



# CONTENTS

<i>Certificate</i>	I
<i>Preface</i>	II
<i>Acknowledgement</i>	III
<i>Abstract</i>	IV

## 1

### Project Introductory 1-7

1.1. Introduction.....	2
1.2. Objectives.....	3
1.3. Project Description.....	4
1.3.1. Project in Brief.....	5
1.3.2. Project in Detail.....	6
1.4. Feasibility Analysis.....	7
1.4.1. Technical Feasibility.....	7
1.4.2. Economical Feasibility.....	7

## 2

### System Analysis 8-11

2.1. Scheduling Criteria.....	9
2.2. System Implementation.....	10
2.3. Platform Use.....	11
2.3.1. Hardware Requirements.....	11
2.3.2. Software Requirements.....	11

# 3

## Basic Knowledge

12-19

<b>3.1.</b>	<b>Basic Idea About Sorting.....</b>	<b>13</b>
3.1.1.	Sorting.....	13
3.1.2.	The Problem.....	14
3.1.3.	Terminology.....	14
<b>3.2.</b>	<b>Complexity.....</b>	<b>15</b>
<b>3.3.</b>	<b>Complexity Measurement .....</b>	<b>16</b>
3.3.1.	Worst Case.....	16
3.3.2.	Average Case.....	16
3.3.3.	Best Case.....	17
<b>3.4.</b>	<b>Asymptotic Notation.....</b>	<b>18</b>
3.4.1.	Big-O Notation.....	18
3.4.2.	Big-Omega Notation.....	19
3.4.3.	Theta Notation.....	19
3.4.4.	Little-O Notation.....	19
3.4.5.	Little-Omega Notation.....	19

# 4

## Different Sortings

20-52

<b>4.1.</b>	<b>Theoretical Background.....</b>	<b>21</b>
4.1.1.	Bubble Sort.....	21
4.1.2.	Bucket Sort.....	22
4.1.3.	Cocktail Sort.....	24
4.1.4.	Comb Sort.....	26
4.1.5.	Counting Sort.....	29
4.1.6.	Heap Sort.....	31
4.1.7.	Insertion Sort.....	33

4.1.8.	Merge Sort.....	35
4.1.9.	Quick Sort.....	38
4.1.10.	Radix Sort.....	39
4.1.11.	Selection Sort.....	43
4.1.12.	Shell Sort.....	45
<b>4.2.</b>	<b>Classification.....</b>	<b>48</b>
<b>4.3.</b>	<b>Stability.....</b>	<b>49</b>
<b>4.4.</b>	<b>Comparisons.....</b>	<b>50</b>

5

## Proposed Sort 53-62

<b>5.1.</b>	<b>Our Proposed Algorithm.....</b>	<b>54</b>
5.1.1.	Digit Sort.....	54

6

## Coding In 'C' 63-78

<b>6.1.</b>	<b>Codes for Various Sorts.....</b>	<b>64</b>
6.1.1.	Bubble Sort.....	64
6.1.2.	Bucket Sort.....	65
6.1.3.	Cocktail Sort.....	66
6.1.4.	Comb Sort.....	67
6.1.5.	Counting Sort.....	68
6.1.6.	Heap Sort.....	69
6.1.7.	Insertion Sort.....	70
6.1.8.	Merge Sort.....	71
6.1.9.	Quick Sort.....	73
6.1.10.	Radix Sort.....	75
6.1.11.	Selection Sort.....	77
6.1.12.	Shell Sort.....	78

# 7

## Input-Output Design

79-99

<b>7.1.</b>	<b>Screenshots.....</b>	<b>80</b>
7.1.1.	Login.....	80
7.1.2.	Welcome.....	82
7.1.3.	Team Members name.....	83
7.1.4.	Application.....	84
7.1.5.	Sorting Algorithms.....	86
7.1.6.	Exit.....	98
7.1.7.	Thank You.....	99

# 8

## Conclusion

100-104

<b>8.1.</b>	<b>Further Scope.....</b>	<b>101</b>
<b>8.2.</b>	<b>System Testing &amp; Maintenance.....</b>	<b>102</b>
<b>8.3.</b>	<b>Enhancement Scope.....</b>	<b>103</b>
<b>8.4.</b>	<b>Conclusion.....</b>	<b>104</b>

---

*Bibliography...*