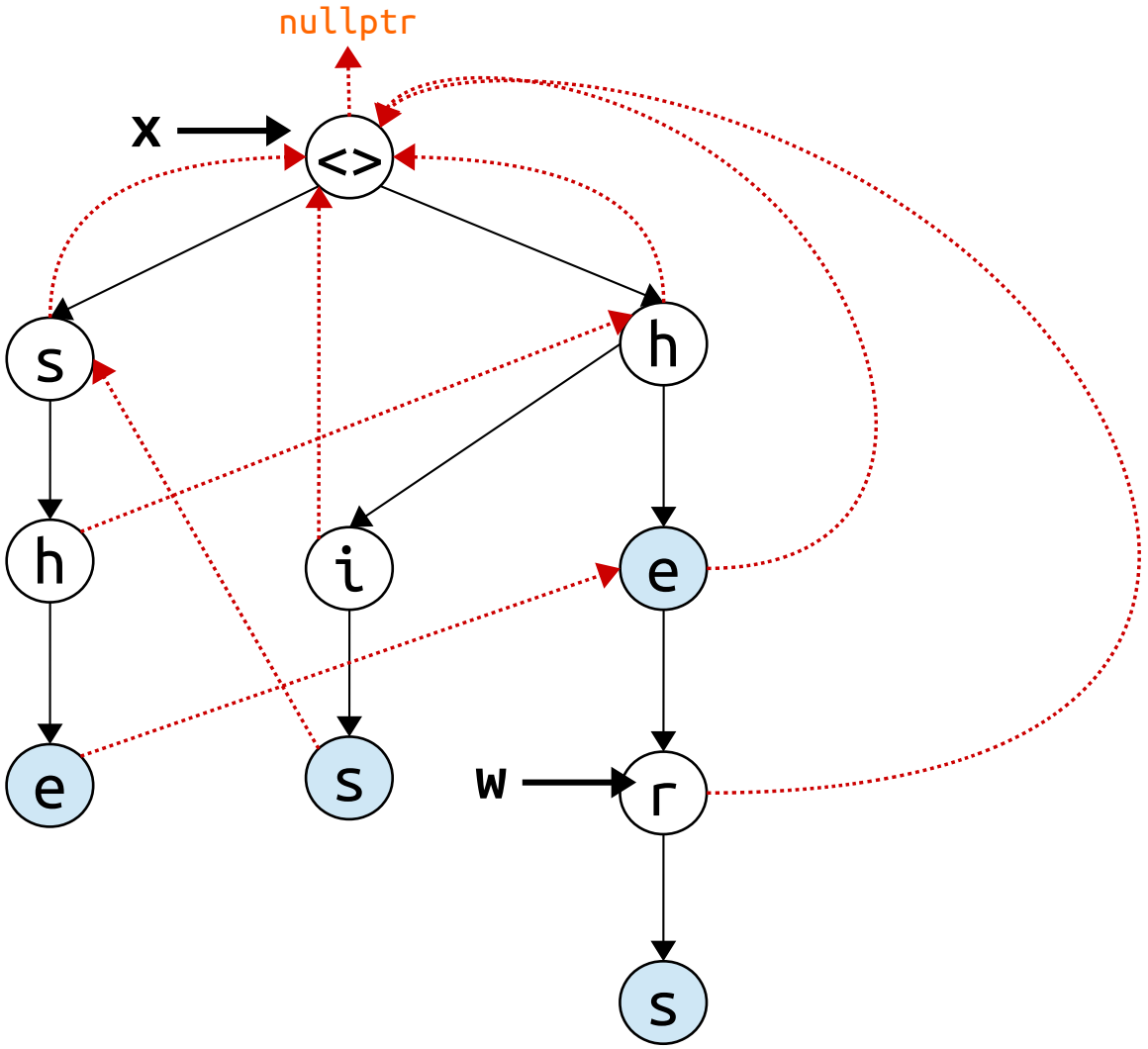

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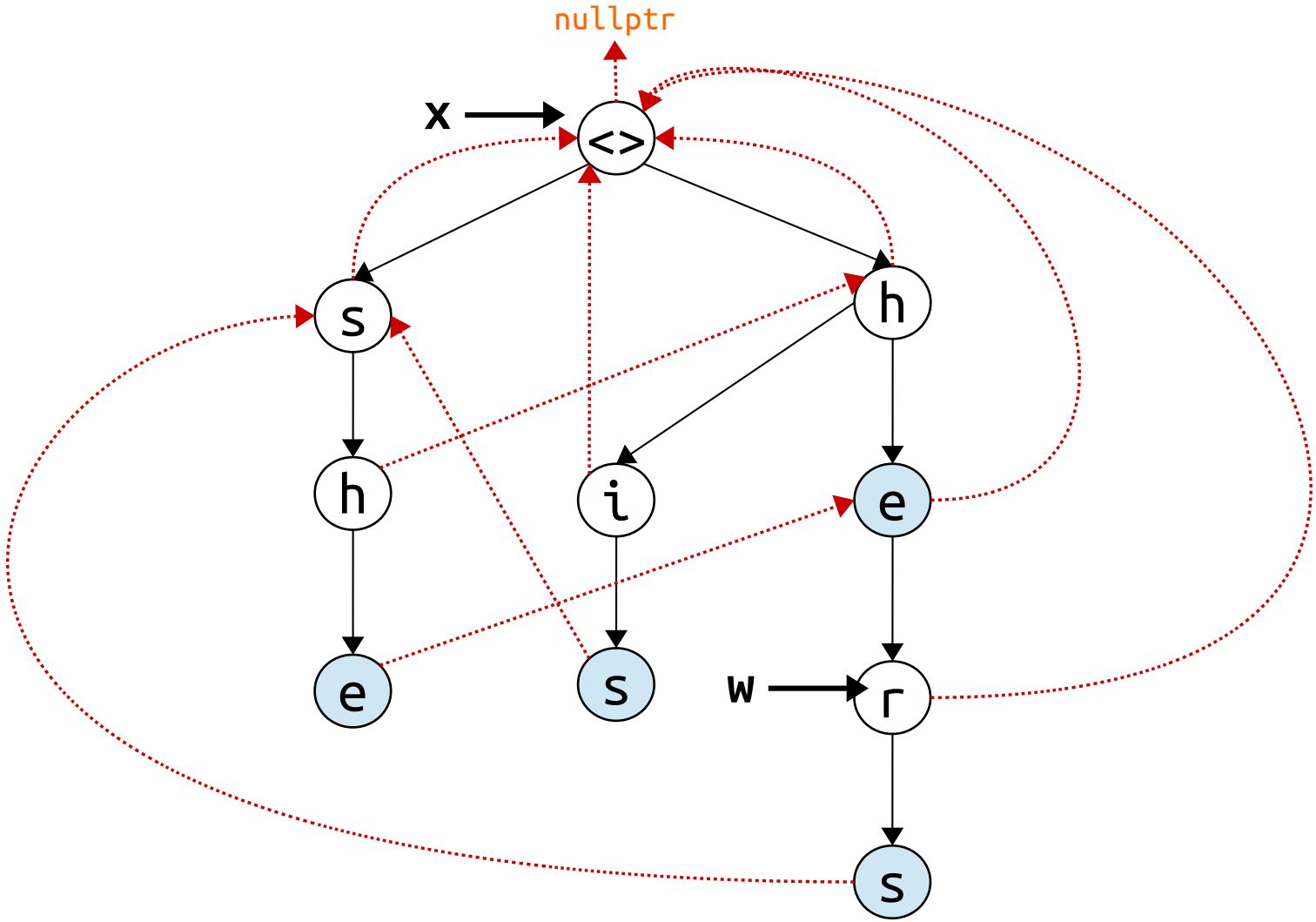

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