p3.10

Henry Hsu

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1 Specification

Write a program that reads in three strings and sorts them lexicographically.

2 Analysis/Design

Store the 3 values in string variables
Use if statesments to compare each of the variables to see which one is largest
Display the result to the screen

- Obtain user input for three unique string values
- Determine which value is the largest
- Display result

3 Implementation

"p3_10.cpp" 1≡

```
⟨ Include files 2 ⟩

int main()
{
        ⟨ get values 3 ⟩
        ⟨ determine largest 4a ⟩
        ⟨ display result 4b ⟩
}
```

◇

These are the include files needed for library function calls

⟨ *Include files* 2 ⟩ ≡

```
#include <iostream>
using namespace std;
```

◇

Fragment referenced in 1.

Ask user for three unique text values

⟨ *get values* 3 ⟩ ≡

```
string string1, string2, string3;

cout << "Please input an unique text value for string 1: ";
cin >> string1;
cout << "Please input an unique text value for string 2: ";
cin >> string2;
cout << "Please input an unique text value for string 3: ";
cin >> string3;
```

◇

Fragment referenced in 1.

Use if statements to check which text value is the largest

⟨ *determine largest* 4a ⟩ ≡

```
string primary, secondary, tertiary;
if (string1 > string2 && string1 > string3)
{
        primary = string1;
        if (string2 > string3)
        {
                secondary = string2;
                tertiary = string3;
        }
        else
        {
                secondary = string3;
                tertiary = string2;
        }
}

if (string2 > string1 && string2 > string3)
{
        primary = string2;
        if (string1 > string3)
        {
                secondary = string1;
                tertiary = string3;
        }
        else
        {
                secondary = string3;
                tertiary = string1;
        }
}

if (string3 > string1 && string3 > string2)
{
        primary = string3;
        if (string1 > string2)
        {
                secondary = string1;
                tertiary = string2;
        }
        else
        {
                secondary = string2;
                tertiary = string1;
        }
}
```

◇

Fragment referenced in 1.

Output the largest text value to the screen

⟨ *display result* 4b ⟩ ≡

```
cout << "The ordered output is: " << tertiary << " " << secondary << " " << primary << "
```

◇

Fragment referenced in 1.

4 Test

Using "Alpha", "Bravo", and "Charlie" as test values, program should return "Alpha Bravo Charlie" as the sorted output Using "Cat", "Cart", and "Cast" as test values, program should return "Cart Cast Cat" as the sorted output