

C++ Programming Quiz (50 minutes)

1: Number Analysis

Description:

Write a program that takes an integer and:

- Checks if it's prime

Input:

121

Output Example:

Not Prime

2: Array Operations

Description:

Perform basic array operations:

- Find maximum and minimum values
- calculate average

Input:

Array: [5, 2, 8, 1, 9, 3]

Output Example:

Max: 9, Min: 1

Average: 4.67

3: Word Frequency Counter Using Map

Description:

Use map to count word frequencies in a text. The program should:

- Read input text (multiple words)
- Count how many times each word appears
- Display words in alphabetical order with their counts

- Find the most frequent word
- Calculate total unique words

Constraints:

- Use #include <map>

Input:

hello world hello programming world code code code

Output Example:

Word frequencies:

code: 3

hello: 2

programming: 1

world: 2

Most frequent word: code (3 times)

Total unique words: 4

4: Student Grades with Vector

Description:

Use vector to store student grades and:

- Add grades
- Calculate average
- Remove a specific grade

Input:

Grades: [85, 92, 78, 90]

Remove: 78

Output Example:

Average: 86.25

After removal: [85, 92, 90], New Average: 89