



FACULTY OF COMPUTING AND INFORMATICS
TCP1101 PROGRAMMING FUNDAMENTALS

TRIMESTER 1 2022/2023
ASSIGNMENT REPORT

LECTURE SECTION: TC1V
TUTORIAL SECTION: TT7L

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User Manual

a. How to Play

Player can refer to the table below to control the game by typing command :

Command	Explanation
up	The Alien will move up
down	The Alien will move down
left	The Alien will move left
right	The Alien will move right
quit	Player can choose to quit the game if they want to stop play the game
help	It will list and describe the command that the player can use in the game
arrow	It allows player to enter the row and column of the arrow object to switch, followed by the direction of the arrow object to switch to

b. Game Objects

Apart from the game characters, the game board also contains game objects that Alien can interact with. Here are the game objects:

Name	Appearance	Description
Arrow	^ (up), v (down), < (left), > (right)	<ul style="list-style-type: none">• Changes Alien's direction of movement.• Adds 20 attack to Alien.
Health	h	<ul style="list-style-type: none">• Adds 20 life to Alien.
Pod	p	<ul style="list-style-type: none">• Instantly inflicts 10 damage to Zombie when hit by Alien.
Rock	r	<ul style="list-style-type: none">• Hides a game object (except Rock and Trail) beneath it.• Reveals the hidden game object when hit by Alien.• Stops the Alien from moving.
Empty	space	<ul style="list-style-type: none">• Just an empty space on the board.
Trail	.	<ul style="list-style-type: none">• Left by Alien when it moves.• Reset to a random game object (except the Trail) after Alien's turn ends.
Shield	s	<ul style="list-style-type: none">• Gives Alien protection from zombie attack• Each attack will cost 1 shield

c. Screen Shots

1. Menu screen

```
+-----+
|               Alien VS Zombies               |
|=====|
| Select:                                       |
| 1 => Start New Game                         |
| 2 => Instructions                           |
| 3 => Credits                               |
| 4 => Quit                                   |
|-----+
|
| Command => |
```

First, open the program and the program will be shown as above

2. Start New Game Menu

```
-----
|               Default Game Settings               |
|-----|
|
| Board Rows: 5
| Board Columns: 5
| Zombie Count: 2
|
```

Command 1 will start a new game and the program will display Default Game Settings.

3. Default Game Settings

```
Board Rows: 5
Board Columns: 5
Zombie Count: 2

Do you wish to change default setting? (y/n) => y
Enter number of rows: 5
Enter number of columns: 7
Enter number of zombies (1 ~ 9): 2

Setting Updated.

Press any key to continue . . . |
```

The program will also ask us to change the default setting or not. Typing 'y' will let us customize the number of rows, number of columns, and number of zombies. Typing 'n' will let us play the game with the default setting.

4. Main Game Screen

```
=====
=      Alien VS Zombie      =
=====

+---+---+---+---+---+---+
5 |> |< |v | | |r |v |
+---+---+---+---+---+
4 |v | |s |< |^ |< |> |
+---+---+---+---+---+
3 |s |< |^ |A | |h |< |
+---+---+---+---+---+
2 |< | |> | |< |> |h |
+---+---+---+---+---+
1 |2 |p |^ |1 |h |p |h |
+---+---+---+---+---+
  1   2   3   4   5   6   7

Alien    - Life: 150, Attack: 0, Shield: 0
Zombie 1 - Life: 189, Attack: 6, Range: 3
Zombie 2 - Life: 119, Attack: 20, Range: 1
```

After finishing setup the settings, a board and Alien and Zombie(s) information are shown, this shows the game has already started.

```
Command => help

Commands:
1. up      - Move up
2. down    - Move down
3. left    - Move left
4. right   - Move Right
5. arrow   - Change the direction of the arrow
6. help    - Display user commands
7. save    - Save game
8. load    - Load game
9. quit    - Quit the game

Press any key to continue . . . |
```

To know about commands that can be used in this program, type 'help' at the 'Command >' line. List of commands will appear.

5. Alien and Zombies movement

```
=====
=      Alien VS Zombie      =
=====

+---+---+---+---+---+---+
5 |r |v |r |1 |A |r | |
+---+---+---+---+---+
4 |r |p | |h |. |h |v |
+---+---+---+---+---+
3 |2 |> |h |. |. |p |> |
+---+---+---+---+---+
2 |> | |v |> |r |p |h |
+---+---+---+---+---+
1 |v |< |h |h |v |h |> |
+---+---+---+---+---+
  1   2   3   4   5   6   7

Alien    - Life: 150, Attack: 40
col: 5 row: 5
Zombie 1 - Life: 140, Attack: 20, Range: 1, Position: (4,5)
Zombie 2 - Life: 192, Attack: 17, Range: 1, Position: (1,3)

Alien stumbles upon a rock.
Alien discovers an arrow (up) beneath the rock.

Press any key to continue . . . |
```

For Alien Movement, there are commands 'up', 'down', 'left' and 'right' which will move the Alien to the intended direction. For example, we will move up by using the command 'right'.

```
Zombie 1 moves left.
Press any key to continue . . .
=====
=      Alien VS Zombie      =
=====

  +---+---+---+---+---+---+
  5 |r  |v  |1  |  |A  |^  |  |
  +---+---+---+---+---+---+
  4 |r  |p  |  |h  |<  |h  |v  |
  +---+---+---+---+---+---+
  3 |2  |>  |h  |v  |h  |p  |>  |
  +---+---+---+---+---+---+
  2 |>  |  |v  |>  |r  |p  |h  |
  +---+---+---+---+---+---+
  1 |v  |<  |h  |h  |v  |h  |>  |
  +---+---+---+---+---+---+
    1   2   3   4   5   6   7

Alien    - Life: 150, Attack: 0
col: 5   row: 5
Zombie 1 - Life: 140, Attack: 20, Range: 1, Position: (3,5)
Zombie 2 - Life: 192, Attack: 17, Range: 1, Position: (1,3)

Zombie 2 moves left.
Press any key to continue . . . |
```

The game's current state will then be shown by the application. After that, the zombie(s) will take a turn by pressing any key. We only play as the Alien, so we don't have to command how they move.

