Problem solving

Who am I?

My name is Ravi.

I am a full stack developer.

I code in C#, Swift, TypeScript.

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Expectations

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1. We won’t be covering nodes, binary trees, link-lists (some other sessions).

2. Solve 3 easy questions.

3. Source code will be uploaded on GitHub and link will be pasted on the DSA channel on discord.

Let’s begin

Question 1

Find the length of the last word

Examples:

Input:
Word: “Hello World”

Output: 5

Input:
Word: “programming is fun”

Output: 3

Input:
word:”I am batman ”

Output: 6

Thought box

1. If the string length is zero then return zero.
2. Substring approach can make things a little complicated and the code less readable.
3. Use in-built functions of strings.

Let’s code

Question 2

Return true if the number is a palindrome number else false.

Examples:

Input:
number: 151

Output: true

Input:
number: -151

Output: false

Input:
number: 2002

Output: true

Thought box

1. All single digit integers are palindrome.
2. We can use recursion, string conversion or maths to solve this
3. Formula: reverserNumber = reverseNumber * 10 + (number % 10)

Let’s code

Question 3

Divide two integers, the result must be truncated towards zero (no fraction part)

Examples:

Input: Dividend: -10 Divisor: 5	Input: Dividend: 1 Divisor: 2	Input: Dividend: -1 Divisor: -1	Input: Dividend: -4 Divisor: -2
Output: -2	Output: 0	Output: 1	Output: 2

The integers must be divided **without** using multiplication, division, mod or addition operator.

Thought box

1. If zero is divided by any number then the result is always zero.
   Example: 0/10 = 0.

2. If any number is divided by zero, an exception is thrown.
   Example: 20/0 = Error or Not a number.

3. If dividend has a lower value than the divisor then the result is always 0.*someIntegerValue*
   Example: 1/2 = 0.5, 9/10 = 0.9, 680/985 = 0.6

4. Convert to positive integers.

5. Negative sign management. (will explore in code)

Let’s code