Assignment

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Hash Function

$$\text{hashvalue} = \text{hashvalue} + (\text{char} * t^i) \% 2) \% 2$$ for each car in string

$t^i = (t^i * t) \% 2$

- char = ASCII value of that char
- t^i is the current power of t
- 2 is a large prime number
- After processing each char update t^i to t^{i+1} using $t^i = (t^i \times t) \% 2$

Example

Text => ABAB
Pattern => AB

$t = 31$
$2 = 1000000007$

1) Initialise tpower = 1 and hashvalue = 0
2) Calculate hashvalue for first AB

'A' (65)

hashvalue = $0 + (65 * 1) \% 1000000007) \% 1000000007 = 65$

tpower = $(1 * 31) \% 1000000007 = 31$

'B' (66)

hashvalue = $(65 + (66 * 31) \% 1000000007) \% 1000000007 = 2111$

tpower = $(31 * 31) \% 1000000007 = 961$

The hashvalue for first AB = 2111