

### Output:

n = 256: 9 digits

n = 750: 10 digits

### Recurrence Relation and Stop Condition:

- $T(n) = 1 + T(\frac{n}{2})$  and  $T(1) = 1$

### Big Oh Complexity:

- Master Method
- Parameters:
  - $a = 1$
  - $b = 2$
  - $f(n) = n^0$
- Compare  $f(n)$  to  $n^d$ :
  - $n^{\log_b a} = n^{\log_2 1} = n^0$
  - $n^0 = n^0$
- Compare  $f(n)$  to  $n^d$ :
  - $T(n) = O(n^{\log_b a} \log n) = O(1 * \log n) = O(\log n)$