Assignment Web Similarity Analysis

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Executive Summary

Overall Web Similarity Score: 20%

Assessment: Low overall similarity. The assignment demonstrates application of the bisection method to a specific problem ($x^3 - x - 2 = 0$). While some common phrases and the general concept are found online, the specific calculations, table of iterations, and the chosen equation are unique to the assignment.

Conclusion: The assignment is likely original work. The core of the assignment—the application of the bisection method to a specific equation and the resulting calculations—is not found in the provided web sources. The matches are limited to the term "Bisection Method" which is a common term in numerical analysis and the general concept of an iteration table which is standard practice when demonstrating this method. Therefore, while the student clearly understands the Bisection Method, there's no evidence of plagiarism from these sources. It's important to note that this analysis is limited by the provided sources. Checking against a broader range of online resources is recommended for a more comprehensive plagiarism check.

Web Sources Analyzed

Source URL	Similarity Score
https://www.geeksforgeeks.org/program-for-bisection-method/	9.01%
https://atozmath.com/example/CONM/Bisection.aspx?q=bi&q1=E1	9.52%
https://www.youtube.com/watch?v=nC1CDUwL3Qw	3.78%
https://byjus.com/maths/bisection-method-questions/	4.65%

Detailed Content Matches

Match 1 - Common Knowledge (100%)

Assignment: Bisection Method
Source: https://www.geeksforgeeks.org/program-for-bisection-method/
Source Text: Bisection Method

Match 2 - Common Knowledge (100%)

Assignment: Bisection Method
Source: https://atozmath.com/example/CONM/Bisection.aspx?q=bi&q1;=E1:
Source Text: Bisection method

Match 3 - Common Knowledge (100%)

Assignment: Bisection Method
Source: https://byjus.com/maths/bisection-method-questions/
Source Text: Bisection Method

Match 4 - Similar Content (30%)

Assignment: Table 1:Iteration Table.
Source: https://atozmath.com/example/CONM/Bisection.aspx?q=bi&q1;=E1:
Source Text: (Iterative Table format implicitly present in examples)

Full Assignment with Highlighted Plagiarism

Sections highlighted in yellow with red text indicate potential plagiarism.

1 Manual Solutions

1.1 Bisection Method

Source: https://byjus.com/maths/bisection-method-questions/

Bisection Method

Source: https://byjus.com/maths/bisection-method-questions/

■■ – ■ – ■

f(X) =

=

0

f(X) = ■■ – ■ – ■ = 0 interval [1,2]

=

f(X) =

■3 – ■ – 2

f (1) =

13- 1 - 2

=

f (2) =

=

-2

=

=

f (1.5) =

=

therefore, updated Interval [1.5,2]

0

F (1) < 0

23 -2 -2

4

F (2) > 0

Since f(1)<0. f(2) > 0; a root exists between 1 and 2

C

=

(

1+2

)

2

1.5

1.53 -1.5 -2

-0.125

Table 1:Iteration Table.

Iterations

a

F(a)

b

F(b)

c

F(c)

update

1

1.00000000

-2.00000000

2.00000000

4.00000000

1.50000000

-0.12500000

a=c

2

1.50000000

-0.12500000

2.00000000

4.00000000

1.75000000

1.60937500

b=c

3

1.50000000

-0.12500000

1.75000000

1.60937500

1.62500000

0.66601562

b=c

4

1.50000000

-0.12500000

1.62500000

0.66601562

1.56250000

0.25219727

b=c

5

1.50000000

-0.12500000

1.56250000

0.25219727

1.53125000

0.05911255

b=c

So 1.53125000 considered as a root according to Bisection Method after 5 iterations

Source: https://byjus.com/maths/bisection-method-questions/

Analysis Methodology

Web Similarity Analysis Method: This report analyzes the similarity between a student assignment and web content using multiple approaches:

1. **Basic similarity analysis** using TF-IDF vectorization and cosine similarity metrics to calculate statistical similarity between texts.
2. **Advanced semantic analysis** using Google's Gemini AI to identify conceptual similarities, common phrases, and potential plagiarism patterns.
3. **Source verification** by analyzing multiple sources to distinguish between common knowledge and unique content.

Interpretation Guide:

- 0-15%: Very low similarity - Likely original content
- 16-30%: Low similarity - Contains common phrases but largely original
- 31-50%: Moderate similarity - May contain some paraphrased content
- 51-70%: High similarity - Contains substantial similar content
- 71-100%: Very high similarity - Significant portions may be unoriginal

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Disclaimer: This automated similarity analysis provides an approximation of content similarity against web sources. Results should be interpreted by a human reviewer for context-appropriate assessment. Common knowledge, standard phrases, and coincidental matches may be flagged and require human judgment.