COMP-165-0837

Merlin Newcomb

Midterm 3

Problem #2

Code:

/\*

\* This program implements a function that counts the number of each digit in a given string.

\* The function returns a pointer to an array that you can access.

\* Each index contains its respective count, e.g. result[0] -> 5 means the integer 0 appears 5 times.

\*/

#include <iostream>

#include <cctype>

#include <string>

int\* count(const std::string& s);

int main(void)

{

int\* result = count("SSN is 343 32 4545 and ID 434 34 4323");

for (int i = 0; i < 10; i++)

{

std::cout << i << ": " << result[i] << "\n";

}

std::cout << std::flush;

return 0;

}

int\* count(const std::string& s)

{

int\* intCount = new int[10];

for (int i = 0; i < 10; i++)

{

intCount[i] = 0;

}

for (char c : s)

{

if (std::isdigit(c))

{

intCount[c - 48]++; // If c is a digit, subtracting 48 from it gives its respective integer.

}

}

return intCount;

}

Output:

