

2.1/2.2.2 Greatest Integer Function

A. Greatest Integer Function

Notation: $\lceil x \rceil$ or $\lfloor x \rfloor$ or $\text{int}(x)$

(called floor function also)

Meaning: 1. If the input is an integer, output is the same number
2. In any other case, you pick the smaller integer.

B. Examples

Example 1: Find $\lceil -2 \rceil$

Solution

$\lceil -2 \rceil$ Ans

Example 2: Find $\text{int}(3)$

Solution

$\lceil 3 \rceil$ Ans

Example 3: Find $\lceil 4.8 \rceil$

Solution

$\lceil 4 \rceil$ Ans

Example 4: Find $\text{int}(-4.8)$

Solution

$\lceil -5 \rceil$ Ans

C. Comments

1. Ceiling function: $\lceil x \rceil$ pick larger integer

2. Relationship: $\lceil x \rceil = -\lfloor -x \rfloor$ i.e. $\lceil x \rceil = -\lfloor -x \rfloor$