Component	Points
csce322a04part01.pl	
Test Cases	$\frac{1}{2} \times 20$
Code	10
Total	20
csce322a04part02.pl	
Test Cases	$1 \times 20$
Code	20
Total	40
csce322a04part03.pl	
Test Cases	$1 \times 10$
Code	5
Total	15
csce322a04part04.pl	
Test Cases	$1 \times 10$
Code	5
Total	15
Evidence of a Successful webgrader Run before $2015 - 12 - 07$	10
Total	100

# Contents

1	Me	adata	3
	1.1	Submitted Files	3
	1.2	webgrader Runs	8
	1.3	diffs	8
2	web	grader Run	9
3	CSC	2322a04part01.pl 1	.0
	3.1		10
		3.1.1 Diff	10
			10
		•	10
			10
	0.0		11
	3.2		11
			11
		•	l1 l1
		·	11
			11
	3.3		11
	0.0		11
			11
			12
		3.3.4 Solution Output	12
			12
	3.4		12
			12
			12
		·	13
		•	13
	3.5		13 13
	5.5		13
			L3
		•	13
		·	14
			14
	3.6		14
		3.6.1 Diff	14
		3.6.2 Input File	14
		3.6.3 Submission Output	14
		3.6.4 Solution Output	14
			14
	3.7	The state of the s	14
			14
		1	15
		3.7.3 Submission Output	15

		Solution Output .												15
	3.7.5	stderr	 	 	 	 	 	 		 	 		 	 15
3.8	part01	test08	 	 	 	 	 	 		 	 		 	 15
	3.8.1	Diff	 	 	 	 	 	 		 	 		 	 15
	3.8.2	Input File	 	 	 	 	 	 		 	 		 	 15
	3.8.3	Submission Output												15
	3.8.4	Solution Output .												16
	3.8.5	stderr												16
3.9		test09												16
0.0	-	Diff												16
		Input File												16
		Submission Output												16
		Solution Output .												17
	3.9.4 $3.9.5$													17
9.10		stderr												17
3.10	-	test10												
		Diff												17
		Input File												17
		Submission Output												17
		Solution Output .												17
		stderr												18
3.11	-	test11												18
		Diff												18
	3.11.2	Input File	 	 	 	 	 	 		 	 		 	 18
	3.11.3	Submission Output	 	 	 	 	 	 		 	 		 	 18
	3.11.4	Solution Output .	 	 	 	 	 	 		 	 		 	 18
	3.11.5	stderr	 	 	 	 	 	 		 	 		 	 18
3.12	part01	test12	 	 	 	 	 	 		 	 		 	 18
	3.12.1	Diff	 	 	 	 	 	 		 	 		 	 18
		Input File												19
		Submission Output												19
		Solution Output .												19
		stderr												19
3 13		test13												19
0.10	-	Diff												19
		Input File												19
		Submission Output												20
		Solution Output .												20
						 	 	 	• •	 	 	• •	 •	 20
9 1 4	0.10.0	Bodoll				 	 • •	 	• •	 	 		 •	
5.14	_	$\operatorname{test} 14 \dots \dots$												20
		Diff												20
		Input File												20
		Submission Output												21
		Solution Output .												21
		stderr												21
3.15	-	$test15 \dots \dots$												21
		Diff												21
		Input File												21
		Submission Output												21
		Solution Output .												22
	3.15.5	stderr	 	 	 	 	 	 		 	 		 	 22
3.16	part01	test16	 	 	 	 	 	 		 	 		 	 22
	3.16.1	Diff	 	 	 	 	 	 		 	 		 	 22
	3.16.2	Input File	 	 	 	 	 	 		 	 		 	 22
	3.16.3	Submission Output	 	 	 	 	 	 		 	 		 	 22
		Solution Output .												22
		stderr												23
3.17		test17												23
•	-	Diff												23
		Input File												23
		Submission Output												23
		1												

		3.17.4	Solution Output	23
		3.17.5	tderr	23
	3.18	part01te	<u>st18</u>	23
		3.18.1	Oiff	23
		3.18.2	nput File	23
			Submission Output	24
			Solution Output	24
			tderr	24
	3.19		$rac{1}{1} rac{1} rrac{1}{1} rac{1}{1} $	24
	0.10	-	Diff	24
			nput File	24
			Submission Output	$\frac{24}{24}$
			Solution Output	$\frac{24}{25}$
				$\frac{25}{25}$
	9.00		tderr	
	3.20		$\operatorname{st}20$	25
			Oiff	25
			nput File	25
			Submission Output	25
			Solution Output	25
			tderr	26
	3.21	Source	Code	26
4			art02.pl	27
	4.1	-	m st01	27
			Oiff	27
			nput File	27
		4.1.3	Submission Output	27
		4.1.4	Solution Output	27
		4.1.5	tderr	28
	4.2	part02te	m st02	28
		4.2.1	Oiff	28
		4.2.2	nput File	28
		4.2.3	Submission Output	28
			Solution Output	28
			tderr	28
	4.3		${ m st03}$	28
		-	Diff	28
			nput File	29
			Submission Output	29
			Solution Output	29
			tderr	29
	4.4		$ m st04\ldots$	$\frac{23}{29}$
	4.4	-	Diff	$\frac{29}{29}$
				$\frac{29}{30}$
			nput File	
			Submission Output	30
			Solution Output	30
	4 5		tderr	30
	4.5	•	$\operatorname{st}05$	30
			Oiff	30
			nput File	30
			Submission Output	31
		4.5.4	Solution Output	31
		4.5.5	tderr	31
	4.6	-	m st06	31
		4.6.1	Oiff	31
		4.6.2	nput File	31
			Submission Output	31
			Solution Output	32
		4.6.5	tderr	32
	4.7		$rac{1}{8}$	32
		-		

	4.7.1	Diff	32
	4.7.2	Input File	32
	4.7.3	Submission Output	32
	4.7.4	Solution Output	33
	4.7.5	stderr	33
4.8	part02	${ m test}08$	33
	4.8.1	Diff	33
	4.8.2	Input File	33
	4.8.3	Submission Output	33
	4.8.4	Solution Output	33
	4.8.5	stderr	34
4.9		$ ag{test}09$	34
1.0	4.9.1	Diff	34
	4.9.2	Input File	34
	4.9.3	Submission Output	34
	4.9.4	Solution Output	$\frac{34}{34}$
	4.9.4 $4.9.5$		$\frac{34}{35}$
4.10		stderr            test10	35
4.10			
		Diff	35
		Input File	35
		Submission Output	35
		Solution Output	35
		stderr	36
4.11		$\operatorname{test}_11$	36
		Diff	36
		Input File	36
		Submission Output	36
	4.11.4	Solution Output	36
	4.11.5	stderr	36
4.12	part02	$ ext{test}12$	36
	4.12.1	Diff	36
	4.12.2	Input File	37
	4.12.3	Submission Output	37
		Solution Output	37
		stderr	37
4.13		$\operatorname{test} 13$	37
		Diff	37
		Input File	37
		Submission Output	38
		Solution Output	38
		stderr	38
4 14		$\operatorname{test} 14 \ldots \ldots \ldots \ldots \ldots \ldots$	38
1.11	_	Diff	38
