```
1: // $Id: maxvalues.cpp,v 1.3 2016-09-21 17:09:57-07 - - $
 3: #include <iostream>
 4: #include <locale>
 5: #include <string>
 6: using namespace std;
7:
 8: struct comma_numpunct: public numpunct<char> {
9:
       string digits;
       comma_numpunct (const string& dig = "\3"): digits(dig) {}
10:
11:
       virtual char do_thousands_sep() const { return ','; }
12:
       virtual string do_grouping() const { return digits; }
13: };
14:
15: template <typename unsigned_t>
16: void print (const string& type) {
17:
       unsigned_t max = -1LL;
18:
       unsigned long long maxx = max;
       cout << endl << type << ":" << endl;</pre>
19:
20:
       cout << "0" << oct << maxx << endl;</pre>
21:
       cout << dec << maxx << endl;</pre>
22:
       cout << "0x" << uppercase << hex << maxx << endl;</pre>
23: }
24:
25: #define PRINT(X) print<X> (#X);
27: int main() {
28:
       cout.imbue (locale (locale(), new comma_numpunct()));
29:
       PRINT (unsigned char);
       PRINT (unsigned short);
30:
31:
       PRINT (unsigned int);
       PRINT (unsigned long);
32:
       PRINT (unsigned long long);
33:
       PRINT (size_t);
34:
35:
       return 0;
36: }
37:
38: //TEST// ./maxvalues >maxvalues.lis 2>&1
39: //TEST// mkpspdf maxvalues.ps maxvalues.cpp* maxvalues.lis
40:
```

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## \$cmps104a-wm/Assignments/code/miscellaneous/maxvalues.cpp.log

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- 1: @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: starting maxvalues.cpp
- 2: maxvalues.cpp: \$Id: maxvalues.cpp, v 1.3 2016-09-21 17:09:57-07 - \$
- 3: g++ -g -00 -std=gnu++14 -rdynamic -Wall -Wextra -Wold-style-cast maxvalu es.cpp -o maxvalues -lglut -lGLU -lGL -lX11 -lrt -lm
  - 4: cpplint.py.perl maxvalues.cpp
  - 5: Done processing maxvalues.cpp

## \$cmps104a-wm/Assignments/code/miscellaneous/maxvalues.lis

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```
1:
2: unsigned char:
3: 0377
 4: 255
 5: 0xFF
 6:
7: unsigned short:
8: 0177,777
9: 65,535
10: 0xF, FFF
11:
12: unsigned int:
13: 037,777,777,777
14: 4,294,967,295
15: 0xFF,FFF,FFF
16:
17: unsigned long:
18: 01,777,777,777,777,777,777
19: 18,446,744,073,709,551,615
20: 0xF, FFF, FFF, FFF, FFF
21:
22: unsigned long long:
23: 01,777,777,777,777,777,777
24: 18,446,744,073,709,551,615
25: 0xF, FFF, FFF, FFF, FFF
26:
27: size_t:
28: 01,777,777,777,777,777,777
29: 18,446,744,073,709,551,615
30: 0xF, FFF, FFF, FFF, FFF
```