COP 3502

✓ Intro
✓ webpage - www.cs.ucf.edu/courses/cop3502/fall2023
   mysite - www.cs.ucf.edu/~dmarino

✓ Course Success

③ Random Aside
③ How COP3502 is Diff COP 3223
④ M+M5
⑤ SLM

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In Intro to C => Syntax Important
   Efficiency didn't matter
   How you solved a problem didn't matter

CSI => Care use of time/memory!!!
   Care about cleanliness of code.
   Learn how to analyze run times
   Learn about known data structures
Sorted List Matching

list 1: 2, 3, 6, 8, 15, 22, 27, 30, 31  \( n \)  
list 2: 1, 3, 4, 5, 6, 11, 12, 22, 26, 29  \( m \)

Alg 1

for each element \( x \) in list 1: \( n \)

for each element \( y \) in list 2: \( m \)

if \( x = y \):
    Add 1 to result
    \# steps = \( n \times m \)

Alg 2

Utilize Binary Search

list: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 22, 26, 29

\( \lfloor 0+9 \rfloor / 2 \rightarrow 4 \) 
\( \text{len} \)

\( \text{int} \) \( \text{low} = 0, \text{high} = \text{len} - 1 \)

\( \text{while} \ ( \text{low} \leq \text{high} ) \)

\( \text{int} \) \( \text{mid} = ( \text{low} + \text{high} ) / 2 \)

if \( \text{val} > \text{arr[mid]} \)

else if \( \text{val} < \text{arr[mid]} \)

\( \text{high} = \text{mid} - 1 \)

else \( \text{low} = \text{mid} + 1 \)

Search for \( 26 \)
else return 1;

? return 0;