



DEPARTMENT OF
INFORMATION SYSTEMS
AND COMPUTER SCIENCE

Text-Based Game: Exercises and Homework



```
001011100100011110111100100110101110100100101  
11010101101010100001010101010010101010101010  
1010010100100100101010101010101010101010101010  
111000011110101100000001110101010101010000010101  
111010101110010100010010111010100010100100111010  
10101001010010010010000101010110101010101010010111  
00101010010101001010100000001010101001111101000011001  
1000110010000111100110101011000100110101010000101010  
1100101010101000010011001010100010010101010101010  
10100101001001001010101010101010101010101010101010  
111000011110101100000001110101010101010000010101  
00100101010010100100101001000101010101010101010010  
1001010010000101010010010101001010010101010010010  
100101001010101010101010101010101010101010101010101  
10010101010101010101010101010101010101010101010101010
```

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|--|--|----|
| | | | | | | | | | | 01 |
| | | | | | | | | | | 02 |
| | | | | | | | | | | 03 |
| | | | | | | | | | | 04 |
| | | | | | | | | | | 05 |
| A | B | C | D | E | F | G | H | | | |

Simple Start

Lecture Time!

- ▶ Exercises
- ▶ Homework

00101010010101000011110100001100
10001100100001111001101010010101
110010101010100001001100101010100
1001010010010010101010101010101
11100001111010110000000111101001
001001010100101001001010010010110
10010100100001010100100101001010
10010100101010010100101001010101
10010100101010010100101001010101



DISCS

Exercise #1

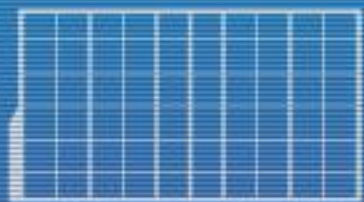
- Create a C++ program that accepts user input and echoes it back

- User input:

Hello there!

- Program output:

Hello there!



Exercise #2

- Edit the program so that it eliminates all leading and trailing whitespace characters (note: using underscores here to represent whitespace)

► User input:

_____ So _many_ spaces _before_
and _after_____

► Program output:

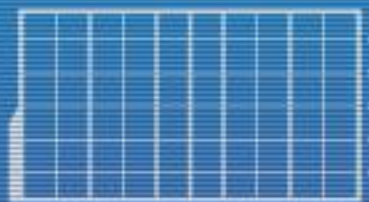
So many spaces before and after



Homework

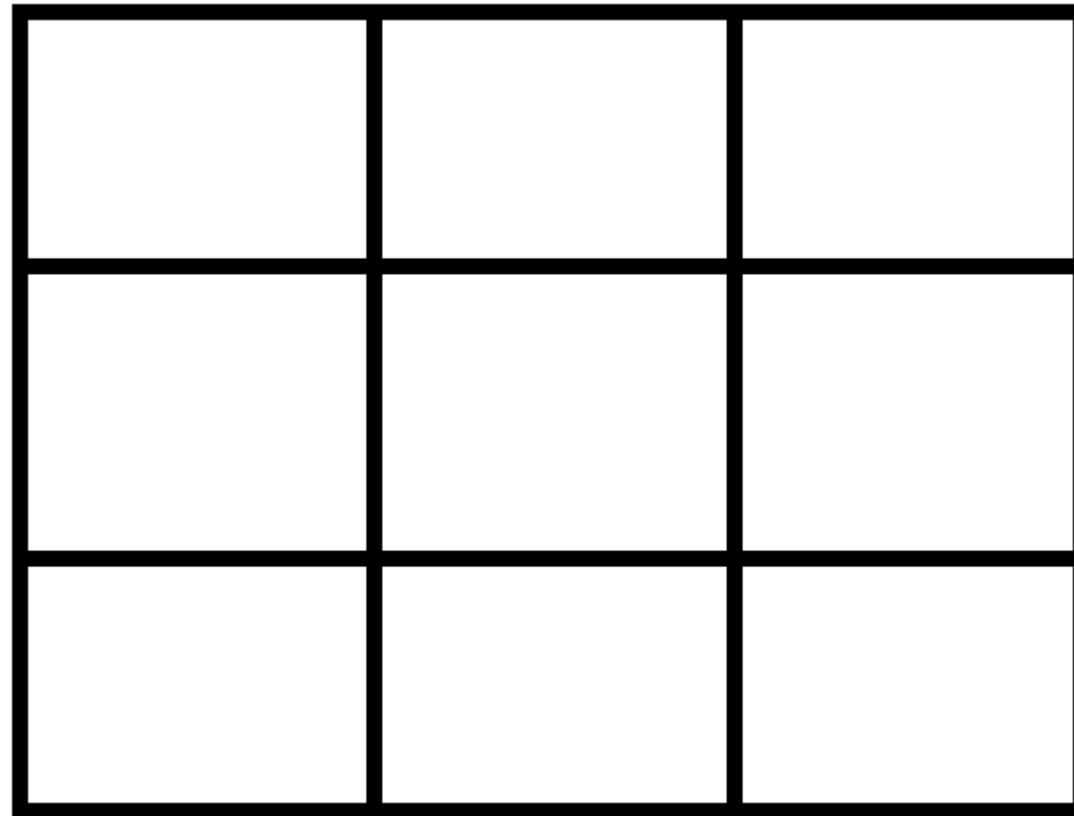
- ▶ Homework is to be done by group, not individually
- ▶ Form groups of 2-3 please
 - ▶ Flying solo is not allowed
- ▶ Your group will most likely be your group for the course project

