CS 201 Homework 00

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Source Code Link: `https://github.com/siddhartha-crypto/cs201`

1 Design

1.1 Hello, World

For the `Hello, World` program, I use the `<string>` library, because I don't want to deal with the complexity of using C strings right now. I use a `while` statement to iterate the printing process.

1.2 Poem

I thought about using "The Wanderer" as my poem, but then I remebered this poem by Emily Dickenson. I read this poem maybe 15 years ago, and the image the poem makes does what the Norse bards used to call, "Hits me in the eye," meaning, the described image was so vivid, I could never forget the poem.

    I had considered looking for some method of breaking up the poem automatically, or formatting the output using some library or something. But I decided that this was beyond the scope of the assignment, and I decided to just use regular `\n` newline markers.

1.3 A Favorite Game

I chose INSIDE for this. Other games I considered are Final Fantasy VI (Kefka FTW), God of War 4, Stardew Valley, and Faster

Than Light.

As far as design goes, this is very similar in nature to the other program, so I followed that method.

2 Post Mortem

2.1 Hello, World

In my first attempt, I received this error.

```
2019-08-31-hello.cpp: In function 'int main()':
2019-08-31-hello.cpp:12:24: error: expected primary-expression before '<<' token
        cout << string << endl;
                        ^~
```

This occurred because I had declared and used my variable as follows:

```
1 string hello = "Hello, World";
2
3 cout << string << endl;
```

I accidentally used `string` instead of `hello` simply because I was being absentminded.

Once I corrected the call to the variable, things proceeded smoothly.

2.2 Poem

In my first attempt, I received this error after attempting to use the `\n` newline element to provide formatting for the poem, and failing to use the escape character for each quotation mark in the poem.

```
2019-08-31-poem.cpp:8:13: error: missing terminating " character
            "I DIED for beauty, but was scarce\n
...(repeats for each line)
```

I also learned that I need to insert a full `\n\` extra escape character after the "n". I did not know this was required in C++.

2.3 A Favorite Game

I did not experience any errors in this one, since it is similar to the one above.

3 Answers to Questions

- In the communication arts and sciences, software is useful for creating communication lines and networks of individuals to share information. For example, while working in the yard I use Audible software to listen to professors lecture about the foundations and development of Western Civilization.

- The answer to this depends on the specific industry. In the blockchain field (where I work now), many developers don't "look like" anything, because they are anonymous and keep their identities private, for security reasons. But those who do work in the public space generally look fairly similar to anyone else, anywhere else in the world. They wear casual clothes and spend a lot of time in front of a computer.

- Here is my current memory state on my machine, including both disk and RAM.

```
siddhartha@zuko:hello$ free -mh
              total        used        free      shared  buff/cache   available
Mem:           15Gi       4.9Gi       7.1Gi       344Mi       3.5Gi        10Gi
Swap:         4.0Gi          0B       4.0Gi

siddhartha@zuko:hw0$ df -hl
Filesystem             Size  Used Avail Use% Mounted on
udev                   7.8G     0  7.8G   0% /dev
tmpfs                  1.6G  2.1M  1.6G   1% /run
/dev/mapper/data-root  908G  522G  340G  61% /
```

- Five Types of Software Applications

    - Financial Trading Software

- Blockchain Based Mesh Nets
- Machine-Learning Enhanced Language Software
- Biofeedback Full-Body Suit for Real-time Data Analysis
- Big Data Network Analysis Software

- My personal interests

  - All five of the above are of interest to me, which is why I list them. Currently, I am actively experienced with blockchain technology, so I would like to explore blockchain-based MeshNets more, first. I'm also interested in analyzing economic networks and looking for patterns.

4   Sample Output

Listing 1: Hello

```
siddhartha@zuko:hello$ ./hello
Hello, World
Hello, World
Hello, World
Hello, World
Hello, World
```

Listing 2: Poem

```
siddhartha@zuko:poem$ ./poem

I DIED for beauty, but was scarce
Adjusted in the tomb,
When one who died for truth was lain,
In an adjoining room.

He questioned softly why I failed?              5
"For beauty," I replied.
"And I for truth,  the  two are one;
```

We brethren are," he said.

And so, as kinsmen met a night,
We talked between the rooms,   10
Until the moss had reached our lips,
And covered up our names.

          -- Emily Dickenson

Listing 3: A Favorite Game

siddhartha@zuko:game$ ./game

INSIDE is a game like no other I've ever played.

