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8/25/2021 Sec 1 COP 3502

Agenda

① finish up binary search

② Eustis

③ Sample Program

Sec 2 COP 3502 Agenda

① finish up SLM linear

② Eustis

③ Sample Program (Substring)

0, 1, 2, 3, 4, 5, 6, 6, 0, -1, 6

(2)

Sorted List Matching Linear Solution

~~i~~
~~i~~
~~i~~
 List 1: 2, 3, 6, 8, 12, 13, 19, 27, 33

~~j~~
~~j~~
 List 2: 4, 6, 9, 12, 15, 19, 20, 26, 33, 41, 90

if $(\text{list1}[i] < \text{list2}[j]) \ i++;$ // safe move ^{list1} ptr
 else if $(\text{list2}[j] < \text{list1}[i]) \ j++;$ // safe move ^{list2} ptr
 else { OUTPUT MATCH;
 $i++;$ $j++;$ }

Substring

str

C	O	M	P	U	T	E	R
---	---	---	---	---	---	---	---

 0 1 2 3 4 5 6 7
 sub

P	U	T
---	---	---

 0 1 2
 j

if
 $i = 1$
 check
 $'O' == 'P'$ NOT
 if $\text{str}[i+j] \neq \text{sub}[j]$
 // NOT A MATCH

j index into sub
 $i+j$ index into str

gcc -o substring substring.c