

Problem

Use the Rabin-Karp algorithm to search a string of digits for a given pattern. For a string of 4 digits, $abcd$, the hash function, val , to be used is $(a + b + c + d) \bmod 11$. Show the hash function values for all 4-digit substrings in the following string. Find all occurrences of “2 6 4 2”.

3 7 2 6 4 1 9 8 2 9

Solution

<i>text</i>	3	7	2	6	4	1	9	8	2	9
<i>val(s)</i>				7	8	2	9	0	9	6

Table 1: Computing Function values in Rabin-Karp Algorithm

The string 2 6 4 2 hashes to the value 3. There is no substring which hashes to 3.