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Made Chaun

Naive-string Hattering Algarithm.

The Maine approach test all trupassible placement of Pattern P[1-m] relative to text T[1-n]. use toy shift S=0.1.nm, successively and face sacer shift s. compare T [s+1...stm] to P[1-m].

The name algorithm finds all would shifts using a loop that checks the condition P[1--m]=T[s+1-- s+m] for each of the n-m+1 possible value of s.

Maire-string, Hat cher (T,P)

L n = length[T]

2. m \ length[P]

3. For sto to nom

4. do of P[1---m] 2 T[St1.___ Stm]

5. Then puint "Pattern occurs with serift" s.

Rabin - Karp - Algarithm

The Robin- Koup string matching algorithm colculates a frash value for the pattern, as well as four each of-character subsequences of text to be compared. If the hash values one unequal, the algorithm will determine the hash value for next of-character sequence. If the hash values are equal fire algorithm will analyze the pattern and M-character sequence. In this way, there is only one comparison per text subsequence and character matching is only originated when the hash value mater

Robin-Karp-Marcher (T.P, d.g)

1. n t length [T]

2. m = length [P]

3. h < dm + mod q

4. p + 0.

5. to < 0

6. for 3-1 to m

7. do p = (ap + P[i]) mod q

8, to < (dto + T[i]) mod q

9. For St O to n-m

(0 - do if p - +5.

u. then if P[1 ... m] oT [S+1 ... S+m]

12. then "Pattern occurs with suift" S

13. 4 S< n-m

14. then ts+1 = (d (ts-T[SH]h)+T[S+m+1] mod 9.

Haddening

Kneith-Marvies-bratt Alganithm

Knuth-Howeis and furth introduce a linear time algarithm for the string matering peroblem. A northing time of old is achieved by avaiding comparsion with an element of 's' that have previously been involved in comparsion with some element of tempettern 'p' to be morared. i.e backtacking. on the string 's' never occurs.

components of KMP.

The lugin hunction (11) = The hugin hunction in for a pattern .

encapsulates knowledge about how the pattern materix against

the shift of etself. July information can be used to avaid a

esseless shift of the pattern 'p'. In aturn would, this enable

outsiding backtracking of the string 's'.

1. m = lengta(P)

2. NII) < 0

3 K + 0

1. for 9 = 2 tom

s. do while kto and P[kH] + P[q]

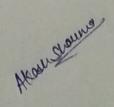
6. do le e n[k]

7. 7 P(KAI) 2P(9)

8. then KE KH

9. 1197 = K

to. netam 1.



The KMP Matcher with pattern "P", the string "S" and perfix function "I" as input, finds a match of P" in S. Pollawing pseudo code compute the matering component of KMP Algorithm.

1. h = length [t]

2. m = length [P]

3. N = compute-Brefix-hunction(P)

4. q = 0

5. too i = 1 ton

6. do verice 920 and P(911) f T(i)

7. do 9-197

6. If P(9+1] = T(i)

9. then 9 = 911

11. then puint "Pathun occurs with shift" i-m

12. 9 = 119].

Hadrograma