		Input File	38
		Submission Output	38
		Solution Output	39
		stderr	39
115		$\operatorname{test}15$	39
4.10	-	Diff	39
		Input File	39
		Submission Output	39
		Solution Output	40
1.10		stderr	40
4.16	-	test16	40
		Diff	40
		Input File	40
		Submission Output	40
		Solution Output	40
		stderr	41
4.17	part02	test17	41

4.17.2 Input File . 4.17.3 Submission Output . 4.17.4 Solution Output . 4.17.5 stderr  4.18 part02test18 . 4.18.1 Diff . 4.18.2 Input File . 4.18.3 Submission Output . 4.18.4 Solution Output . 4.18.5 stderr  4.19 part02test19 .	41 
4.17.4 Solution Output 4.17.5 stderr 4.18 part02test18. 4.18.1 Diff 4.18.2 Input File 4.18.3 Submission Output 4.18.4 Solution Output 4.18.5 stderr	
4.17.4 Solution Output 4.17.5 stderr 4.18 part02test18. 4.18.1 Diff 4.18.2 Input File 4.18.3 Submission Output 4.18.4 Solution Output 4.18.5 stderr	
4.17.5 stderr 4.18 part02test18	
4.18 part02test18	
4.18.1 Diff 4.18.2 Input File	
4.18.2 Input File          4.18.3 Submission Output          4.18.4 Solution Output          4.18.5 stderr	
4.18.3 Submission Output	
4.18.4 Solution Output	
4.18.5 stderr	
4 19 partii2test 19	
•	
4.19.1 Diff	
4.19.2 Input File	
4.19.3 Submission Output	
4.19.4 Solution Output	
4.19.5 stderr	
4.20 part02test20	
4.20.1 Diff	
4.20.2 Input File	
4.20.3 Submission Output	
4.20.4 Solution Output	
4.20.5 stderr	
4.21 Source Code	
*200-04+02 -1	46
5 csce322a04part03.pl	
5.1 part03test01	
5.1.1 Diff	
5.1.2 Input File	
5.1.3 Submission Output	
5.1.4 Solution Output	
5.1.5 stderr	
$5.2  \text{part} 03 \text{test} 02 \dots $	
5.2.1 Diff	
5.2.2 Input File	
5.2.3 Submission Output	
5.2.4 Solution Output	
5.2.5 stderr	
5.3 part03test03	
t	
5.3.1 Diff	
E 2.9 Input Eile	
5.3.2 Input File	
5.3.3 Submission Output	
5.3.3       Submission Output	
5.3.3 Submission Output	48 
5.3.3       Submission Output	48 48
5.3.3       Submission Output         5.3.4       Solution Output         5.3.5       stderr	
5.3.3 Submission Output	48         48         48         48         48         48         48
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr 5.4 part03test04 5.4.1 Diff	48         48         48         48         48         48         49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr 5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output	48         48         48         48         48         49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr 5.4 part03test04	48 48 48 48 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr 5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr	48 48 48 48 49 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr 5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr 5.5 part03test05	48 48 48 48 49 49 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr 5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr 5.5 part03test05 5.5.1 Diff	48 48 48 48 49 49 49 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File	48 48 48 48 48 49 49 49 49 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File 5.5.3 Submission Output	48 48 48 48 48 48 49 49 49 49 49 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File 5.5.3 Submission Output 5.5.4 Solution Output	48 48 48 48 49 49 49 49 49 49 49 49
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File 5.5.3 Submission Output 5.5.4 Solution Output 5.5.5 stderr	48 48 48 48 49 49 49 49 49 49 49 50
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File 5.5.3 Submission Output 5.5.4 Solution Output 5.5.5 stderr  5.6 part03test06	48 48 48 48 49 49 49 49 49 49 49 50
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File 5.5.3 Submission Output 5.5.4 Solution Output 5.5.5 stderr  5.6 part03test06 5.6.1 Diff	48 48 48 48 49 49 49 49 49 49 49 50 50
5.3.3 Submission Output 5.3.4 Solution Output 5.3.5 stderr  5.4 part03test04 5.4.1 Diff 5.4.2 Input File 5.4.3 Submission Output 5.4.4 Solution Output 5.4.5 stderr  5.5 part03test05 5.5.1 Diff 5.5.2 Input File 5.5.3 Submission Output 5.5.4 Solution Output 5.5.5 stderr  5.6 part03test06	48 48 48 48 49 49 49 49 49 49 50 50

		5.6.4	Solution Output	. 51
		5.6.5	stderr	. 51
	5.7	part03	$8  ext{test} 07$	. 51
		5.7.1	Diff	. 51
		5.7.2	Input File	. 51
		5.7.3	Submission Output	
		5.7.4	Solution Output	
		5.7.5	stderr	
	5.8		Stest 08	
	0.0	5.8.1		
		5.8.2	Input File	
		5.8.3	Submission Output	
		5.8.4	Solution Output	
		5.8.5	stderr	
	5.9	•	Stest 09	
		5.9.1	Diff	
		5.9.2	Input File	
		5.9.3	Submission Output	. 53
		5.9.4	Solution Output	. 53
		5.9.5	stderr	. 53
	5.10	part03	${f Stest 10}$	. 53
		-	Diff	
			Input File	
			Submission Output	
			Solution Output	
	F 11		stderr	
	5.11	Source	e Code	. 54
c		200-0/	1mm+0/ ml	57
6	csce		lpart04.pl	
	C 1			F 7
	6.1	- Table 1	test01	
	6.1	6.1.1	Diff	. 57
	6.1	6.1.1 6.1.2	Diff	. 57 . 57
	6.1	6.1.1	Diff Input File Submission Output	. 57 . 57 . 57
	6.1	6.1.1 6.1.2	Diff	. 57 . 57 . 57 . 57
	6.1	6.1.1 6.1.2 6.1.3	Diff Input File Submission Output	. 57 . 57 . 57 . 57
	6.1	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5	Diff Input File	. 57 . 57 . 57 . 57 . 58
		6.1.1 6.1.2 6.1.3 6.1.4 6.1.5	Diff Input File Submission Output Solution Output stderr	. 57 . 57 . 57 . 57 . 58
		6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1	Diff Input File Submission Output Solution Output stderr ltest02 Diff	. 57 . 57 . 57 . 57 . 58 . 58
