

```
1: // $Id: double.c,v 1.24 2013-09-25 14:25:32-07 - - $
2:
3: //
4: // NAME
5: //     double - print out information about double numbers
6: //
7:
8: #include <libgen.h>
9: #include <locale.h>
10: #include <stdio.h>
11: #include <values.h>
12:
13: int main (int argc, char **argv) {
14:     (void) argc; // avoid: warning: unused parameter 'argc'
15:     char *locale = setlocale (LC_NUMERIC, "en_US");
16:     if (locale == NULL) {
17:         fprintf (stderr, "%s: %s: %s\n", basename (argv[0]),
18:                 "setlocale (LC_NUMERIC, \"en_US\")", "failed\n");
19:     } else {
20:         printf ("Locale set to %s\n", locale);
21:     }
22:     printf ("DBL_DIG = %d\n", DBL_DIG);
23:     printf ("DBL_EPSILON = %.15g\n", DBL_EPSILON);
24:     printf ("DBL_MANT_DIG = %d\n", DBL_MANT_DIG);
25:     printf ("DBL_MAX_10_EXP = %d\n", DBL_MAX_10_EXP);
26:     printf ("DBL_MAX = %.15g\n", DBL_MAX);
27:     double dollars = 1.00;
28:     while (dollars + 0.01 > dollars) dollars *= 2;
29:     printf ("dollars = $%'22.2f = $%g\n", dollars, dollars);
30:     printf ("US debt = $%'22.2f (Feb. 2013)\n", 16687289180215.00);
31:     printf ("diameter of the universe = %g meters\n", 8.8e26);
32:     return 0;
33: }
34:
35: //TEST// ./double >double.lis 2>&1
36: //TEST// mkpspdf double.ps double.c* double.lis*
37:
```

[illegible]

```
1: Locale set to en_US
2: DBL_DIG = 15
3: DBL_EPSILON = 2.22044604925031e-16
4: DBL_MANT_DIG = 53
5: DBL_MAX_10_EXP = 308
6: DBL_MAX = 1.79769313486232e+308
7: dollars = $140,737,488,355,328.00 = $1.40737e+14
8: US debt = $ 16,687,289,180,215.00 (Feb. 2013)
9: diameter of the universe = 8.8e+26 meters
```