CSIS 3540
Client Server Systems

Lab 2

6.21 *(Pythagorean Triples)* A right triangle can have sides whose lengths are all integers. The set of three integer values for the lengths of the sides of a right triangle is called a Pythagorean triple (`en.wikipedia.org/wiki/Pythagorean_triple`). The lengths of the three sides must satisfy the relationship that the sum of the squares of two of the sides is equal to the square of the hypotenuse. Write an app to find all Pythagorean triples for `side1, side2` and the `hypotenuse`, all no larger than 500. Use a triple-nested `for` loop that tries all possibilities. This method is an example of "brute-force" computing. You'll learn in more advanced computer science courses that there are many interesting problems for which there's no known algorithmic approach other than using sheer brute force.

```
207    276    345
208    105    233
208    156    260
208    306    370
208    390    442
209    120    241
210     72    222
210    112    238
210    176    274
210    200    290
210    280    350
210    416    466
212    159    265
213    284    355
216     63    225
216     90    234
216    162    270
216    195    291
216    288    360
216    405    459
219    292    365
220     21    221
220    165    275
220    192    292
220    231    319
221     60    229
222    296    370
224     30    226
224    132    260
224    168    280
224    207    305
224    360    424
224    420    476
225    120    255
225    140    265
225    272    353
225    300    375
228     95    247
228    171    285
228    304    380
228    325    397
231    108    255
231    160    281
231    220    319
```

```
264        315        411
264        352        440
266        312        410
267        356        445
268        201        335
270        144        306
270        168        318
270        360        450
272        204        340
272        225        353
273        136        305
273        180        327
273        260        377
273        364        455
275        240        365
275        252        373
276        115        299
276        207        345
276        368        460
279        372        465
280         63        287
280         96        296
280        102        298
280        165        325
280        210        350
280        294        406
280        342        442
280        351        449
282        376        470
284        213        355
285         68        293
285        152        323
285        380        475
286         48        290
288         34        290
288         84        300
288        120        312
288        175        337
288        216        360
288        260        388
288        330        438
288        384        480
291        388        485
292        219        365
```

```
400      90      410
400     195      445
400     300      500
405     216      459
405     252      477
408     119      425
408     145      433
408     170      442
416      87      425
416     210      466
418     240      482
420      29      421
420      65      425
420      77      427
420     144      444
420     153      447
420     175      455
420     224      476
425     168      457
429      72      435
432      51      435
432     126      450
432     180      468
435     232      493
437      84      445
440      42      442
440      99      451
441     112      455
442     120      458
444     185      481
448      60      452
455     156      481
456     133      475
456     190      494
468     155      493
468     176      500
475     132      493
476      93      485
480      31      481
480      88      488
480     108      492
480     140      500
483      44      485
```
Press any key to continue . . .