		6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2	Diff Input File Submission Output Solution Output stderr ltest02 Diff Input File	. 57 . 57 . 57 . 57 . 58 . 58 . 58
		6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output	. 57 . 57 . 57 . 57 . 58 . 58 . 58 . 58
		6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4	Diff Input File Submission Output Solution Output stderr ltest02 Diff Input File Submission Output Submission Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5	Diff Input File Submission Output Solution Output stderr ltest02 Diff Input File Submission Output Solution Output stderr	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58
		6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04	Diff Input File Submission Output Solution Output stderr ltest02 Diff Input File Submission Output Solution Output stderr	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 58
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output Solution Output Solution Output stderr Itest03 Diff	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 58
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output stderr Itest03 Diff Input File Input File	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output Solution Output Solution Output Stderr Itest03 Diff Input File Submission Output Stderr St	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 58
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output Solution Output stderr Itest03 Diff Input File Submission Output Stderr	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5	Diff Input File Submission Output Solution Output stderr  Itest02 Diff Input File Submission Output Solution Output stderr  Itest03 Diff Input File Submission Output stderr  Itest03 Diff Input File Submission Output stderr	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5	Diff Input File Submission Output Solution Output stderr  Itest02 Diff Input File Submission Output Solution Output stderr  Itest03 Diff Input File Submission Output stderr  Itest03 Diff Input File Submission Output stderr  Itest04	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5	Diff Input File Submission Output Solution Output stderr  Itest02 Diff Input File Submission Output Solution Output stderr  Itest03 Diff Input File Submission Output stderr  Itest03 Diff Input File Submission Output stderr	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04	Diff Input File Submission Output Solution Output stderr  Itest02 Diff Input File Submission Output Solution Output stderr  Itest03 Diff Input File Submission Output stderr  Itest03 Diff Input File Submission Output stderr  Itest04	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1	Diff Input File Submission Output Solution Output stderr  Itest02 Diff Input File Submission Output Solution Output stderr  Itest03 Diff Input File Submission Output stderr  Itest04 Diff Input File Submission Output Solution Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output stderr Itest03 Diff Input File Submission Output stderr Itest04 Diff Input File Input File	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output stderr Itest03 Diff Input File Submission Output stderr Itest04 Diff Input File Submission Output Solution Output Solution Output Solution Output Solution Output Solution Output Solution Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2 6.3 6.4	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3	Diff Input File Submission Output Solution Output stderr ltest02 Diff Input File Submission Output Solution Output stderr ltest03 Diff Input File Submission Output stderr ltest04 Diff Input File Submission Output Solution Output stderr	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3 6.4.4	Diff Input File Submission Output Solution Output stderr ttest02 Diff Input File Submission Output Solution Output stderr ttest03 Diff Input File Submission Output stderr ttest03 Diff Input File Submission Output Solution Output Solution Output Solution Output Solution Output Solution Output Solution Output Stderr ttest04 Diff Input File Submission Output Solution Output stderr ttest04 Diff Input File Submission Output Solution Output Solution Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2 6.3 6.4	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3 6.4.4 6.4.5	Diff Input File Submission Output Solution Output stderr Ittest02 Diff Input File Submission Output Solution Output stderr Ittest03 Diff Input File Submission Output stderr Ittest03 Diff Input File Submission Output Solution Output Solution Output Solution Output Solution Output stderr Ittest04 Diff Input File Submission Output Solution Output Solution Output stderr Ittest04 Diff Input File Submission Output Solution Output Solution Output Solution Output Solution Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2 6.3 6.4	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3 6.4.4 6.5.1 6.5.2	Diff Input File Submission Output Solution Output stderr ttest02 Diff Input File Submission Output Solution Output stderr ttest03 Diff Input File Submission Output stderr ttest03 Diff Input File Submission Output Solution Output stderr ttest04 Diff Input File Submission Output Solution Output stderr ttest04 Diff Input File Submission Output Solution Output stderr ttest04 Diff Input File Submission Output Solution Output Solution Output Solution Output Solution Output Solution Output Solution Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 59
