1. In the boxes below, fill in the missing code that will make the function definition match its description.

```python
def every_nth_character(s: str, n: int) -> str:
    """Return a string that contains every nth character from s, starting at index 0.
    """Precondition: n > 0

    >>> every_nth_character('Computer Science', 3)
    'CpeSee'

    result = ''
    i = 0
    while ______________:
        result = result + s[i]
        i = ______________
    return result
```

2. In the boxes below, fill in the missing code that will make the function definition match its description.

```python
def find_letter_n_times(s: str, letter: str, n: int) -> str:
    """Return the smallest substring of s starting from index 0 that contains n occurrences of letter.
    """Precondition: letter occurs at least n times in s

    >>> find_letter_n_times('Computer Science', 'e', 2)
    'Computer Scie'

    i = 0
    count = 0
    while ______________:
        if ______________:
            count = count + 1
            i = i + 1
    return ______________
```
3. In math, the Collatz conjecture states that starting from any positive integer, you will eventually reach the number 1 by repeatedly applying the following two rules:
   - if the number is even, divide it by 2 to get the next number in the sequence
   - if the number is odd, multiply by 3 and add 1 to get the next number in the sequence

Repeatedly applying the rules generates a sequence of numbers. The Collatz step count is the number of applications of the rules required before the sequence reaches 1. For example, there are 8 Collatz steps in the Collatz sequence:
\[ n = 6 \rightarrow n = 3 \rightarrow n = 10 \rightarrow n = 5 \rightarrow n = 16 \rightarrow n = 8 \rightarrow n = 4 \rightarrow n = 2 \rightarrow n = 1 \]
Complete this function to count the Collatz steps for a particular number \( n \).

```python
def count_collatz_steps(n: int) -> int:
    """Return the number of steps it takes to reach 1 by applying the two rules of the Collatz conjecture beginning from the positive integer n.

    Precondition: n >= 1
    """
    >>> count_collatz_steps(6)
    8
    >>>
```

4. The function below has an incomplete header and docstring. Based on the code in the function body, fill in the missing parts: the Header (including the Type Contract), Description, and Examples.

```python
def count_collatz_steps(s: str) -> int:
    """Return the number of steps it takes to reach 1 by applying the two rules of the Collatz conjecture beginning from a string s.

    Precondition: s is a non-empty string.
    """
    i = 0
    while i < len(s) and s[i] not in '0123456789':
        i = i + 1
    return i
```