

Information Retrieval: Homework #1

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Problem 1

Solution

consider two pointer to the head of array X and Y, call them x and y

if $x < y$, add x to the ans, $x = x.next$

if $x > y$, $y = y.next$

if $x = y$, $x = x.next$; $y = y.next$

until x and y iterate to the end of X and Y

Problem 2

Solution

$r = 1$, $P = 0.1$

$r = 2$, $P = 0.05$

Problem 3

Solution

decomposition:

1110001: 9

11010: 6

101: 3

11111011011: 59

11011: 7

after gap = 9, 6, 3, 59, 7

original = 9, 15, 18, 77, 84