	6.2 6.3 6.4	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3 6.4.4 6.5.1 6.5.2 6.5.3	Diff Input File Submission Output Solution Output stderr ttest02 Diff Input File Submission Output Solution Output stderr ttest03 Diff Input File Submission Output stderr ttest03 Diff Input File Submission Output Solution Output stderr ttest04 Diff Input File Submission Output stderr ttest04 Diff Input File Submission Output stderr ttest04 Diff Input File Submission Output stderr ttest05 Diff Input File Submission Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 59 . 60 . 60 . 60 . 60 . 60
	6.2 6.3 6.4	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3 6.4.4 6.5.1 6.5.2 6.5.3 6.5.4	Diff Input File Submission Output Solution Output stderr Itest02 Diff Input File Submission Output Solution Output stderr Itest03 Diff Input File Submission Output Solution Output Solution Output Solution Output File Submission Output Solution Output Solution Output Solution Output stderr Itest04 Diff Input File Submission Output Solution Output Solution Output Solution File Submission Output Solution Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 60 . 60 . 60 . 60 . 60 . 60 . 61 . 61
	6.2 6.3 6.4	6.1.1 6.1.2 6.1.3 6.1.4 6.1.5 part04 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 part04 6.3.1 6.3.2 6.3.3 6.3.4 6.3.5 part04 6.4.1 6.4.2 6.4.3 6.4.4 6.5.1 6.5.2 6.5.3 6.5.4 6.5.5	Diff Input File Submission Output Solution Output stderr ttest02 Diff Input File Submission Output Solution Output stderr ttest03 Diff Input File Submission Output stderr ttest03 Diff Input File Submission Output Solution Output stderr ttest04 Diff Input File Submission Output stderr ttest04 Diff Input File Submission Output stderr ttest04 Diff Input File Submission Output stderr ttest05 Diff Input File Submission Output	. 57 . 57 . 57 . 58 . 58 . 58 . 58 . 58 . 59 . 59 . 59 . 59 . 59 . 59 . 60 . 60 . 60 . 60 . 60 . 60 . 61 . 61

	6.6.1	Diff	61
	6.6.2	Input File	61
	6.6.3	Submission Output	61
	6.6.4	Solution Output	62
	6.6.5	stderr	62
6.7	part04	ltest07	62
	6.7.1	Diff	62
	6.7.2	Input File	62
	6.7.3	Submission Output	62
	6.7.4	Solution Output	63
	6.7.5	stderr	63
6.8	part04	ltest08	63
	6.8.1	Diff	63
	6.8.2	Input File	63
	6.8.3	Submission Output	63
	6.8.4	Solution Output	63
	6.8.5	stderr	64
6.9	part04	${ m Hest}09$	64
0.0	6.9.1	Diff	64
	6.9.2	Input File	64
	6.9.3	Submission Output	64
	6.9.4	Solution Output	64
	6.9.5	stderr	64
6.10	0.0.0	test10	64
0.10	_	Diff	64
		Input File	65
		Submission Output	65
		Solution Output	65
		stderr	65
6 11		e Code	65
0.11	Dource		00
hel	pers.pl		67
7.1	-	e Code	67

# Chapter 1

# Metadata

# 1.1 Submitted Files

#### handin.time

```
12/06/2015 11:32:08 slambdin: csce322a04part01.pl
                                                             - OK
2 12/06/2015 11:32:12 slambdin: csce322a04part02.pl

    OK

                                                             - OK
3 12/06/2015 11:32:16 slambdin: csce322a04part03.pl
4 12/06/2015 11:32:20 slambdin: csce322a04part04.pl

    OK

5 12/06/2015 11:32:08 slambdin: csce322a04part01.pl
                                                             - Deleted by User
6 12/06/2015 11:32:12 slambdin: csce322a04part02.pl
                                                             - Deleted by User
  12/06/2015 11:32:16 slambdin: csce322a04part03.pl
                                                             - Deleted by User
  12/06/2015 11:32:20 slambdin: csce322a04part04.pl
                                                             - Deleted by User
9 12/06/2015 11:40:24 slambdin: csce322a04part01.pl

    OK

10 12/06/2015 11:40:28 slambdin: csce322a04part02.pl

    OK

    OK

l1 12/06/2015 11:40:32 slambdin: csce322a04part03.pl
12 12/06/2015 11:40:35 slambdin: csce322a04part04.pl

    OK

l3 12/06/2015 11:40:24 slambdin: csce322a04part01.pl
                                                             - Deleted by User
14 12/09/2015 23:22:18 slambdin: csce322a04part01.pl

    OK

15 12/09/2015 23:22:18 slambdin: csce322a04part01.pl
                                                             - Deleted by User
16 12/09/2015 23:24:43 slambdin: csce322a04part01.pl
17 12/09/2015 23:24:43 slambdin: csce322a04part01.pl
                                                             - Deleted by User
18 12/09/2015 23:26:55 slambdin: csce322a04part01.pl
  12/09/2015 23:26:55 slambdin: csce322a04part01.pl
                                                             - Deleted by User
  12/09/2015 23:29:10 slambdin: csce322a04part01.pl
21 12/09/2015 23:29:10 slambdin: csce322a04part01.pl
                                                             - Deleted by User
22 12/09/2015 23:33:31 slambdin: csce322a04part01.pl
                                                             - OK
23 12/09/2015 23:33:31 slambdin: csce322a04part01.pl
                                                             - Deleted by User
24 12/09/2015 23:41:40 slambdin: csce322a04part01.pl
