

Trace Tables

1. The Pearson pseudocode to the right describes an algorithm that will determine if a given number, n , is a prime number or not. Complete the trace tables in order to understand how the algorithm works. The FLOOR(n) function truncates the number at the decimal point (equivalent to Pearson pseudocode $n \text{ DIV } 1$). The table may have more rows than necessary.

```

1 FUNCTION primeCheck(n)
2 BEGIN FUNCTION
3     SET i TO 2
4     SET isPrime TO True
5     SET limit TO FLOOR(n^0.5)
6     WHILE isPrime AND i <= limit DO
7         IF n MOD i = 0 THEN
8             SET isPrime TO False
9         SET i TO i + 1
10    RETURN isPrime
11 END FUNCTION
    
```

Trace table for primeCheck(35)

n	limit	i	i <= limit	n % i	n % i == 0	isPrime
35						
<i>return value:</i>						

Trace table for primeCheck(37)

n	limit	i	i <= limit	n % i	n % i == 0	isPrime
37						
<i>return value:</i>						