At the beginning of the game, you are a young boy, of
   perhaps 8 years of age, running through a misty
   forest. Men wearing white masks and with long
   spindly arms are scattered about, here and there
   trying to capture and kill you. As the human player
    moving the character, you assume that this game is
    a simple escape sequence, with a Platform-style
   element of gameplay.

But as the game progresses, it challenges your
   assumptions. Objects that originally were meant to
   be used as props by the character instead take
   control over the character's brain. You have to
   find ways to control the objects that are now
   controlling your character.

You find yourself floating in water, and some dark
   version of yourself is chasing you, attempting to
   strangle you.

You come to a laboratory full of scientists watching a
    biological experiment growing within a chamber.
    You become the experiment, and you break out of
   their laboratory.

With each change of assumptions, as the human player you struggle to understand both why the game is so utterly fascinating, and at the same time, to understand what kind of game you are actually playing, and what the purpose of the game intends to be.

When the game finishes, you sit, open-mouthed, wondering if this game is actually complete, or if there is still more gameplay to come. Perhaps, you wondering, the game was never anything more than a prompting to question the game of life that you are already and always playing.

The game took six years to make, and the total runtime of the game is about 3 hours, if you go slow and enjoy it. I do recommend that you give it a try.

5 My Programs

5.1 Hello, World

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

int main() {

    // Declare a string variable for "Hello world"
    string hello = "Hello, World";

    // Initiate a counting sequence for iteration
    int count = 0;

    while (count != 5) {

        // Print string to console
        cout << hello << endl;

        // Increase count each time
        count += 1;
    }

    return 0;
```

```
23  }
```

5.2 Poem

```
1  #include <iostream>
2  #include <string>
3  using namespace std;
4
5  int main() {
6
7          // Add an extra newline for formatting
8          cout << endl;
9
10          // Begin poem
11          cout <<
12  "I DIED for beauty, but was scarce\n\
13  Adjusted in the tomb,\n\
14  When one who died for truth was lain,\n\
15  In an adjoining room.\n\
16  \n\
17  He questioned softly why I failed?          5\n\
18  \"For beauty,\" I replied.\n\
19  \"And I for truth,|the two are one;\n\
20  We brethren are,\" he said.\n\
21  \n\
22  And so, as kinsmen met a night,\n\
23  We talked between the rooms,          10\n\
24  Until the moss had reached our lips,\n\
25  And covered up our names.\n\
26  \n\
27          -- Emily Dickenson" << endl;
28
29          // Add an extra newline for formatting
30          cout << endl;
31
32      return 0;
33  }
```

5.3 A Favorite Game

```
1  #include <iostream>
2  #include <string>
3  using namespace std;
4
5  int main() {
6
7      // Add an extra newline in the terminal, for formatting
```

7

```cpp
8        cout << endl;
9
10       // Begin description
11       cout <<
12  "INSIDE is a game like no other I've ever played.\n\
13  \n\
14  At the beginning of the game, you are a young boy, of perhaps 8
         years of age, running through a misty forest. Men wearing
     ↪   white masks and with long spindly arms are scattered about,
     ↪   here and there trying to capture and kill you. As the human
     ↪   player moving the character, you assume that this game is a
     ↪   simple escape sequence, with a Platform-style element of
     ↪   gameplay.\n\
15  \n\
16  But as the game progresses, it challenges your assumptions.
     ↪   Objects that originally were meant to be used as props by the
     ↪   character instead take control over the character's brain.
     ↪   You have to find ways to control the objects that are now
     ↪   controlling your character.\n\
17  \n\
18  You find yourself floating in water, and some dark version of
     ↪   yourself is chasing you, attempting to strangle you.\n\
19  \n\
20  You come to a laboratory full of scientists watching a biological
     ↪   experiment growing within a chamber. You become the
     ↪   experiment, and you break out of their laboratory.\n\
21  \n\
22  With each change of assumptions, as the human player you struggle
         to understand both why the game is so utterly fascinating,
     ↪   and at the same time, to understand what kind of game you are
     ↪   actually playing, and what the purpose of the game intends to
     ↪   be.\n\
23  \n\
24  When the game finishes, you sit, open-mouthed, wondering if this
         game is actually complete, or if there is still more gameplay
     ↪   to come. Perhaps, you wondering, the game was never anything
     ↪   more than a prompting to question the game of life that you
     ↪   are already and always playing.\n\
25  \n\
26  The game took six years to make, and the total runtime of the
     ↪   game is about 3 hours, if you go slow and enjoy it. I do
     ↪   recommend that you give it a try." << endl;
27
28       // Add an extra newline in the terminal for formatting
29       cout << endl;
30
31       return 0;
32  }
```