                                                             - OK
25 12/09/2015 23:41:40 slambdin: csce322a04part01.pl
                                                             - Deleted by User
26 12/09/2015 23:55:07 slambdin: csce322a04part01.pl
27 12/09/2015 23:55:07 slambdin: csce322a04part01.pl
                                                             - Deleted by User
28 12/10/2015 00:00:46 slambdin: csce322a04part01.pl
                                                             - 1 day late
29 12/10/2015 00:00:46 slambdin: csce322a04part01.pl
                                                             - Deleted by User
30 12/10/2015 00:05:58 slambdin: csce322a04part01.pl
                                                             - 1 day late
31 12/10/2015 00:05:58 slambdin: csce322a04part01.pl
                                                             - Deleted by User
32 12/10/2015 00:27:16 slambdin: csce322a04part01.pl
                                                             - 1 day late
33 12/10/2015 00:27:16 slambdin: csce322a04part01.pl
                                                             - Deleted by User
34 12/10/2015 00:30:24 slambdin: csce322a04part01.pl
                                                             - 1 day late
35 12/10/2015 00:30:24 slambdin: csce322a04part01.pl
                                                             - Deleted by User
36 12/10/2015 00:32:43 slambdin: csce322a04part01.pl
                                                             - 1 day late
37 12/10/2015 00:32:43 slambdin: csce322a04part01.pl
                                                             - Deleted by User
38 12/10/2015 00:34:54 slambdin: csce322a04part01.pl
                                                             - 1 day late
39 12/10/2015 00:34:54 slambdin: csce322a04part01.pl
                                                             - Deleted by User
40 12/10/2015 09:33:10 slambdin: csce322a04part01.pl
                                                             - 1 day late
41 12/10/2015 09:33:10 slambdin: csce322a04part01.pl
                                                             - Deleted by User
```

```
42 12/10/2015 09:47:37 slambdin: csce322a04part01.pl
                                                            - 1 day late
43 12/10/2015 09:47:37 slambdin: csce322a04part01.pl
                                                            - Deleted by User
44 12/10/2015 09:51:07 slambdin: csce322a04part01.pl
                                                            - 1 day late
45 12/10/2015 09:51:07 slambdin: csce322a04part01.pl
                                                            - Deleted by User
46 12/10/2015 09:55:11 slambdin: csce322a04part01.pl
                                                            - 1 day late
47 12/10/2015 09:55:11 slambdin: csce322a04part01.pl
                                                            - Deleted by User
48 12/10/2015 10:01:09 slambdin: csce322a04part01.pl
                                                            - 1 day late
49 12/10/2015 10:01:09 slambdin: csce322a04part01.pl
                                                            - Deleted by User
50 12/10/2015 23:44:55 slambdin: csce322a04part01.pl
                                                            - 1 day late
51 12/10/2015 23:44:55 slambdin: csce322a04part01.pl
                                                            - Deleted by User
52 12/10/2015 23:47:34 slambdin: csce322a04part01.pl
                                                            - 1 day late
53 12/10/2015 23:47:34 slambdin: csce322a04part01.pl
                                                            - Deleted by User
54 12/10/2015 23:51:56 slambdin: csce322a04part01.pl
                                                            - 1 day late
55 12/10/2015 23:51:56 slambdin: csce322a04part01.pl
                                                            - Deleted by User
56 12/10/2015 23:53:53 slambdin: csce322a04part01.pl
                                                            - 1 day late
57 12/10/2015 23:53:53 slambdin: csce322a04part01.pl
                                                            - Deleted by User
58 12/11/2015 00:08:29 slambdin: csce322a04part01.pl
                                                            - 2 days late
                                                            - Deleted by User
59 12/11/2015 00:08:29 slambdin: csce322a04part01.pl
30 12/11/2015 00:13:57 slambdin: csce322a04part01.pl
                                                            - 2 days late
31 12/11/2015 00:13:57 slambdin: csce322a04part01.pl
                                                            - Deleted by User
32 12/11/2015 00:16:33 slambdin: csce322a04part01.pl
                                                            - 2 days late
33 12/11/2015 00:16:33 slambdin: csce322a04part01.pl
                                                            - Deleted by User
34 12/11/2015 00:17:08 slambdin: csce322a04part01.pl
                                                            - 2 days late
35 12/11/2015 00:17:08 slambdin: csce322a04part01.pl
                                                            - Deleted by User
