

10. Regular Expression Matching

Description

Given an input string `s` and a pattern `p`, implement regular expression matching with support for `'.'` and `'*'` where:

- `'.'` Matches any single character.
- `'*'` Matches zero or more of the preceding element.

The matching should cover the **entire** input string (not partial).

Example 1:

```
Input: s = "aa", p = "a"
Output: false
Explanation: "a" does not match the entire string "aa".
```

Example 2:

```
Input: s = "aa", p = "a*"
Output: true
Explanation: '*' means zero or more of the preceding element, 'a'. Therefore, by repeating 'a' once, it becomes "aa".
```

Example 3:

```
Input: s = "ab", p = ".*"
Output: true
Explanation: ".*" means "zero or more (*) of any character (.)".
```

Constraints:

- `1 <= s.length <= 20`
- `1 <= p.length <= 20`
- `s` contains only lowercase English letters.
- `p` contains only lowercase English letters, `'.'`, and `'*'`.
- It is guaranteed for each appearance of the character `'*'`, there will be a previous valid character to match.

