

Source File: ~/1337/32/lab32.(C|CPP|cpp|c++|cc|cxx|cp)
Input: Under control of main function
Output: Under control of main function
Value: 1

The purpose of this assignment is to write two different versions of the same function. The description and prototype of each of the functions can be found in the main function shown in Figure 1. A sample execution sequence is shown in Figure 2. To use the Makefile as distributed in class, add a target of lab32 to targets2srcfiles.

```
1  #include <iostream>
2
3  using namespace std;
4
5  // Function larger receives two value parameters, a and b, and returns
6  // the larger of the two.
7  int larger(int a, int b);
8
9  // Function larger has two parameters, each a pointer to a const int.
10 // The function returns the larger of the two int values.
11 int larger(const int *a, const int *b);
12
13 int main()
14 {
15     int a, b;
16
17     while (cin >> a >> b)
18     {
19         cout << "The larger of " << a << " and " << b << " is "
20             << larger(a, b) << endl;
21
22         cout << "The larger of " << a << " and " << b << " is "
23             << larger(&a, &b) << endl << endl;
24     }
25
26     return 0;
27 }
```

Figure 1. /usr/local/1337/src/lab32main.C

```
1 newuser@csunix ~> cd 1337
2 newuser@csunix ~/1337> mkdir 32
3 newuser@csunix ~/1337> cd 32
4 newuser@csunix ~/1337/32> cp /usr/local/1337/data/32/* .
5 newuser@csunix ~/1337/32> cp /usr/local/1337/src/lab32main.C .
6 newuser@csunix ~/1337/32> cp /usr/local/1337/src/Makefile .
7 newuser@csunix ~/1337/32> touch lab32.cpp
8 newuser@csunix ~/1337/32> # Edit Makefile and lab32.cpp
9 newuser@csunix ~/1337/32> make lab32
10 g++ -g -Wall -std=c++11 -c lab32main.C -I/usr/local/1337/include -I.
11 g++ -g -Wall -std=c++11 -c lab32.cpp -I/usr/local/1337/include -I.
12 g++ -o lab32 lab32main.o lab32.o -L/usr/local/1337/lib -lm -lbits
13 newuser@csunix ~/1337/32> cat 01.dat
14 13 62
15 62 13
16 -13 -62
17 -62 -13
18 1362 1362
19 newuser@csunix ~/1337/32> cat 01.dat | ./lab32
20 The larger of 13 and 62 is 62
21 The larger of 13 and 62 is 62
22
23 The larger of 62 and 13 is 62
24 The larger of 62 and 13 is 62
25
26 The larger of -13 and -62 is -13
27 The larger of -13 and -62 is -13
28
29 The larger of -62 and -13 is -13
30 The larger of -62 and -13 is -13
31
32 The larger of 1362 and 1362 is 1362
33 The larger of 1362 and 1362 is 1362
34
35 newuser@csunix ~/1337/32> cat 01.dat | ./lab32 > my.out
36 newuser@csunix ~/1337/32> diff 01.out my.out
37 newuser@csunix ~/1337/32> cat 02.dat | ./lab32 > my.out
38 newuser@csunix ~/1337/32> diff 02.out my.out
39 newuser@csunix ~/1337/32>
```

Figure 2. Commands to Compile, Link, & Run Lab 32