36 12/11/2015 00:22:39 slambdin: csce322a04part01.pl
                                                            - 2 days late
37 12/11/2015 00:22:39 slambdin: csce322a04part01.pl
                                                            - Deleted by User
38 12/11/2015 00:28:20 slambdin: csce322a04part01.pl
                                                            - 2 days late
39 12/11/2015 00:28:20 slambdin: csce322a04part01.pl
                                                            - Deleted by User
70 12/11/2015 00:42:23 slambdin: csce322a04part01.pl
                                                            - 2 days late
71 12/11/2015 00:42:23 slambdin: csce322a04part01.pl
                                                            - Deleted by User
72 12/11/2015 00:44:42 slambdin: csce322a04part01.pl
                                                            - 2 days late
73 12/11/2015 00:44:42 slambdin: csce322a04part01.pl
                                                            - Deleted by User
74 12/11/2015 00:51:51 slambdin: csce322a04part01.pl
                                                            - 2 days late
75 12/11/2015 00:51:51 slambdin: csce322a04part01.pl
                                                            - Deleted by User
76 12/11/2015 00:55:32 slambdin: csce322a04part01.pl
                                                            - 2 days late
77 12/11/2015 00:55:32 slambdin: csce322a04part01.pl
                                                            - Deleted by User
78 12/11/2015 01:03:25 slambdin: csce322a04part01.pl
                                                            - 2 days late
79 12/11/2015 01:03:25 slambdin: csce322a04part01.pl
                                                            - Deleted by User
30 12/11/2015 01:04:16 slambdin: csce322a04part01.pl
                                                            - 2 days late
31 12/11/2015 01:04:16 slambdin: csce322a04part01.pl
                                                            - Deleted by User
32 12/11/2015 01:05:02 slambdin: csce322a04part01.pl
                                                            - 2 days late
33 12/11/2015 01:05:02 slambdin: csce322a04part01.pl
                                                            - Deleted by User
34 12/11/2015 01:17:30 slambdin: csce322a04part01.pl
                                                            - 2 days late
35 12/11/2015 01:18:43 slambdin: csce322a04part01.pl
                                                            - 2 days late
36 12/11/2015 01:18:43 slambdin: csce322a04part01.pl
                                                            - Deleted by User
37 12/11/2015 01:21:18 slambdin: csce322a04part01.pl
                                                            - 2 days late
38 12/11/2015 01:21:18 slambdin: csce322a04part01.pl
                                                            - Deleted by User
39 12/11/2015 01:23:09 slambdin: csce322a04part01.pl
                                                            - 2 days late
30 12/11/2015 01:23:09 slambdin: csce322a04part01.pl
                                                            - Deleted by User
01 12/11/2015 01:24:19 slambdin: csce322a04part01.pl
                                                            - 2 days late
92 12/11/2015 01:24:19 slambdin: csce322a04part01.pl
                                                            - Deleted by User
33 12/11/2015 01:26:38 slambdin: csce322a04part01.pl
                                                            - 2 days late
94 12/11/2015 01:26:38 slambdin: csce322a04part01.pl
                                                            - Deleted by User
95 12/11/2015 01:27:22 slambdin: csce322a04part01.pl
                                                            - 2 days late
96 12/11/2015 01:27:22 slambdin: csce322a04part01.pl
                                                            - Deleted by User
97 12/11/2015 01:29:05 slambdin: csce322a04part01.pl
                                                            - 2 days late
98 12/11/2015 01:29:05 slambdin: csce322a04part01.pl
                                                            - Deleted by User
39 12/11/2015 01:46:54 slambdin: csce322a04part01.pl
                                                            - 2 days late
00 12/11/2015 01:46:54 slambdin: csce322a04part01.pl
                                                            - Deleted by User
)1 12/11/2015 01:58:21 slambdin: csce322a04part01.pl
                                                            - 2 days late
```

```
)2 12/06/2015 11:40:35 slambdin: csce322a04part04.pl
                                                            - Deleted by User
03 12/11/2015 02:38:06 slambdin: csce322a04part04.pl
                                                            - 2 days late
)4 12/11/2015 02:38:06 slambdin: csce322a04part04.pl
                                                            - Deleted by User
05 12/11/2015 02:41:17 slambdin: csce322a04part04.pl
                                                            - 2 days late
06 12/11/2015 02:41:17 slambdin: csce322a04part04.pl
