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CS360L

8/15/2022

1.
  - a. True
  - b. False. The operator `<<` and `>>` can only be used to display individual characters, strings, and memory addresses. It cannot display all user-defined data types.
  - c. True
  - d. True
  - e. True
  - f. True
  - g. False. The stream member function *rdstate* does not return the current state of the stream. It is used to read the internal state of the stream.
  - h. True
  - i. True
  - j. False. The *cin* stream normally is not connected to the display screen. The *cout* stream is normally connected to the display screen.
  - k. True
  - l. True
  - m. True
  - n. False. The ostream member function *put* outputs in the single-character argument.

- o. False. The stream manipulators set the format of the integers to the specified base until the base is changed again or the program terminates, not only affecting the next integer output operation.

2.

- a. `cout << left << setw(15) << 40000 << '\n';`
- b. `cin >> state;`
- c. `cout << showpos << 200 << setw(4) << '\n' << noshowpos << 200 << '\n';`
- d. `cout << showbase << hex << 100 << '\n';`
- e. `cin.getline(charArray, 10, 'p');`
- f. `cout << fixed << showpoint << setw(v) << setfill('0') << internal << 1.234 << '\n';`

3.

Source code:

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

int main() {
    int number;
    cout << "Enter the number (in decimal format): ";
    cin >> number;
    cout << showbase << "The number is: " << dec << number << endl
         << "The number in hex is: " << hex << number << endl
         << "The number in octal is: " << oct << number << endl;
    cout << "Enter a number in octal format: ";
    cin >> oct >> number;
    cout << "The number in octal is: " << number << endl;
    cout << "Enter a number in hexadecimal format: ";
    cin >> hex >> number;
    cout << "The number in hexadecimal is: " << number << endl;
```

```
    return 0;
}
```

Run program & result:

```
> cd "d:\VS CODE\C C++\CS360L\Lab
11\" ; if ($?) { g++ ex3.cpp -o ex3 } ; if ($?) { .\ex3 }
Enter the number (in decimal format): 10
The number is: 10
The number in hex is: 0xa
The number in octal is: 012
Enter a number in octal format: 010
The number in octal is: 010
Enter a number in hexadecimal format: 0x10
The number in hexadecimal is: 020
PS D:\VS CODE\C C++\CS360L\Lab11> █
```

4.

Source code:

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

int main(){
    string s;
    int len;
    cout << "Enter a string: ";
    getline(cin, s);
    len = s.length();
    cout << "The length of the string is: " << len << endl;
    cout << "The string is: " << setw(len*2) << right << s << endl;

    return 0;
}
```

Run program & result:

```
PS D:\VS CODE\C C++\CS360L\Lab11> cd "d:\VS CODE\C C++\CS360L\La
b11\" ; if ($?) { g++ ex4.cpp -o ex4 } ; if ($?) { .\ex4 }
Enter a string: Goodluck
The length of the string is: 8
The string is:      Goodluck
```