**DAYANANDA SAGAR COLLEGE OF ENGINEERING**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

***(An Autonomous Institution Affiliated to VTU, Belgaum)***

**ShavigeMalleshwara Hills, Kumarswamy Layout, Bangalore -560078**

****

**Mini Project REPORT**

**(data structures with Applications)**

**“MAZE PROBLEM”**

Submitted in partial fulfillment of the requirements for the award of AAT Marks in the subject:

**“Data Structures with Applications”** of **3rdSemester** Degree of Bachelor of Engineering.

**Submitted By**

|  |  |  |
| --- | --- | --- |
| **SL#** | **USN** | **NAME** |
|  | 1DS17CS038 | GAURI PANDIT |
|  | 1DS17CS033 | CHANDANA VIJAYKUMAR |
|  | 1DS17CS035 | DIVYA P HATHWAR |

**Under the guidance of**

Prof. Harish Kumar N

Assistant Professor, Dept. of CSE, DSCE

**Marks secured (to be evaluated by the course instructor)**

|  |
| --- |
|  |
|  |

|  |  |  |  |
| --- | --- | --- | --- |
| **SL#** | **USN** | **NAME** | **Total**  **(10 Marks)** |
|  | 1DS17CS038 | GAURI PANDIT |  |
|  | 1DS17CS033 | CHANDANA VIJAYKUMAR |  |
|  | 1DS17CS035 | DIVYA P HATHWAR |  |

**Signature of the students**

**1.**

**2.**

**3.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signature of Faculty in-charge with date**

**Contents**

Abstract

1.Introduction………………………………………………………………………………..4

2.Design/Implementation……………………………………………………………………5

3.Testing/Result and Analysis……………………………………………………………….13

4.Conclusions & future enhancements………………………………………………………14

5.References…………………………………………………………………………………15

ABSTRACT

In this given project, we solve the maze problem in C by using Backtracking Approach. Considering a matrix of size N\*N with source position at (0,0) and destination at (N-1, N-1) in a 2D array. Some of the positions in the array are marked as 0 which are blocked cells, rest being marked 1. A path is a connected sequence of elements from (0,0) to (N-1, N-1) which consists of 1. A sequence of 1s in the 2D array is connected if every 1 in the sequence is adjacent (the above or left neighbor) to the next 1 in the sequence. Here firstly, the size of array is pre declared as 4 and consider an 4X4 maze which consists of 0’s and 1’s. if the paths possible the output is printed, including to this, the number of possible path that can be taken is printed.