```cpp
 1: // $Id: predefmacros.cpp,v 1.35 2014-03-27 19:17:41-07 - - $
 2:
 3: //
 4: // Print out the valuas of various macros and test whether some
 5: // compiler and operating system flags are present.
 6: //
 7: // References:
 8: // http://sourceforge.net/apps/mediawiki/predef/
 9: // See links to Compilers and Operating Systems
10: //
11:
12: #include <cassert>
13: #include <cstdlib>
14: #include <fstream>
15: #include <iomanip>
16: #include <iostream>
17: #include <string>
18:
19: using namespace std;
20:
21: #ifdef __unix__
22:
23: #include <cerrno>
24: #include <cstdio>
25: #include <cstring>
26:
27: const string uname_args[] = {
28:     "kernel-name",
29:     "nodename",
30:     "kernel-release",
31:     "kernel-version",
32:     "machine",
33:     "processor",
34:     "hardware-platform",
35:     "operating-system",
36: };
37: const unsigned uname_size = sizeof uname_args / sizeof *uname_args;
38:
39: void print_unames () {
40:     const string *const end = uname_args + uname_size;
41:     string command = "date\n";
42:     for (const string *itor = uname_args; itor < end; ++itor) {
43:         command += "echo uname --" + *itor
44:                   + " = `uname --" + *itor + "`\n";
45:     }
46:     system (command.c_str());
47: }
48:
49: #else
50:
51: void print_unames () {
52:     throw "Praeterea, censeo Microflaccidem esse delendam.";
53: }
54:
55: #endif
56:
```

```
57:
58: int main () {
59:    print_unames ();
60:
61:    cout << "__FILE__  = \"" << __FILE__  << "\"" << endl;
62:    cout << "__LINE__  = \"" << __LINE__  << "\"" << endl;
63:    cout << "__func__  = \"" << __func__  << "\"" << endl;
64:    cout << "__DATE__  = \"" << __DATE__  << "\"" << endl;
65:    cout << "__TIME__  = \"" << __TIME__  << "\"" << endl;
66:    cout << "__STDC__  = \"" << __STDC__  << "\"" << endl;
67:    cout << "__cplusplus = \"" << __cplusplus << "\"" << endl;
68:
69:    #ifdef __unix__
70:    cout << "__unix__  = \"" << __unix__  << "\"" << endl;
71:    #endif
72:
73:    #ifdef __linux__
74:    cout << "__linux__  = \"" << __linux__  << "\"" << endl;
75:    #endif
76:
77:    #ifdef __x86_64__
78:    cout << "__x86_64__  = \"" << __x86_64__  << "\"" << endl;
79:    #endif
80:
81:    #ifdef __GNUC__
82:    cout << "__GNUC__  = \"" << __GNUC__  << "\"" << endl;
83:    cout << "__GNUC_MINOR__  = \"" << __GNUC_MINOR__  << "\"" << endl;
84:    cout << "__GNUC_PATCHLEVEL__  = \"" << __GNUC_PATCHLEVEL__  << "\""
85:        << endl;
86:    #endif
87:
88:    return 0;
89: }
90:
91: //TEST// ./predefmacros >predefmacros.lis 2>&1
92: //TEST// mkpspdf predefmacros.ps predefmacros.cpp* predefmacros.lis
93:
```

```
1: * @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: starting predefmacros.cpp
2: * predefmacros.cpp: $Id: predefmacros.cpp,v 1.35 2014-03-27 19:17:41-07
3: - - $
4: * g++ -g -O0 -Wall -Wextra -std=gnu++11 predefmacros.cpp -o
5: predefmacros -lm
6: * rm -f predefmacros.o
7: * @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: finished predefmacros.cpp
```

```
 1: Thu Mar 27 19:17:42 PDT 2014
 2: uname --kernel-name = Linux
 3: uname --nodename = unix1.lt.ucsc.edu
 4: uname --kernel-release = 2.6.32-358.23.2.el6.x86_64
 5: uname --kernel-version = #1 SMP Wed Oct 16 18:37:12 UTC 2013
 6: uname --machine = x86_64
 7: uname --processor = x86_64
 8: uname --hardware-platform = x86_64
 9: uname --operating-system = GNU/Linux
10: __FILE__ = "predefmacros.cpp"
11: __LINE__ = "62"
12: __func__ = "main"
13: __DATE__ = "Mar 27 2014"
14: __TIME__ = "19:17:41"
15: __STDC__ = "1"
16: __cplusplus = "201103"
17: __unix__ = "1"
18: __linux__ = "1"
19: __x86_64__ = "1"
20: __GNUC__ = "4"
21: __GNUC_MINOR__ = "8"
22: __GNUC_PATCHLEVEL__ = "1"
```