Item Navigation

Congratulations! You passed!

Grade received 100% **Latest Submission Grade** 100% **To pass** 80% or higher

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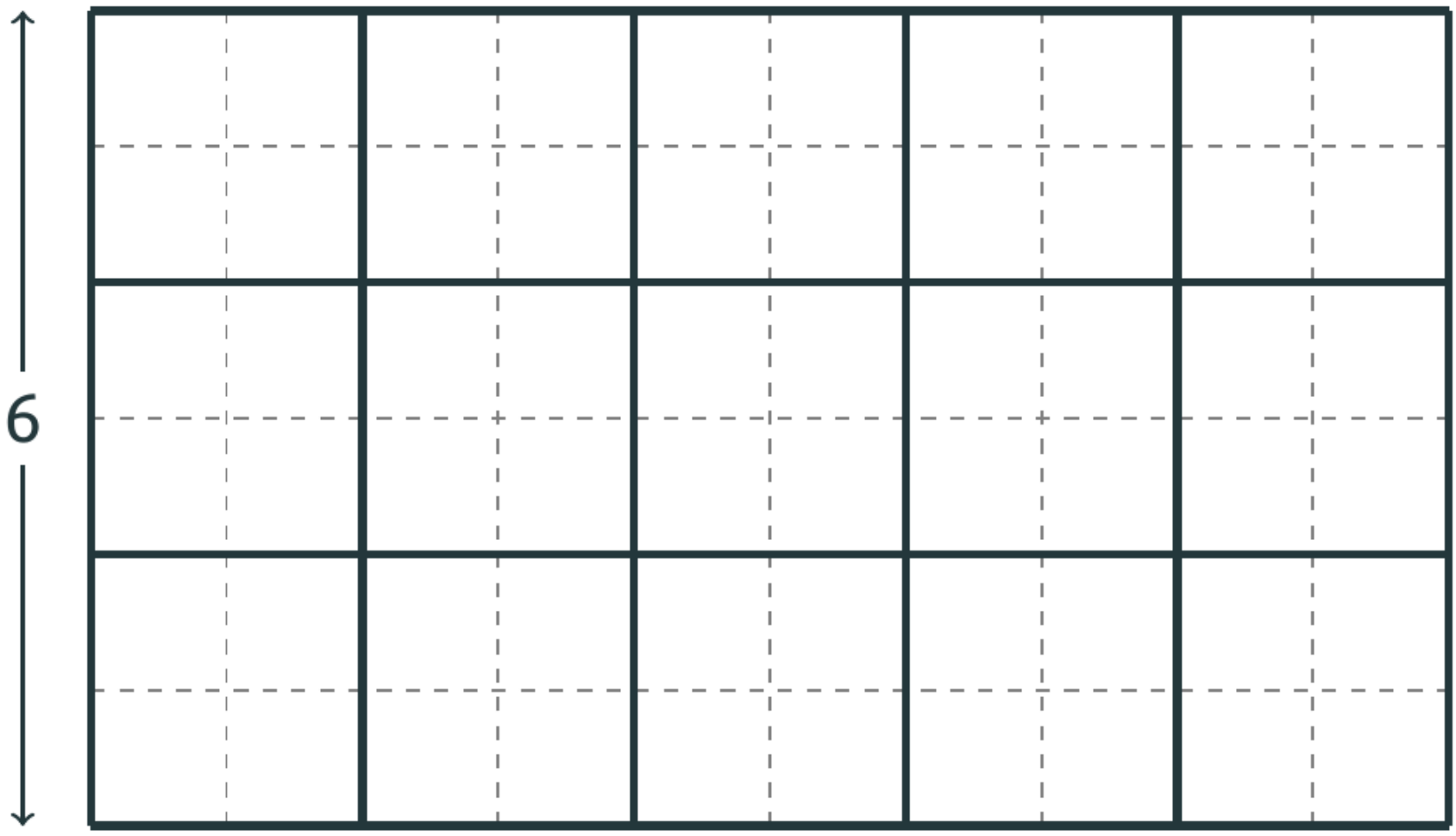
Tile a Rectangle with Squares

Quiz • 20 min

Review Learning Objectives

1. Given an $n \times m$ grid (where n, m are integers), you would like to tile it with the minimal number of same size squares. Clearly, it can always be tiled with nm squares of size 1×1, but it is not always optimal. For example, a 6×10 grid can be tiled by 15 squares of size 2×2. **1 / 1 point**



Your goal in this problem is to implement a function squares(n, m) that returns the minimum number of same size squares required to tile a grid of size $n \times m$. Your code should work fast (in less than a second) even for n, m up to $1\,000\,000\,000$.

```
1   # fix this code
2   def gcd(a, b):
3       assert a >=0 and b >=0 and a + b > 0
4       return gcd(b, a % b) if b > 0 else a
5
6   def squares(n, m):
7       tsz = gcd(max(m,n), min(m,n))
8       return n * m // (tsz * tsz)
9
10  #squares(6, 10)
```

Run

Reset

```
15
```

Correct

Good job!