Prime Checker

Given an integer n, check if it is a prime number.

Input Format

an integer n

Output Format

return a boolean value `True` if n is a prime number, otherwise return `False`.

Constraints

- $1 \leq n \leq 10^{12}$

Sample Input

```
n=3
```

Sample Output

```
True
```

Implementation

Goal: Fill in the following function:

```
def is_prime(n: int) -> bool:
    ...
    return ...
if __name__ == "__main__":
    # You can test anything inside this block and can send it to grader
    # The grader will use only the function that you have implemented
    # !!! DO NOT write anything outside this block
    print(is_prime(3))
    print(is_prime(10))
```

Hint

- if n is divisible by k, then n is also divisible by n/k (because $n = k \times (n/k)$)
- you don't need to check all numbers from 1 to n, For instance,
  - if $n = 105$, $k = 3$ so $n/k = 35$ ($\therefore$ 105 is divisible by 3)
  - Is it necessary to check 105 is divisible by 35 for prime check?