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**CS360L - Programming in C and C++ Lab**

**Lab Assignment #11**

**Due day: 8/9/2022**

**Instruction:**

1. **Push the answer sheets/source code to Github**
2. **Please follow the code style rule like programs on handout.**
3. **Overdue lab assignment submission can’t be accepted.**

**4. Take academic honesty and integrity seriously (Zero Tolerance of Cheating & Plagiarism)**

1. ***(True or False)*** State whether the following are *true* or *false*. If the answer is *false*, explain why.
   1. The stream member function *flags* with a *long* argument sets the *flags* state variable to its argument and returns its previous value.
   2. The stream insertion operator << and the stream extraction operator >> are overloaded to handle all standard data types—including strings and memory addresses (stream insertion only)—and all user-defined data types.
   3. The stream member function *flags* with no arguments resets the stream’s format state.
   4. The stream extraction operator >> can be overloaded with an operator function that takes an *istream* reference and a reference to a user-defined type as arguments and returns an *istream* reference.
   5. The stream insertion operator << can be overloaded with an operator function that takes an *istream* reference and a reference to a user-defined type as arguments and returns an *istream* reference.
   6. Input with the stream extraction operator >> always skips leading white-space characters in the input stream, by default.
   7. The stream member function *rdstate* returns the current state of the stream.
   8. The *cout* stream normally is connected to the display screen.
   9. The stream member function good returns *true* if the *bad, fail* and *eof* member functions all return false.
   10. The *cin* stream normally is connected to the display screen.
   11. If a nonrecoverable error occurs during a stream operation, the *bad* member function will return true.
   12. Output to *cerr* is unbuffered and output to *clog* is buffered.
   13. Stream manipulator *showpoint* forces floating-point values to print with the default six digits of precision unless the precision value has been changed, in which case floating-point values print with the specified precision.
   14. The *ostream* member function put outputs the specified number of characters.
   15. The stream manipulators *dec, oct* and *hex* affect only the next integer output operation.
2. ***(Write C++ Statements)*** Write a statement for each of the following:
   1. Print integer *40000* left justified in a *15*-digit field.
   2. Read a string into character array variable *state*.
   3. Print *200* with and without a sign.
   4. Print the decimal value *100* in hexadecimal form preceded by *0x*.
   5. Read characters into array *charArray* until the character *'p'* is encountered, up to a limit of *10* characters (including the terminating null character). Extract the delimiter from the input stream, and discard it.
   6. Print *1.234* in a *9*-digit field with preceding zeros.
3. ***(Inputting Decimal, Octal and Hexadecimal Values)*** Write a program to test the inputting of integer values in decimal, octal and hexadecimal formats. Output each integer read by the program in all three formats. Test the program with the following input data: *10, 010, 0×10*.
4. ***(Length of a String)*** Write a program that inputs a string from the keyboard and determines the length of the string. Print the string in a field width that is twice the length of the string.