Project 1

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Abstract

1 Introduction

2 Method

3 Code/Implementations
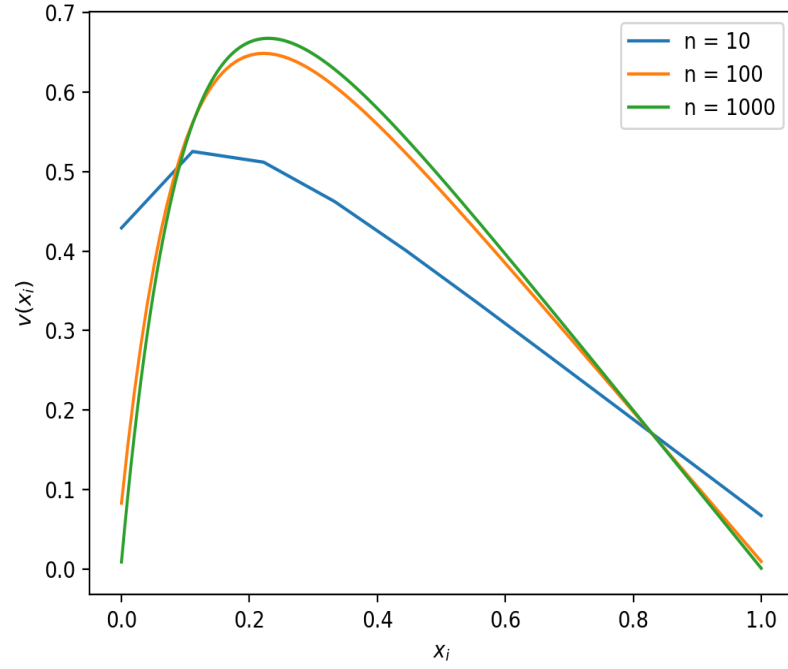
Figure 1: Here is the solution to the set of linear equations.

Time t to complete n iterations

iterations n	Gaussian Elimination t (s)	Special Case t (s)	Armadillo LU t (s)
10^1	$2 \cdot 10^{-5}$	$3 \cdot 10^{-6}$	$2 \cdot 10^{-5}$
10^2	$2 \cdot 10^{-4}$	$1 \cdot 10^{-5}$	$2 \cdot 10^{-4}$
10^3	$2 \cdot 10^{-4}$	$9 \cdot 10^{-5}$	$1 \cdot 10^{-2}$
10^4	$2 \cdot 10^{-3}$	$8 \cdot 10^{-4}$	$7 \cdot 10^{-0}$
10^5	$1 \cdot 10^{-2}$	$5 \cdot 10^{-3}$	
10^6	$2 \cdot 10^{-1}$	$6 \cdot 10^{-2}$	

Maximal relative error ϵ_{max} in n iterations:

iterations n	Maximal relative error ϵ_{max}
10^1	2.4
10^2	2.04
10^3	2.004
10^7	2.0000005

4 Analysis/Results

5 Conclusions

6 Referencing