



TITLE: DUNGEON ESCAPE

C-MAJOR PROJECT

ABSTRACT

- ✓ THIS PROJECT IMPLEMENTS A USER BASED GAME IN WHICH THE USER CHOOSES THE RIGHT PATH TO ESCAPE THE DUNGEON .WHILE READING USER INPUT . IT DEMONSTRATE THE USE OF THE MODULAR PROGRAMMING TO BUILD A SCALABE AND MAINTAINABLE SOFTWARE SYSTEM.

PROBLEM DEFINITION

1. A maze is Generated
2. The player starts at position(1,1)
3. The exit is located at bottom right of the maze
4. Player can be moved using w\ a\ s\ d
5. The game ends when :
 - The player exits the maze.

SYSTEM DESIGN AND ALGORITHM

- The system is modular consisting of source file:
- “game.c “ checks for win condition and player movement
- “main.c ” shows main
- “maze.c” generates maze
- “player.c ” handles movement checks for collision

Algorithm:

1. Generates maze
2. Reads movement
3. Checks for collisions
4. Checks exit

IMPLEMENTATION

Key language features used:



Data Types- int, character, extern keyword



Functions – for modularity and clarity

TESTING AND RESULTS

1. Case1: Manual movement through terminal leads to a complex movement after many steps , user either exits or wins.
2. Case2: Using a ./main < sample_input.txt file that has a predefined sets of moves and leads to graceful execution.
3. Case3: Using manual input.txt file for right set of moves and lose conditons.

RESULTS:

✓ Win condition:

```
#####  
#...#.....#  
#.#.#.###..#  
#.#.....#P.#  
#.#.#####.#  
#.....#.#  
#####  
  
You Escaped the Dungeon!
```

✓ Lose condition:

```
#####  
#...#.....P.#  
#.#.#.###..#  
#.#.....#X.#  
#.#.#####.#  
#.....#.#  
#####  
  
Game Over!
```

CONCLUSION

The project achieves its goal of creating a functional dungeon escape game using a modular C program. Player movement, boundary checks, and win detection operate correctly, confirming a stable and well-organized implementation.