6. Save , Load and Quit.

```
Command => save
Enter file name to save: Game1.txt
Game saved to Game1.txt
Press any key to continue . . . |
```

It is also possible to save and load the game. Type "save" in command to save the file. When the game is successfully saved, the game will let us know.

```
Command => load
Enter file name to load: Game1.txt
Game loaded from Game1.txt
Press any key to continue . . . |
```

To Load the program, type 'load' in command. The program will tell us that the game load successfully if it is loaded.

```

Command => quit
Are you sure you want to quit? Any unsaved progress will be lost. (y/n): y
Exiting game
Press any key to continue . . . |

```

To Quit the program, type 'quit' in command. The program will ask us whether we really want to quit or not. Typing 'y' will exit the program while typing 'n' will resume the program.

7. Change Arrow Direction

```

Command => arrow
Enter row => 1
Enter column => 1
Enter direction => up
Arrow v is switched to ^.

Press any key to continue . . .

=====
=      Alien VS Zombie      =
=====

  +---+---+---+---+---+---+
5 |r |v |1 | |A |^ | |
  +---+---+---+---+---+---+
4 |r |p | |h |< |h |v |
  +---+---+---+---+---+---+
3 | |> |h |v |h |p |> |
  +---+---+---+---+---+---+
2 |> | |v |> |r |p |h |
  +---+---+---+---+---+---+
1 |^ |< |h |h |v |h |> |
  +---+---+---+---+---+---+
    1   2   3   4   5   6   7

```

We can change the direction of an arrow object on the game board using the command "arrow." Before entering the direction of the arrow object to switch to, we will first be prompted to input the row and column of the arrow object to switch to. As an illustration, the direction is down (v) in row 1 column 1. We'll switch to heading upward (^). After that the game continues, The Alien's and Zombies' turns take place until the game ends, which is until either Alien or Zombie(s) die.

8. Instructions Menu

```

~ Instructions ~
1 => Goal / Gameplay Controls
2 => Game Objects
3 => Return to the Main Menu

Your inquiry? => |

```

Player can choose which they would like to know more about

```

~ Instructions ~
1 => Goal / Gameplay Controls
2 => Game Objects
3 => Return to the Main Menu

Your inquiry? => 1

GOAL:
The invasion was swift, the zombies destroyed your hives and devastated your home. Re
treating to your ancestral planet, your people have been granted ancient powers to re
claim your lush home world. Prepare your path and smash your way through your enemies
to halt the invasion. You are the final hope to protect the value of life across you
r planet!
Defeat all the zombies!
You can collect power ups along the way to help you in this quest!

BASIC CONTROLS      :
up      => Alien to move up
down    => Alien to move down
left    => Alien to move left
right   => Alien to move right
arrow   => Switch the direction of an arrow object in the game board
help    => List and describe the commands that you can use in the game
save    => Save the current game
load    => Load a saved game
quit    => Quit the game
If you would like to know more about each game object, please input 2
on the instructions menu screen!

Press any key to continue . . . |

```

Instructions on Goal / Gameplay Rules

```

Your inquiry? => 2
^ : Arrow (up)    => Changes Alien's direction of movement to up and adds 20 attack power. Use it wisely!
v : Arrow (down)  => Changes Alien's direction of movement to down and adds 20 attack power. Use it wisely!
< : Arrow (left)  => Changes Alien's direction of movement to left and adds 20 attack power. Use it wisely!
> : Arrow (right) => Changes Alien's direction of movement to right and adds 20 attack power. Use it wisely!
h : Health Pack   => Good as new! This magical elixir adds an extra 20 health point!
p : Pod          => Small and mysterious! When hit by your alien, they inflict 10 points of damage to the nearest enemy. Watch out for them!
r : Rock         => These heavy boulders hides valuable game objects! Hit them to reveal the hidden object! But be careful, hitting them will stop your ali
en!
. : Trail        => Alien leaves a trail behind, which transforms into another game object at the end of the turn!

Press any key to continue . . .

```

Instructions on Game Objects

9. Credits Menu

```

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Press any key to continue . . . |

```


10. Quit Menu

```
+-----+
|              Alien VS Zombies              |
|=====|
| Select:                                     |
| 1 => Start New Game                         |
| 2 => Instructions                           |
| 3 => Credits                                |
| 4 => Quit                                   |
|-----+

Command => 4
Are you sure you want to quit? Any unsaved progress will be lost. (y/n):
Command => y

  -----
  |      THANK YOU FOR PLAYING OUR GAME!      |
  -----

Exiting game...
Press any key to continue . . . |
```

End Screen when the user quits the program