                                                            - Deleted by User
)7 12/11/2015 02:49:56 slambdin: csce322a04part04.pl
                                                            - 2 days late
08 12/11/2015 02:49:56 slambdin: csce322a04part04.pl
                                                            - Deleted by User
09 12/11/2015 02:54:57 slambdin: csce322a04part04.pl
                                                            - 2 days late
10 12/11/2015 02:54:57 slambdin: csce322a04part04.pl
                                                            - Deleted by User
l1 12/11/2015 02:56:56 slambdin: csce322a04part04.pl
                                                            - 2 days late
12 12/11/2015 02:56:56 slambdin: csce322a04part04.pl
                                                            - Deleted by User
l3 12/11/2015 03:08:07 slambdin: csce322a04part04.pl
                                                            - 2 days late
l4 12/11/2015 03:08:07 slambdin: csce322a04part04.pl
                                                            - Deleted by User
15 12/11/2015 03:14:27 slambdin: csce322a04part04.pl
                                                            - 2 days late
16 12/11/2015 03:14:27 slambdin: csce322a04part04.pl
                                                            - Deleted by User
l7 12/11/2015 03:17:12 slambdin: csce322a04part04.pl
                                                            - 2 days late
l8 12/11/2015 03:17:12 slambdin: csce322a04part04.pl
                                                            - Deleted by User
                                                            - 2 days late
19 12/11/2015 03:18:30 slambdin: csce322a04part04.pl
20 12/11/2015 03:18:30 slambdin: csce322a04part04.pl
                                                            - Deleted by User
21 12/11/2015 03:20:58 slambdin: csce322a04part04.pl
                                                            - 2 days late
22 12/11/2015 03:20:58 slambdin: csce322a04part04.pl
                                                            - Deleted by User
23 12/11/2015 03:29:04 slambdin: csce322a04part04.pl
                                                            - 2 days late
24 12/11/2015 03:29:04 slambdin: csce322a04part04.pl
                                                            - Deleted by User
25 12/11/2015 03:31:57 slambdin: csce322a04part04.pl
                                                            - 2 days late
26 12/11/2015 03:31:57 slambdin: csce322a04part04.pl
                                                            - Deleted by User
27 12/11/2015 03:37:18 slambdin: csce322a04part04.pl
                                                            - 2 days late
28 12/11/2015 03:37:18 slambdin: csce322a04part04.pl
                                                            - Deleted by User
29 12/11/2015 03:48:16 slambdin: csce322a04part04.pl
                                                            - 2 days late
30 12/11/2015 03:48:16 slambdin: csce322a04part04.pl
                                                            - Deleted by User
31 12/11/2015 03:50:55 slambdin: csce322a04part04.pl
                                                            - 2 days late
32 12/11/2015 03:50:55 slambdin: csce322a04part04.pl
                                                            - Deleted by User
33 12/11/2015 04:24:42 slambdin: csce322a04part04.pl
                                                            - 2 days late
34 12/11/2015 04:24:42 slambdin: csce322a04part04.pl
                                                            - Deleted by User
35 12/11/2015 04:43:24 slambdin: csce322a04part04.pl
                                                            - 2 days late
36 12/11/2015 04:43:24 slambdin: csce322a04part04.pl
                                                            - Deleted by User
37 12/11/2015 10:57:05 slambdin: csce322a04part04.pl
                                                            - 2 days late
38 12/11/2015 10:57:05 slambdin: csce322a04part04.pl
                                                            - Deleted by User
39 12/11/2015 11:00:00 slambdin: csce322a04part04.pl
                                                            - 2 days late
40 12/11/2015 11:00:00 slambdin: csce322a04part04.pl
                                                            - Deleted by User
41 12/11/2015 11:00:18 slambdin: csce322a04part04.pl
                                                            - 2 days late
42 12/11/2015 11:00:18 slambdin: csce322a04part04.pl
                                                            - Deleted by User
43 12/11/2015 11:04:01 slambdin: csce322a04part04.pl
                                                            - 2 days late
44 12/11/2015 11:04:01 slambdin: csce322a04part04.pl
                                                            - Deleted by User
45 12/11/2015 11:06:03 slambdin: csce322a04part04.pl
                                                            - 2 days late
46 12/11/2015 11:06:03 slambdin: csce322a04part04.pl
                                                            - Deleted by User
47 12/11/2015 11:38:21 slambdin: csce322a04part04.pl
