String

Key Points about String

- **Immutable**: Once created, String content cannot be changed
- **Reference type**: Stored in heap memory
- **Special pool**: String literals stored in String pool (part of heap)
- **Final class**: Cannot be extended
- **Thread-safe**: Due to immutability

String Methods with Examples

Input String: `"abcdE"`

1. charAt(int index)

- **Definition**: Returns the character at specified index position
- **Example**: `s1.charAt(2)`
- **Output**: `'c'`

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2. substring(int beginIndex)

- **Definition**: Returns substring from beginIndex to end of string
- **Example**: `s1.substring(2)`
- **Output**: `"cdE"`

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3. substring(int beginIndex, int endIndex)

- **Definition**: Returns substring from beginIndex to endIndex-1 (endIndex excluded)
- **Example**: `s1.substring(1, 4)`
- **Output**: `"bcd"`

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4. length()

- **Definition**: Returns total number of characters in string
- **Example**: `s1.length()`
- **Output**: `5`

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5. toUpperCase()

- **Definition**: Converts all characters to uppercase
- **Example**: `s1.toUpperCase()`
- **Output**: `"ABCDE"`

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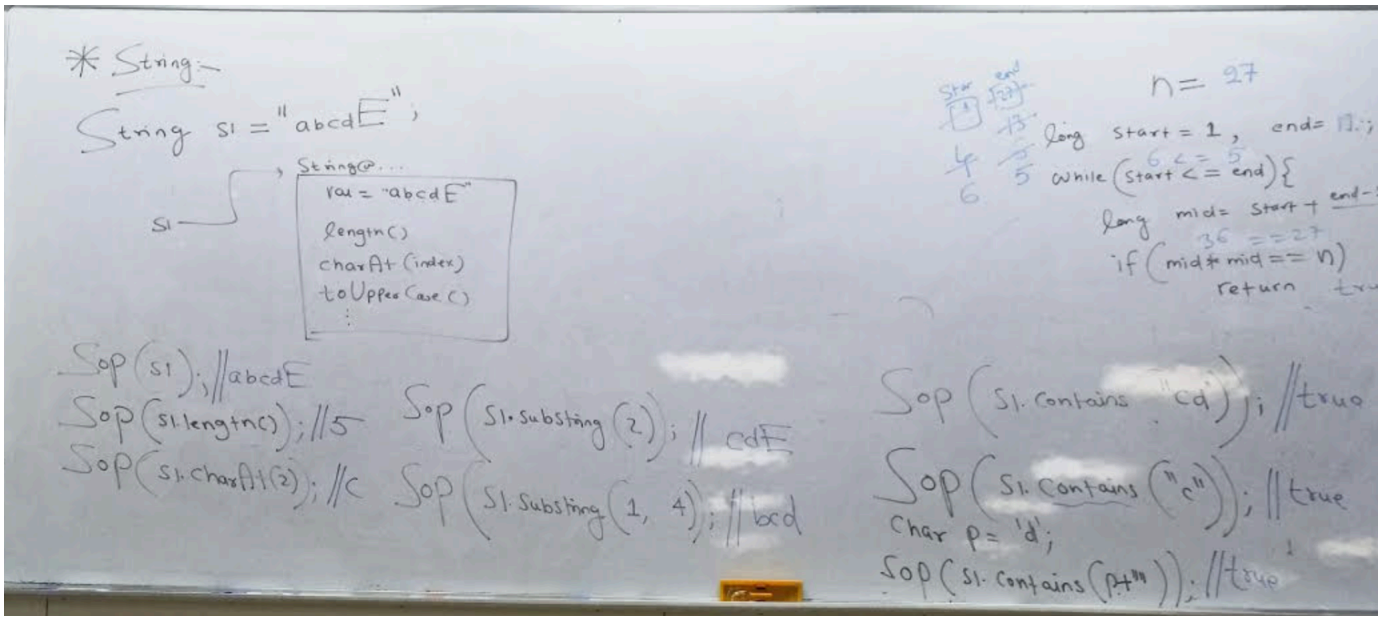
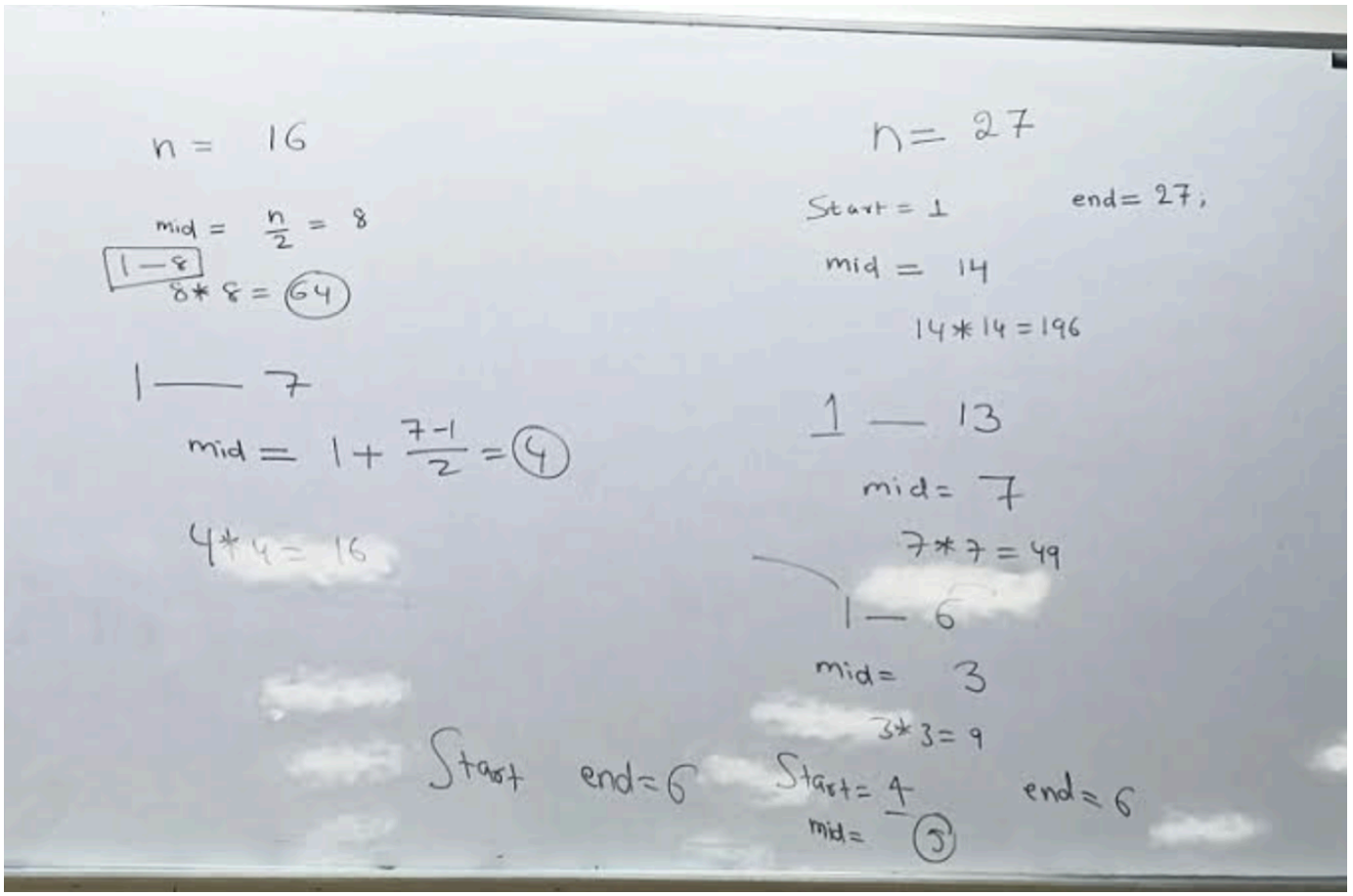
6. contains(CharSequence sequence)

