Numerical Analysis  
Assignment 1 - Part 2

14 May 2019

# Flowchart

## Gaussian-elimination

|  |  |
| --- | --- |
|  | Describe how gauss elimination method works: |

**Analysis and conclusion for the behavior of Gauss Elimination:**

Gauss Elimination finds the roots of linear equation by eliminating the lower elements in the coefficient matrix then applying backward substitution to get the roots.

Gauss Elimination always converges to the roots of the equation in O(n3).

## LU decomposition

|  |  |
| --- | --- |
|  | Describe how LU decomposition method works: |

**Analysis and conclusion for the behavior of LU Decomposition:**

LU Decomposition finds the roots by splitting the coefficient matrix into lower and upper matrices multiplied together, applying forward substitution on the lower matrix the applying backward substitution on the upper matrix.

LU Decomposition always converges to the roots of the equation in O(n3).

## Gaussian-Jordan

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| --- | --- |
|  | Describe how Gaussian Jordan method works: |

**Analysis and conclusion for the behavior of Gauss Jordan:**

## Gauss-Seidel

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| --- | --- |
|  | Describe how Gauss Seidel method works: |

**Analysis and conclusion for the behavior of Gauss Seidal:**

# Sample runs and snapshots

# Team

|  |  |
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