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Software Construction
Homework 1 Questions

1.

```
string username = "George";
string group = "All";
string message = "Join our Tigers message group!";
string message_buffer;

string newMessage = ("|<" + username + "::" + group + ">|");
message_buffer = newMessage + message + "\n";

cout << message_buffer;
```
2.

```
newMessage = "";
string username2 = "Abraham";
string message2 = "Good Morning, Tigers!";

newMessage = ("|<" + username2 + "::" + group + ">|") + message + "\n";
message_buffer = newMessage + message_buffer;

cout << message_buffer;
```
3.

```
string message3 = "War Eagle";
string message4 = "Hey!";

message_buffer = message3 + "\\n" + message4;

cout << message_buffer;
```
4. `string.size()` returns the length of the string. The function call `message.size()` on question(2) will return: 21.
5. For question(2), the `empty()` call will do nothing.

NOTE: 6-9 are run sequentially to achieve the desired answers.

6.

```
size_t problem6beginning = message_buffer.find("|<");
cout << problem6beginning;
```
7.

```
size_t problem7beginning = message_buffer.find("|<",problem6beginning + 1);
cout << problem7beginning;
```
8.

```
message_buffer = message_buffer.substr(problem6beginning + 2);
username = message_buffer.substr(0, message_buffer.find "::");
message_buffer = message_buffer.substr(message_buffer.find "::" + 2);
cout << username;
```

9.

```
problem9beginning = message_buffer.find("<");
message_buffer = message_buffer.substr(problem9beginning + 2);
secondUser = message_buffer.substr(0, message_buffer.find("::"));
message_buffer = message_buffer.substr(message_buffer.find("::") + 2);

cout << secondUser;
```
10.

```
size_t middle = message_buffer.find("::") + 2;
string firstGroup = message_buffer.substr(middle, group.size());

cout << firstGroup;
```
11.

```
size_t problem11ending1 = message_buffer.find(">");
size_t problem11ending2 = message_buffer.find(">", problem11ending1 + 1);

string secondMessage = message_buffer.substr(problem11ending2 + 2, message.size());

cout << secondMessage;
```
12. The difference is below:
[cin >> messagebuffer] will get just the first word in "Aubie Messaging Group".
[getline(cin, messagebuffer)] will read the whole line and get the entire string.