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8. String to Integer (atoi)

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Implement the `myAtoi(string s)` function, which converts a string to a 32-bit signed integer (similar to C/C++'s `atoi` function).

The algorithm for `myAtoi(string s)` is as follows:

- Read in and ignore any leading whitespace.
- Check if the next character (if not already at the end of the string) is `'-'` or `'+'`. Read this character in if it is either. This determines if the final result is negative or positive respectively. Assume the result is positive if neither is present.
- Read in next the characters until the next non-digit character or the end of the input is reached. The rest of the string is ignored.
- Convert these digits into an integer (i.e. `"123" -> 123`, `"0032" -> 32`). If no digits were read, then the integer is `0`. Change the sign as necessary (from step 2).
- If the integer is out of the 32-bit signed integer range `[-231, 231 - 1]`, then clamp the integer so that it remains in the range. Specifically, integers less than `-231` should be clamped to `-231`, and integers greater than `231 - 1` should be clamped to `231 - 1`.
- Return the integer as the final result.

Note:

- Only the space character `' '` is considered a whitespace character.
- Do not ignore** any characters other than the leading whitespace or the rest of the string after the digits.

Example 1:

Input: `s = "42"`
Output: `42`
Explanation: The underlined characters are what is read in, the caret is the current reader position.
Step 1: `"42"` (no characters read because there is no leading whitespace)
 `^`
Step 2: `"42"` (no characters read because there is neither a `'-'` nor `'+'`)
 `^`
Step 3: `"42"` ("`42`" is read in)
 `^`
The parsed integer is `42`.
Since `42` is in the range `[-231, 231 - 1]`, the final result is `42`.

Example 2:

Input: `s = " -42"`
Output: `-42`
Explanation:
Step 1: `" -42"` (leading whitespace is read and ignored)
 `^`
Step 2: `" -42"` (`'-'` is read, so the result should be negative)
 `^`
Step 3: `" -42"` ("`42`" is read in)
 `^`
The parsed integer is `-42`.
Since `-42` is in the range `[-231, 231 - 1]`, the final result is `-42`.

Example 3:

Input: `s = "4193 with words"`
Output: `4193`
Explanation:
Step 1: `"4193 with words"` (no characters read because there is no leading whitespace)
 `^`
Step 2: `"4193 with words"` (no characters read because there is neither a `'-'` nor `'+'`)
 `^`
Step 3: `"4193 with words"` ("`4193`" is read in; reading stops because the next character is a non-digit)
 `^`
The parsed integer is `4193`.
Since `4193` is in the range `[-231, 231 - 1]`, the final result is `4193`.

Constraints:

- `0 <= s.length <= 200`
- `s` consists of English letters (lower-case and upper-case), digits (`0-9`), `' '`, `'+'`, `'-'`, and `'.'`.

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class Solution {

public int myAtoi(String s) {

}

}

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