0010101001010100011110100001100
10001100100001111001101010010101
110010101010100001001100101010100
1001010010010010101010101010101
11100001111010110000000111101001
001001010100101001001010010010110
1001010010001010100100101001010
100101001010100101001010010101



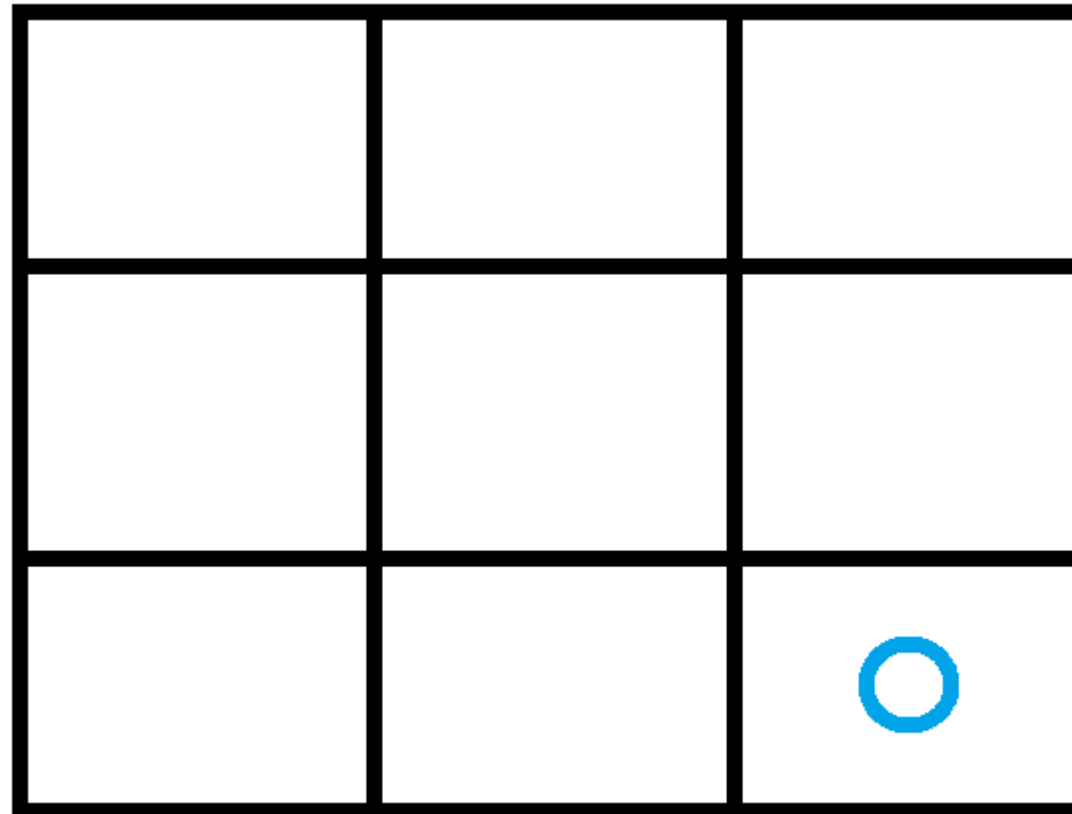
Homework

- Imagine a world represented by a 3x3 grid:



Homework