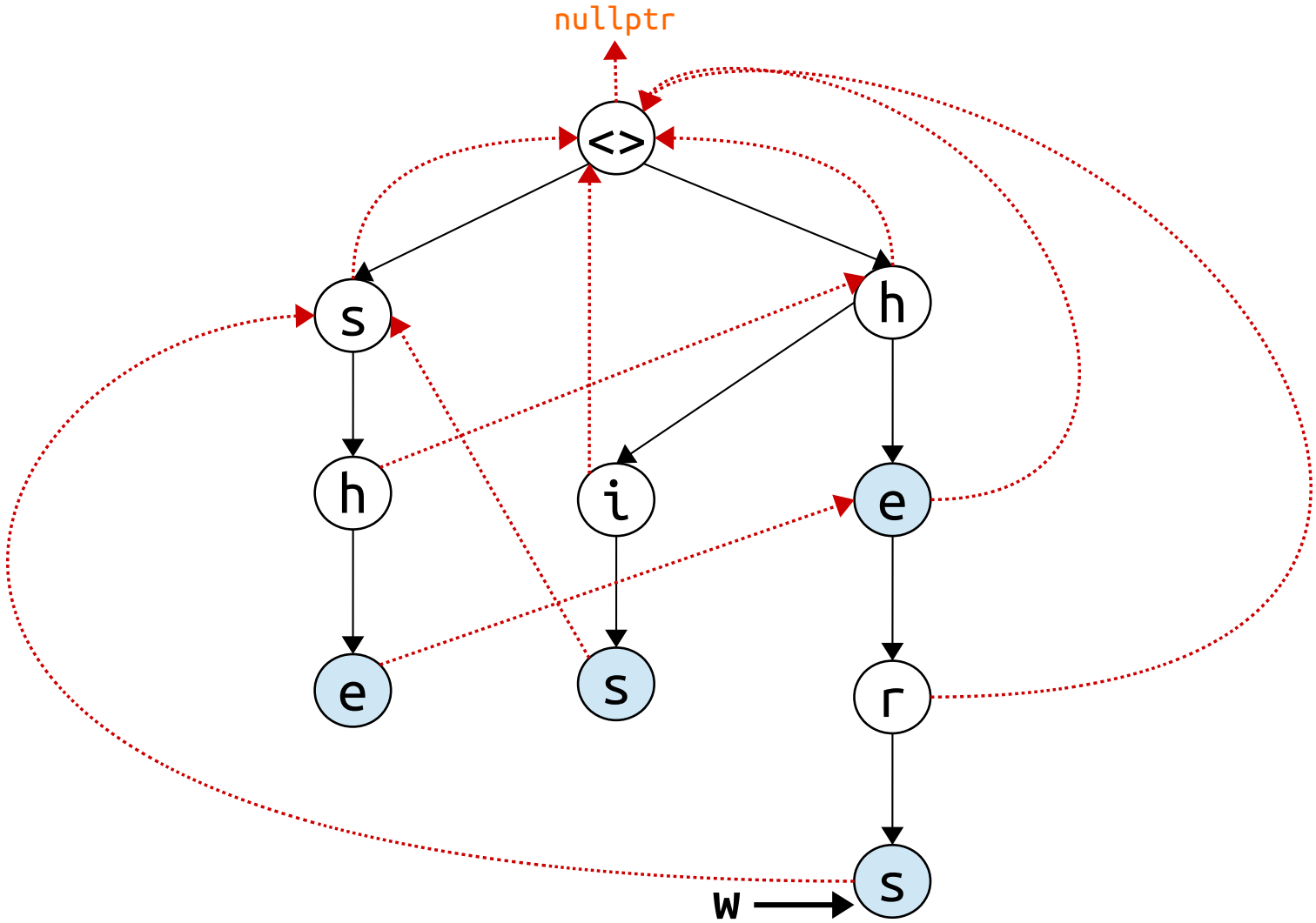

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