

## 744. Find Smallest Letter Greater Than Target

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Given a list of sorted characters `letters` containing only lowercase letters, and given a target letter `target`, find the smallest element in the list that is larger than the given target.

Letters also wrap around. For example, if the target is `target = 'z'` and `letters = ['a', 'b']`, the answer is `'a'`.

### Examples:

#### Input:

```
letters = ["c", "f", "j"]
```

```
target = "a"
```

**Output:** "c"

#### Input:

```
letters = ["c", "f", "j"]
```

```
target = "c"
```

**Output:** "f"

#### Input:

```
letters = ["c", "f", "j"]
```

```
target = "d"
```

**Output:** "f"

#### Input:

```
letters = ["c", "f", "j"]
```

```
target = "g"
```

**Output:** "j"

#### Input:

```
letters = ["c", "f", "j"]
```

```
target = "j"
```

**Output:** "c"

#### Input:

```
letters = ["c", "f", "j"]
```

```
target = "k"
```

**Output:** "c"

```
def nextGreatestLetter(self, letters: List[str], target: str) -> str:
    lo = 0
    hi = len(letters)-1
    n = len(letters)
    while lo<=hi:
        mid = (lo+hi)//2
        if letters[mid]==target:
            lo = mid+1
        elif letters[mid]>target:
            hi = mid-1
        else:
            lo = mid+1
    if lo<n:
        if letters[lo]>target:
            return letters[lo]
    else:
        return letters[0]
```