

Source File: ~/1337/12/lab12. (C|CPP|cpp|c++|cc|cxx|cp)
Input: None
Output: Screen
Value: 1

The following problem was recently given to members of the American Mensa Society. Find all five digit numbers, $abcde$, where $0 < a \leq 9$ and $0 \leq b, c, d, e \leq 9$ such that:

- ab is the product of d and e ,
- b is four times e ,
- e is seven less than d , and
- c is the sum of a and b .

The Mensa members were asked to solve this problem without the aid of computers. Since this is a programming class, write a computer program to find all such numbers satisfying the above criteria. All such numbers should be written to the screen, one per line.

Commands to compile, link, and run this assignment are shown in Figure 1.

```
1 newuser@csunix ~> cd 1337
2 newuser@csunix ~/1337> mkdir 12
3 newuser@csunix ~/1337> cd 12
4 newuser@csunix ~/1337/12> cp /usr/local/1337/data/12/* .
5 newuser@csunix ~/1337/12> touch lab12.cpp
6 newuser@csunix ~/1337/12> # Edit lab12.cpp
7 newuser@csunix ~/1337/12> g++ -g -Wall -std=c++11 -c lab12.cpp
8 newuser@csunix ~/1337/12> g++ -o lab12 lab12.o
9 newuser@csunix ~/1337/12> ./lab12
10 Your Name - CS 1337 - Lab 12
11
12 18992
13 newuser@csunix ~/1337/12> ./lab12 > my.out
14 newuser@csunix ~/1337/12> diff 01.out my.out
15 newuser@csunix ~/1337/12>
```

Figure 1. Commands to Compile, Link, & Run Lab 12