lab04

```
$ gcc lab04.c

$ ./a.out
Pythagorean Triple #1 is (3, 4, 5)
Pythagorean Triple #2 is (6, 8, 10)
Pythagorean Triple #3 is (5, 12, 13)
Pythagorean Triple #4 is (9, 12, 15)
...
Total number of Pythagorean triples found is 27175
utime: 0.443015
memory: 733184
```

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score: 95.0
o. [Output] Program output is correct, good.
o. [Format] Program format can be improved.

lab04.c

```c
// EE231002 Lab04. Pythagorean Triples
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// Date: 2022/10/14

#include <stdio.h>                      // include i/o header
#include <math.h>                       // include math header

int main(void)
{
    double  a, b, c;                    // the length of three sides
    unsigned short count = 0;           // count how many Pythagorean triples
    int max = 20000;                    // the maximum length of  c
    double sqrt2 = sqrt(2);             // set sqrt(2) as a const

    for (c = 1; c <= max; c++) {        // find c
        for (a = 1; a < c /  sqrt2; a++) {  //each a is smaller than c / sqrt2
        for (a = 1; a < c /  sqrt2; a++) {  // each a is smaller than c / sqrt2
            b = sqrt (c * c - a * a);   // compute b
            b = sqrt(c * c - a * a);   // compute b
            if (b == (int)b) {          // determine whether b is int
            count++;                    // number of Pythagorean sets +1
                count++;                    // number of Pythagorean sets +1
            printf("Pythagorean Triple #%d is (%lg, %lg, %lg)\n",
                printf("Pythagorean Triple #%d is (%lg, %lg, %lg)\n",
                count, a, b, c);        // print the set
                    count, a, b, c);        // print the set
            }
        }
    }
    printf("Total number of Pythagorean triples found is %d\n",
        count);                         // print how many sets are found
    return 0;
}
```