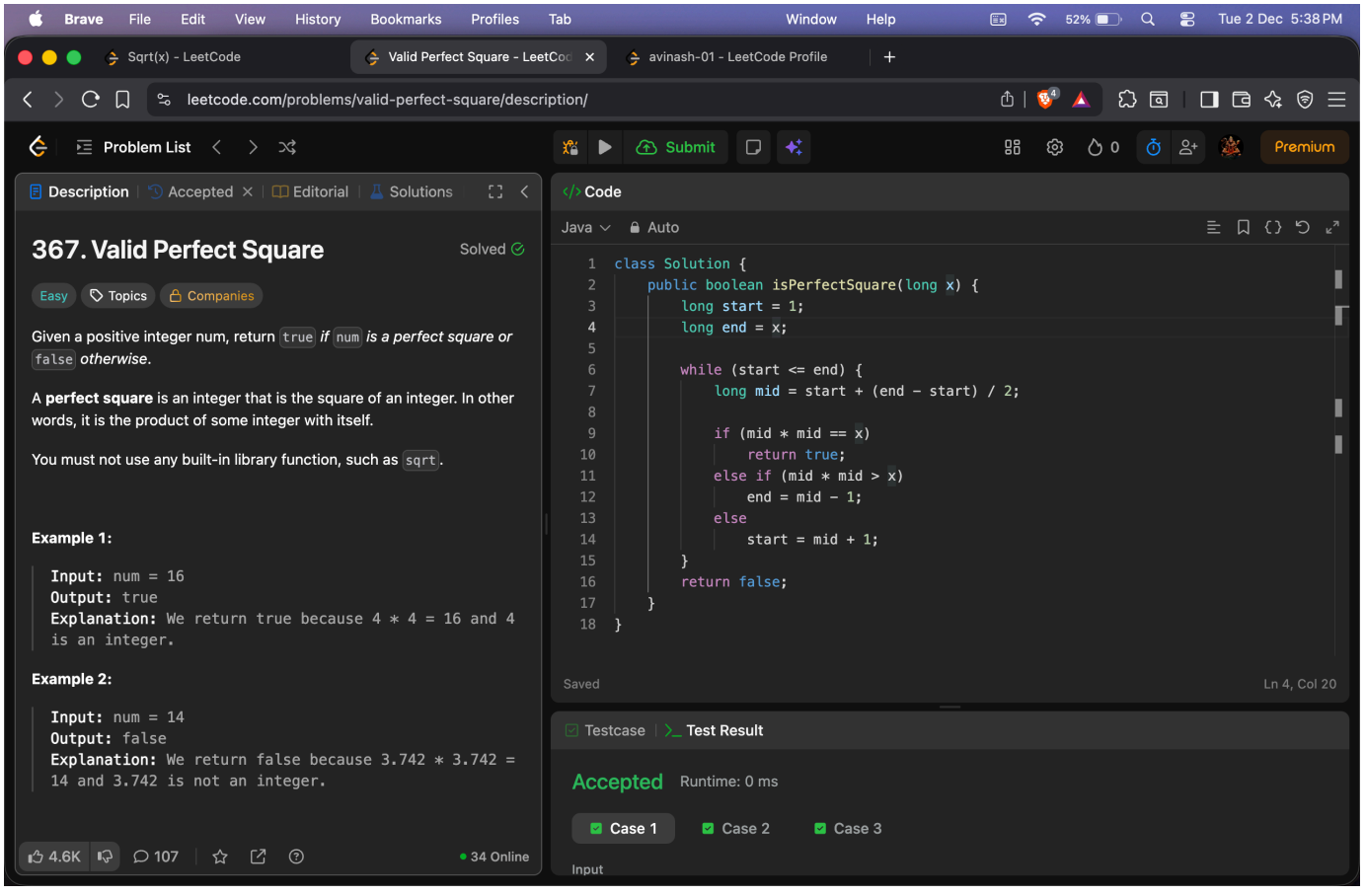
- **Definition**: Checks if string contains specified sequence of characters
- **Example**: `s1.contains("cd")`
- **Output**: `true`
- **Example**: `s1.contains("xy")`
- **Output**: `false`

