

A level file will specify the rooms on the first line delimited by a space, following that, each line will describe a room's pathway to another room.

The first room listed on the first line is the starting point of the level.

The level file structure :

```
START FOYER ELEVATOR
START > NORTH > FOYER
FOYER > SOUTH > START
START > WEST > ELEVATOR
```

Each pathway is broken up by spaces and the > symbols. <roomA> > WEST > <roomB> this translates to:

roomA's west's pathway connects to roomB

Annotation for the test level file:

```
START FOYER ELEVATOR //START is the first room of the dungeon.
START > NORTH > FOYER //START's north pathway connects to the FOYER
FOYER > SOUTH > START //FOYER's south pathway connects to the START
START > WEST > ELEVATOR //START's west pathway connects to the ELEVATOR
```

The **commands** that a player can input:

NORTH  
SOUTH  
EAST  
WEST  
QUIT

**QUIT** command allows the user to quit the program, please ensure that you clean up any memory you have allocated.

The **NORTH**, **SOUTH**, **EAST** and **WEST** commands will allow the player to move between the rooms via the room's pathways. Each room has a maximum of 4 pathways.

A room will outline if the paths that are available to it by specifying the direction at the side of the room. For example if the room has a path to another room by going north it will show N on the north side of the room. Example:

A square defined by dashed lines. The letter 'N' is centered within the square.

If it does not have a path, it will be a - or | depending on the side it is on.

If a user specifies a direction that does not have a pathway the program should output:

## No Path This Way

If the user inputs an invalid command the program should respond with:

## What?

The room is always 9 x 5 (with a space at the start and end of the top and bottom of the room);

The name should also be outputted before drawing the room.

NORTH

START

Specific functions to know for this task:

**fopen, fgets, sscanf, malloc, realloc, free, memset, strcpy, strcmp**

### Assumptions/Clarifications:

- \* 8192 is largest number of characters in a line from the level file.
- \* Room name can be variable length.
- \* Commands are case sensitive
- \* On every command (even invalid ones) you need to redraw the room
- \* You may assume the test files are correct.
- \* Room pathways do **not** have logical entries. If the player moves NORTH you do not need to map the previous room to SOUTH of the current room.
- \* If a room's pathway has already been assigned it can be overridden when reading the level file.

### Examples:

Example 1:

```
./dungeon test_dungeon.dg
```

START

A square diagram with dashed lines. The top horizontal dashed line is labeled 'N' in the center. The left vertical dashed line is labeled 'W' in the center.

NORTH

FOYER

---

SOUTH

START

A square diagram with dashed lines. The top side is labeled 'N' and the left side is labeled 'W'.

QUIT

Example 2:

```
./dungeon test_dungeon.dg
```

START

A square diagram with dashed lines. The top horizontal dashed line is labeled 'N' in the center. The left vertical dashed line is labeled 'W' in the center.

WEST

ELEVATOR

NORTH

No Path This Way

ELEVATOR

EAST

No Path This Way

ELEVATOR



```
|      |  
-----
```

QUIT

Example 3:

```
./dungeon  
No Level File Specified
```

Example 4:

```
./dungeon test_dungeon.dg
```

```
START  
---N---  
|      |  
|      |  
W      |  
|      |  
|      |  
-----
```

```
ksamdkl  
What?
```

```
START  
---N---  
|      |  
|      |  
W      |  
|      |  
|      |  
-----
```