

# Homework 5

MacMillan, Kyle

November 26, 2018

# Contents

Title

Table of Contents

List of Figures	i
<b>1 Chapter 11</b>	<b>1</b>
1.1 Problem 3 . . . . .	1
<b>2 Chapter 16</b>	<b>2</b>
2.1 Problem 1 . . . . .	2
2.2 Problem 2 . . . . .	2
<b>3 Chapter 17</b>	<b>3</b>
3.1 Problem 2 . . . . .	3
3.2 Problem 3 . . . . .	3
3.3 Problem 4 . . . . .	3
<b>4 Chapter 18</b>	<b>4</b>
4.1 Problem 1 . . . . .	4
4.1.1 Problem 1.1 . . . . .	4
4.1.2 Problem 1.2 . . . . .	4
4.1.3 Problem 1.3 . . . . .	4

## List of Figures

1	WaveFront Distance Evaluation . . . . .	1
2	WaveFront Shortest Path . . . . .	1

# 1 Chapter 11

## 1.1 Problem 3

To accomplish this problem I created a class to generate a random map of any size you want up to 99. It generates a random number of obstacles of random size. Play around with it, it's fun. You can change the random numbers or just run the file multiple times.

Demonstration is shown in Figure 1. This is an application of the WaveFront BFS algorithm. From there it goes on to find the shortest path as seen in Figure 2.

The seed for that particular example is: 7635686187880284248

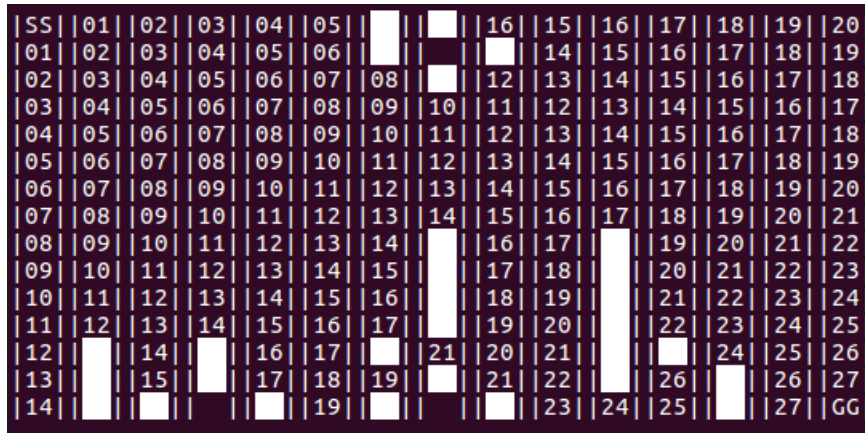


Figure 1: WaveFront Distance Evaluation

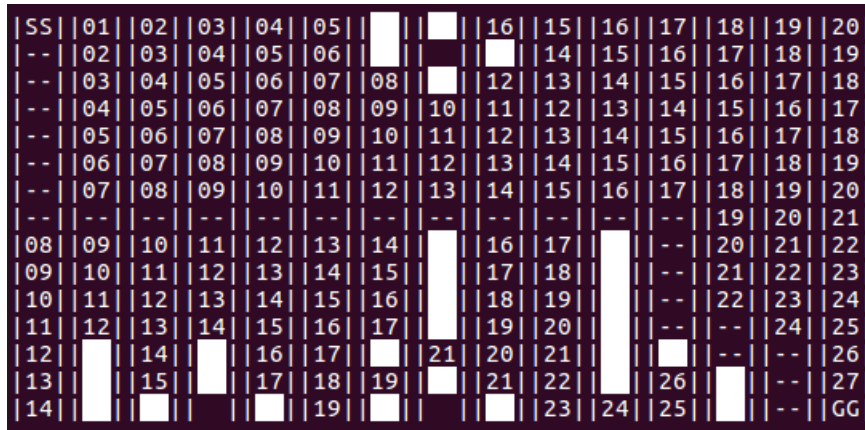


Figure 2: WaveFront Shortest Path

## **2 Chapter 16**

### **2.1 Problem 1**

asdf

### **2.2 Problem 2**

asdf

### **3 Chapter 17**

#### **3.1 Problem 2**

asdf

#### **3.2 Problem 3**

asdf

#### **3.3 Problem 4**

asdf

## 4 Chapter 18

### 4.1 Problem 1

#### 4.1.1 Problem 1.1

asdf

#### 4.1.2 Problem 1.2

asdf

#### 4.1.3 Problem 1.3

asdf