► You start here...



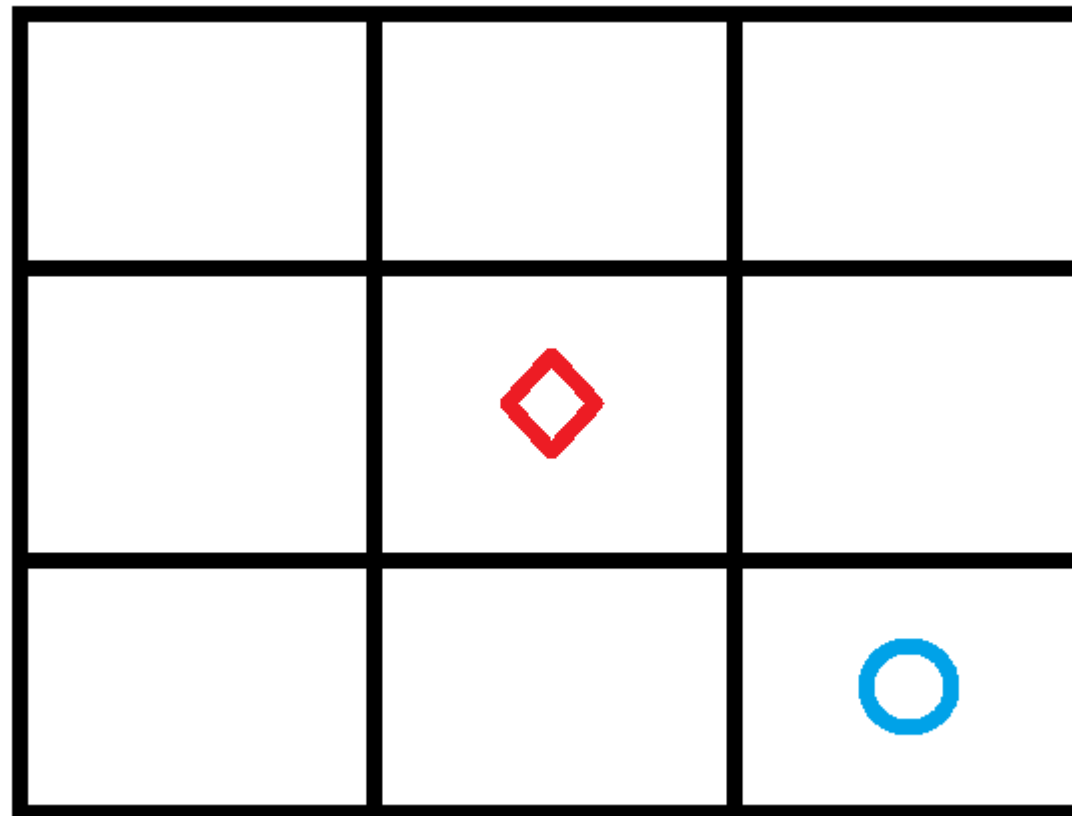
0010101001010100011110100001100
10001100100001111001101010010101
110010101010100001001100101010100
1001010010010010101010101010101
11100001111010110000000111101001
001001010100101001001010010010110
10010100100001010100100101001010
10010100101010010100101001010101
10010100101010010100101001010101