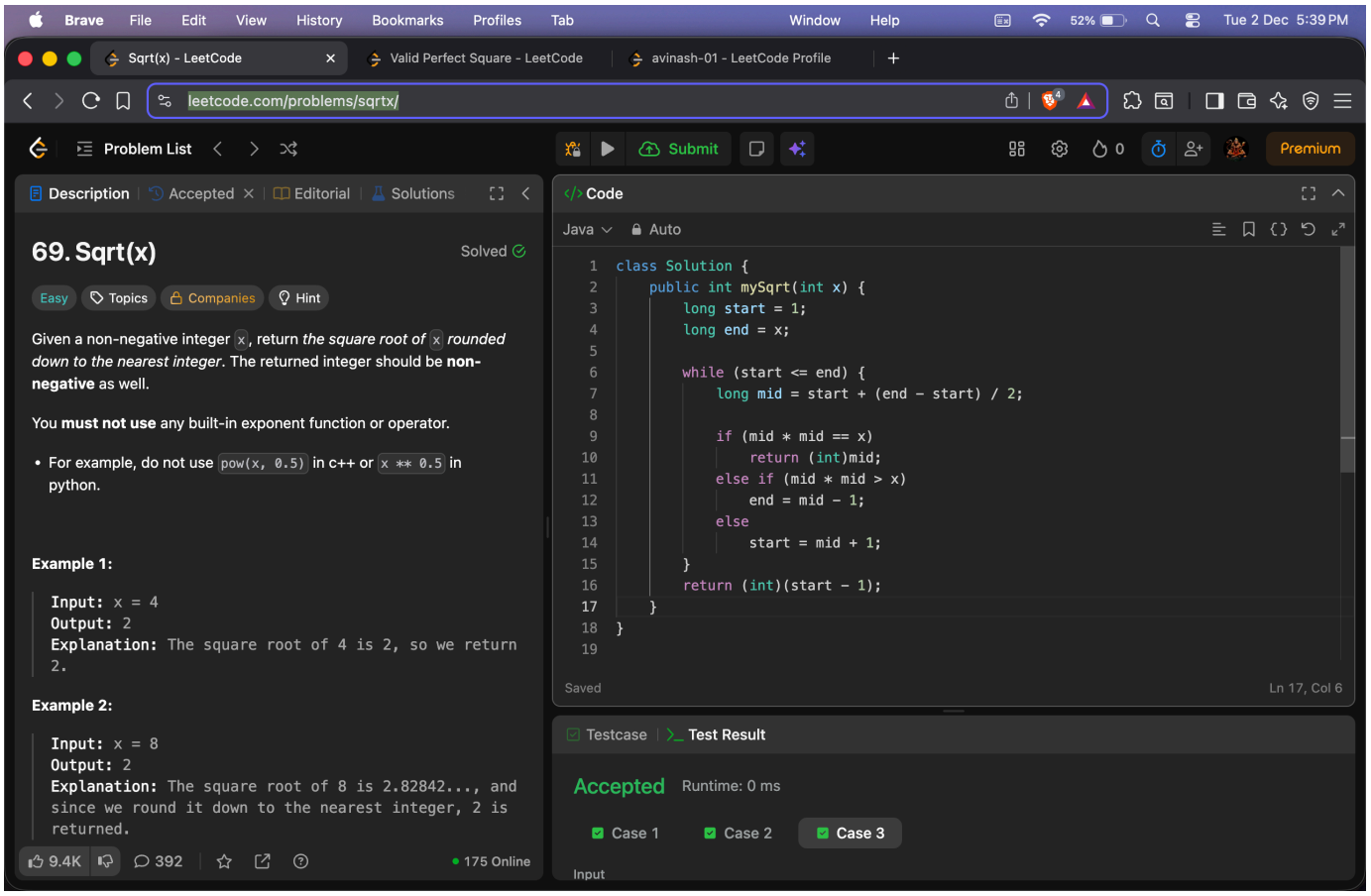
Note: String class has both instance methods (like above) and static methods (like `valueOf()`, `format()`)



Leetcode code Explanation



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Sqrt(x) - LeetCode
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69. Sqrt(x)
Solved
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Hint
Given a non-negative integer x, return the square root of x rounded down to the nearest integer. The returned integer should be non-negative as well.
You must not use any built-in exponent function or operator.
For example, do not use pow(x, 0.5) in c++ or x ** 0.5 in python.
Example 1:
Input: x = 4
Output: 2
Explanation: The square root of 4 is 2, so we return 2.
Example 2:
Input: x = 8
Output: 2
Explanation: The square root of 8 is 2.82842..., and since we round it down to the nearest integer, 2 is returned.
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Code
Java
Auto
class Solution {
public int mySqrt(int x) {
long start = 1;
long end = x;
while (start <= end) {
long mid = start + (end - start) / 2;
if (mid * mid == x)
return (int)mid;
else if (mid * mid > x)
end = mid - 1;
else
start = mid + 1;
}
return (int)(start - 1);
}
}
Saved
Ln 17, Col 6
Testcase
Test Result
Accepted
Runtime: 0 ms
Case 1
Case 2
Case 3
Input