Variables, Constants and Data Types

1. **Variable**

Variables are user defined identifiers used for storing constants. Rules for naming variables:

- Start with a letter, followed by one or more letters and or digits.
- Cannot have any symbols or spaces, except for the underscore (_).
- Upper case and lower case letters are different
- Cannot be a keyword

2. **Data Types**

- Use the keyword `int` to declare an integer variable. Integer variables are used to store integer constants such as 8, 0, and -3.

- Use the keyword `float` to declare a floating point variable. Floating point variables are used to store decimal number constants such as 3.1415 and -5.0.

- Use the keyword `char` to declare a character (or string) variable. Character variables are used to store character constants such as ‘A’, ‘b’, and ‘$’. Character constants must be enclosed by the single quote.

- Use the keyword `string` to declare a string variable. String variables are used to store string constants such as “Computer Science” and “4500 Riverwalk Parkway”. String constants must be enclosed by the double quote.

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

int main(int argc, const char * argv[]) {
    string name;
    char letter;
    int quantity;
    float price;

    name = "La Sierra University";
    letter = 'A';
    quantity = 3;
    price = 45.67;

    cout << "Name is " << name << endl;
    cout << "Character is " << letter << endl;
    cout << "Total price is " << quantity * price << endl;

    return 0;
}
```