DISCS

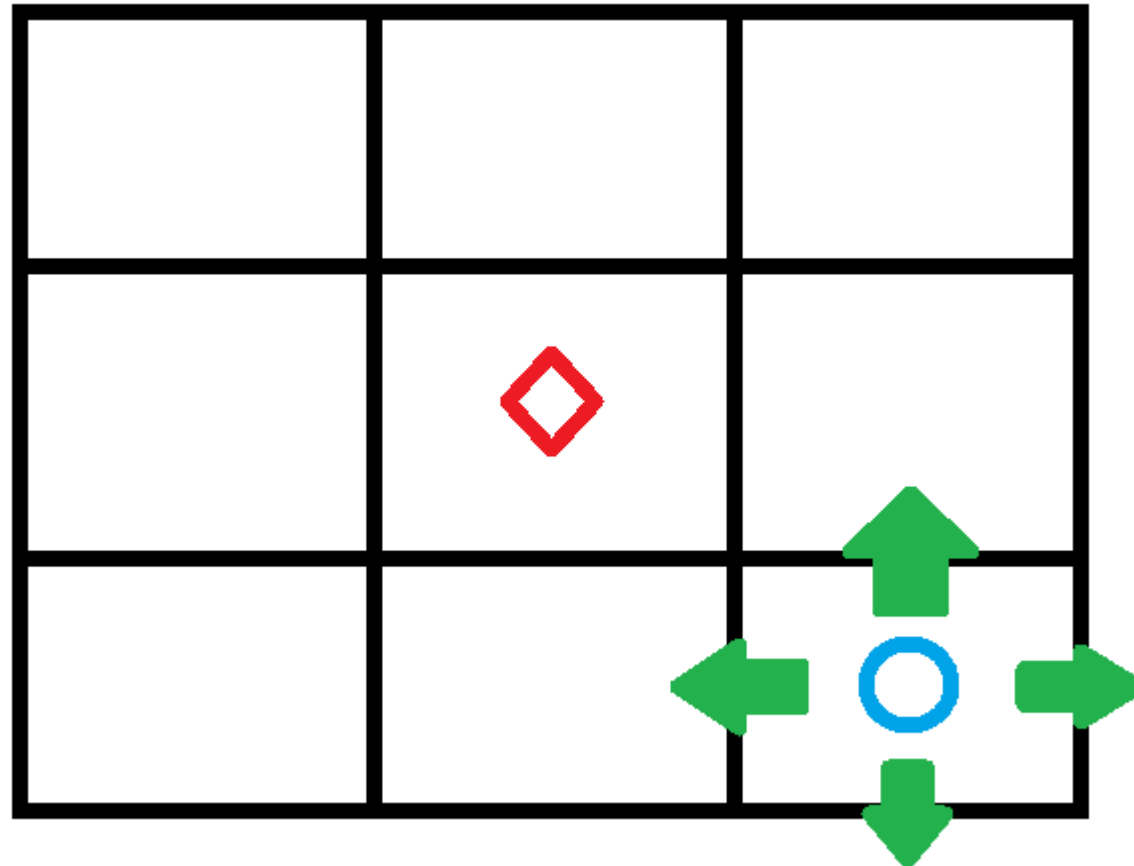
Homework

► ... and must eliminate a target found here:




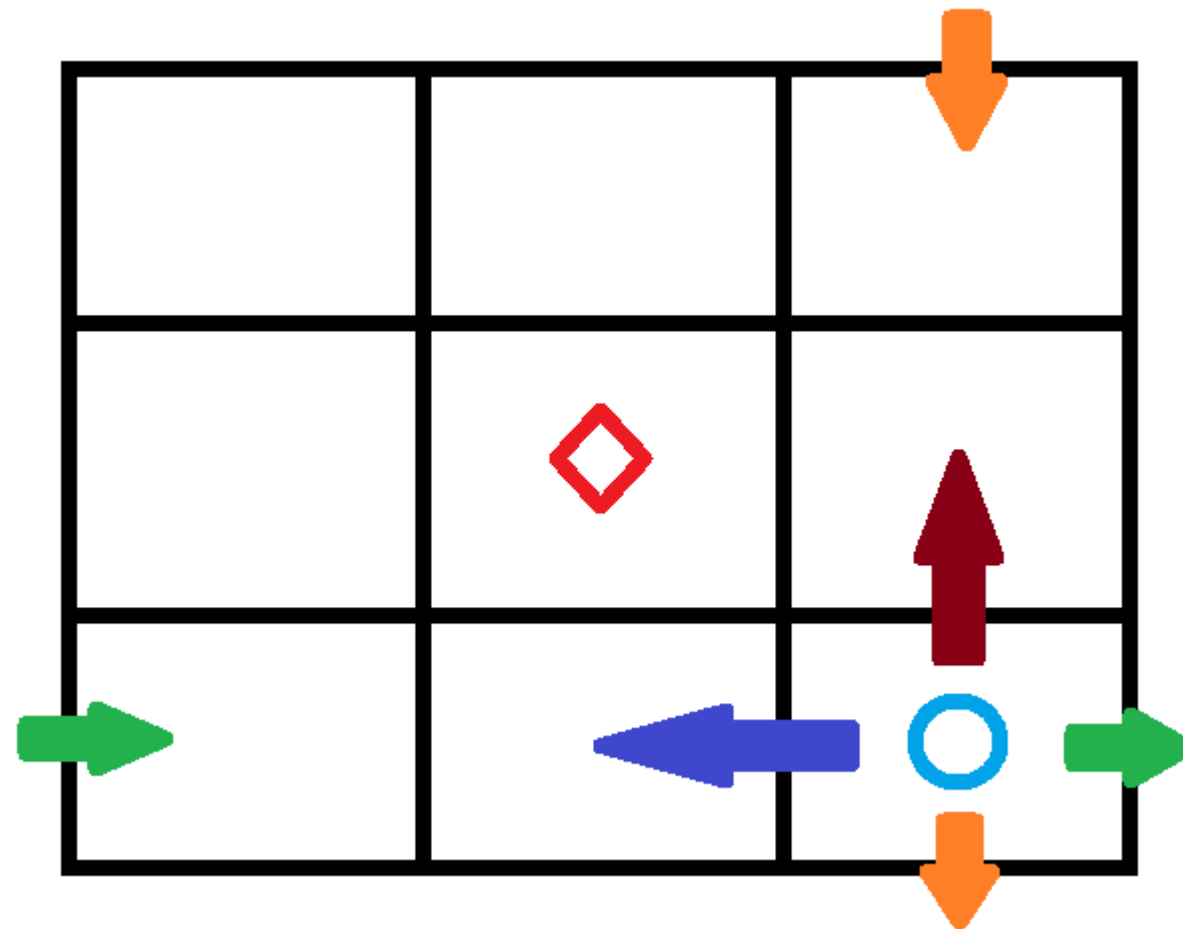
Homework

- You can move in any of the four cardinal directions: north, east, west, and south



