```
1: // $Id: strtod.c,v 1.6 2013-09-25 14:32:13-07 - - $
 2:
 3: //
 4: // Example use of scanf and strtod to read words and determine if
 5: // they are numbers. Print the number if it is numeric, the string
 6: // that is not numeric if not.
 7: //
 8:
 9: #include <assert.h>
10: #include <string.h>
11: #include <stdio.h>
12: #include <stdlib.h>
13:
14: int main (int argc, char **argv) {
      assert (argc == 1);
15:
16:
      printf ("%s:\n", argv[0]);
17:
18:
      for (;;) {
19:
         char buffer[4096];
20:
21:
         // Read in a word and stop at EOF.
         int scanct = scanf ("%4095s", buffer);
22:
23:
          if (scanct == EOF) {
24:
            printf ("EOF\n");
25:
            break;
26:
          }
27:
         assert (scanct == 1);
28:
         size_t length = strlen (buffer);
29:
30:
         // Tell whether or not it is a number.
31:
         // If yes, print it and the string.
32:
         // If not, print the endptr data.
33:
         char *endptr = NULL;
34:
         double number = strtod (buffer, &endptr);
         if (*endptr == ' \setminus 0') {
35:
36:
            printf ("%22.15g %41d \"%s\"\n", number, length, buffer);
37:
          }else {
            printf ("%-22s %41d \"%s\", endptr->\"%s\"\n",
38:
39:
                    "not numeric", length, buffer, endptr);
40:
          }
41:
42:
43:
      return EXIT_SUCCESS;
44: }
45:
46: /*
47: //TEST// echo 3.1415926535897932384626433832795029 \
48: //TEST//
                 2.7182818284590452353602874713526625 \
49: //TEST//
                 1.4142135623730950488016887242096981 \
                 6.02e23 hello world '+' '-' '*' '/' ';' le1000000 \
50: //TEST//
51: //TEST//
                 +Infinity -Infinity NaN 1234foobar -5e-5000 \
52: //TEST//
                 53: //TEST//
                 54: //TEST//
                 0xFFFF 0xFFFFFFFF 0x1p10 0x1p20 \
55: //TEST// | ./strtod >strtod.lis 2>&1
56: //TEST// mkpspdf strtod.ps strtod.c* strtod.lis*
57: */
```

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\$cmps012b-wm/Labs-cmps012m/lab3c-rpnstack-array/misc/strtod.c.log

1/1

- 1: * @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: starting strtod.c 2: * strtod.c: \$Id: strtod.c,v 1.6 2013-09-25 14:32:13-07 - - \$ 3: * gcc -g -O0 -Wall -Wextra -std=gnu99 strtod.c -o strtod -lm 4: * rm -f strtod.o
- 5: * @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@

```
1: ./strtod:
2:
         3.14159265358979
                          36 "3.1415926535897932384626433832795029"
                          36 "2.7182818284590452353602874713526625"
3:
         2.71828182845905
4:
          1.4142135623731
                          36 "1.4142135623730950488016887242096981"
                6.02e+23
                           7 "6.02e23"
5:
                           5 "hello", endptr->"hello"
 6: not numeric
7: not numeric
                           5 "world", endptr->"world"
                           1 "+", endptr->"+"
8: not numeric
                           1 "-", endptr->"-"
9: not numeric
                           1 "*", endptr->"*"
10: not numeric
                           1 "/", endptr->"/"
11: not numeric
12: not numeric
                           1 ";", endptr->";"
                           9 "1e1000000"
13:
                     inf
14:
                          9 "+Infinity"
                     inf
15:
                          9 "-Infinity"
                    -inf
16:
                     nan
                          3 "NaN"
17: not numeric
                          10 "1234foobar", endptr->"foobar"
                          8 "-5e-5000"
18:
                      -0
19:
                      1 30 ".9999999999999999999999999999
20:
                 -220000
21: -3.3333333333333e-30
                          22:
                   65535 6 "0xFFFF"
              4294967295 10 "0xffffffff"
23:
24:
                    1024 6 "0x1p10"
25:
                 1048576 6 "0x1p20"
26: EOF
```