



# Arithmetic Progressions

An arithmetic progression is a sequence of the form  $a, a+b, a+2b, \dots, a+nb$  where  $n=0, 1, 2, 3, \dots$ . For this problem,  $a$  is a non-negative integer and  $b$  is a positive integer.

Write a program that finds all arithmetic progressions of length  $n$  in the set  $S$  of bisquares. The set of bisquares is defined as the set of all integers of the form  $p^2 + q^2$  (where  $p$  and  $q$  are non-negative integers).

**TIME LIMIT: 5 secs**

**PROGRAM NAME: ariprog**

## INPUT FORMAT

Line 1:	$N$ ( $3 \leq N \leq 25$ ), the length of progressions for which to search
Line 2:	$M$ ( $1 \leq M \leq 250$ ), an upper bound to limit the search to the bisquares with $0 \leq p, q \leq M$ .

## SAMPLE INPUT (file ariprog.in)

```
5
7
```

## OUTPUT FORMAT

If no sequence is found, a single line reading 'NONE'. Otherwise, output one or more lines, each with two integers: the first element in a found sequence and the difference between consecutive elements in the same sequence. The lines should be ordered with smallest-difference sequences first and smallest starting number within those sequences first.

There will be no more than 10,000 sequences.

## SAMPLE OUTPUT (file ariprog.out)

```
1 4
37 4
2 8
29 8
1 12
5 12
13 12
17 12
5 20
2 24
```

**Submit a solution:**

Choose File

No file chosen

Send it in!

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