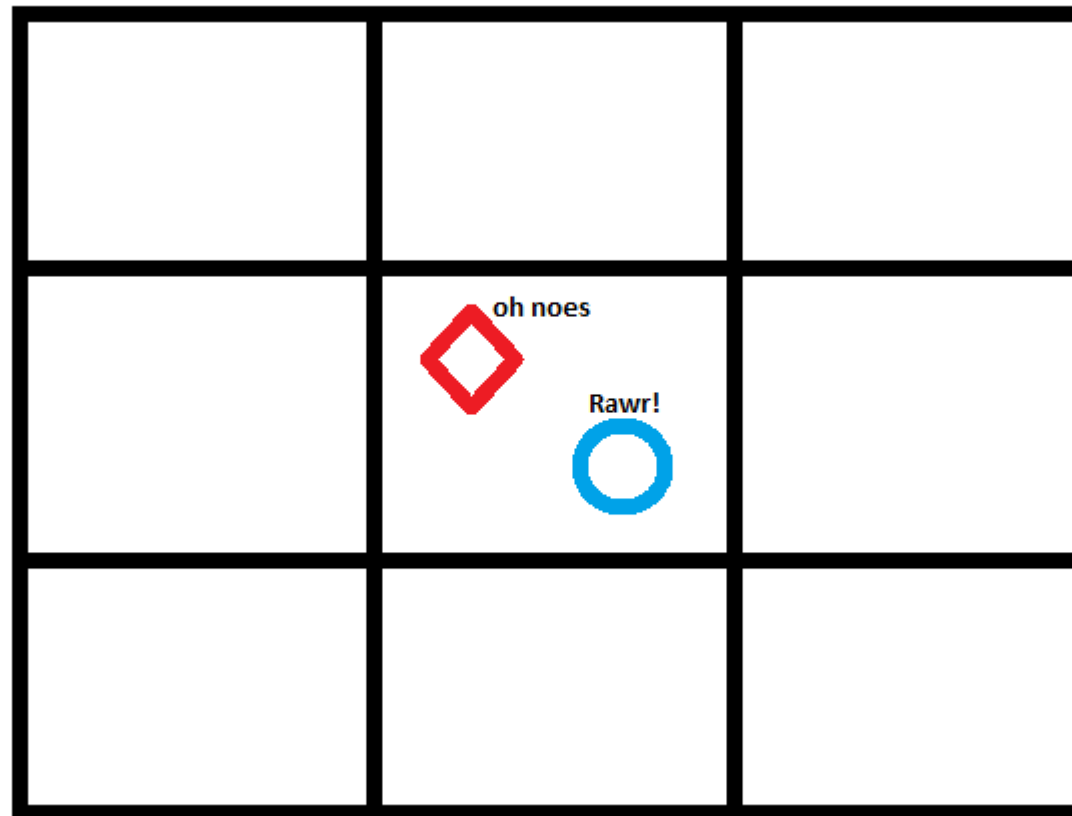
Homework

- But note that the world has no walls and actually wraps around like a Karnaugh map:
- 



Homework

- You can also attack if you're in the same room as your target:



Homework

- ▶ And of course, you can `exit` the game
 - ▶ Attacking the target should trigger an exit also

BYE!

Homework

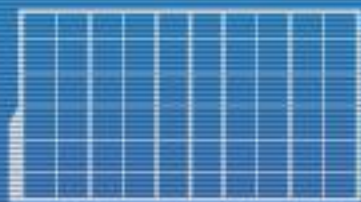
- ▶ Any other input is to be treated as an invalid command

lolwut

Homework

- ▶ Your homework is to make a text-based game based on the specs above
- ▶ It is up to you how you wish to display the world to the player
- ▶ You can use a simple MUD setup wherein you can only see whatever is in the same room as you
 - ▶ Example: MUD setup

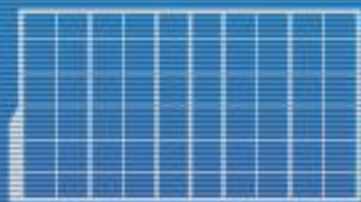
```
0010101001010100001111001101010010101
10001100100001111001101010010101
11001010101010100001001100101010100
100101001001001010101010101010101
11100001111010110000000111101001
001001010100101001001010010010110
10010100100001010100100101001010
10010100101010010100101001010101
```



Homework

- ▶ Regardless, you must have an option to display the world and the positions of your character and your target at all times
- ▶ Can be always on or simply toggled either at the start via command-line argument or at anytime during the game via a command
 - ▶ Example: Omniscient setup

```
0010101001010100011110100001100
10001100100001111001101010010101
110010101010100001001100101010100
100101001001001010101010101010101
11100001111010110000000111101001
001001010100101001001010010010110
1001010010001010100100101001010
10010100101010010100101001010101
```



Homework

- Note that commands are not allowed to be chained (example: `north north` or `n n` should not trigger going north twice and should be treated as an invalid command)

Homework

- ▶ Your program must be scalable
- ▶ The following should be changeable by simply editing the contents of the corresponding variable:
 - ▶ Size of the world (W x H grid)
 - ▶ Player starting position
 - ▶ Target starting position

```
001010100101010000111100101010010101
10001100100001111001101010010101
11001010101010100001001100101010100
100101001001001010101010101010101
11100001111010110000000111101001
001001010100101001001010010010110
1001010010001010100100101001010
100101001010100101001010010101
```



DISCS