                                                            - 2 days late
48 12/11/2015 11:38:21 slambdin: csce322a04part04.pl
                                                            - Deleted by User
49 12/11/2015 11:39:16 slambdin: csce322a04part04.pl
                                                            - 2 days late
50 12/06/2015 11:40:28 slambdin: csce322a04part02.pl
                                                            - Deleted by User
51 12/11/2015 17:19:45 slambdin: csce322a04part02.pl
                                                            - 2 days late
52 12/11/2015 17:19:45 slambdin: csce322a04part02.pl
                                                            - Deleted by User
53 12/11/2015 17:20:33 slambdin: csce322a04part02.pl
                                                            - 2 days late
54 12/11/2015 17:20:33 slambdin: csce322a04part02.pl
                                                            - Deleted by User
55 12/11/2015 17:24:41 slambdin: csce322a04part02.pl
                                                            - 2 days late
56 12/11/2015 17:24:41 slambdin: csce322a04part02.pl
                                                            - Deleted by User
57 12/11/2015 17:25:54 slambdin: csce322a04part02.pl
                                                            - 2 days late
58 12/11/2015 17:25:54 slambdin: csce322a04part02.pl
                                                            - Deleted by User
59 12/11/2015 17:26:54 slambdin: csce322a04part02.pl
                                                            - 2 days late
30 12/11/2015 17:26:54 slambdin: csce322a04part02.pl
                                                            - Deleted by User
31 12/11/2015 17:28:49 slambdin: csce322a04part02.pl
                                                            - 2 days late
```

```
32 12/11/2015 17:28:49 slambdin: csce322a04part02.pl
                                                            - Deleted by User
33 12/12/2015 00:44:51 slambdin: csce322a04part02.pl
                                                            - 3 days late
34 12/12/2015 00:44:51 slambdin: csce322a04part02.pl
                                                            - Deleted by User
35 12/12/2015 00:46:02 slambdin: csce322a04part02.pl
                                                            - 3 days late
36 12/12/2015 00:46:02 slambdin: csce322a04part02.pl
                                                            - Deleted by User
                                                            - 3 days late
37 12/12/2015 00:46:43 slambdin: csce322a04part02.pl
38 12/12/2015 00:46:43 slambdin: csce322a04part02.pl
                                                            - Deleted by User
39 12/12/2015 00:51:50 slambdin: csce322a04part02.pl
                                                            - 3 days late
70 12/12/2015 00:51:50 slambdin: csce322a04part02.pl
                                                            - Deleted by User
71 12/12/2015 00:54:32 slambdin: csce322a04part02.pl
                                                            - 3 days late
72 12/12/2015 00:54:32 slambdin: csce322a04part02.pl
                                                            - Deleted by User
                                                            - 3 days late
73 12/12/2015 00:55:54 slambdin: csce322a04part02.pl
74 12/12/2015 00:55:54 slambdin: csce322a04part02.pl
                                                            - Deleted by User
75 12/12/2015 01:02:23 slambdin: csce322a04part02.pl
                                                            - 3 days late
76 12/12/2015 01:02:23 slambdin: csce322a04part02.pl
                                                            - Deleted by User
                                                            - 3 days late
77 12/12/2015 01:03:58 slambdin: csce322a04part02.pl
78 12/12/2015 01:03:58 slambdin: csce322a04part02.pl
                                                            - Deleted by User
79 12/12/2015 01:05:18 slambdin: csce322a04part02.pl
                                                            - 3 days late
                                                            - Deleted by User
30 12/12/2015 01:05:18 slambdin: csce322a04part02.pl
31 12/12/2015 01:06:52 slambdin: csce322a04part02.pl
                                                            - 3 days late
32 12/12/2015 01:06:52 slambdin: csce322a04part02.pl
                                                            - Deleted by User
33 12/12/2015 01:08:02 slambdin: csce322a04part02.pl
                                                            - 3 days late
34 12/12/2015 01:08:02 slambdin: csce322a04part02.pl
                                                            - Deleted by User
35 12/12/2015 01:13:20 slambdin: csce322a04part02.pl
                                                            - 3 days late
36 12/12/2015 01:13:20 slambdin: csce322a04part02.pl
                                                            - Deleted by User
37 12/12/2015 01:20:47 slambdin: csce322a04part02.pl
                                                            - 3 days late
38 12/12/2015 01:22:28 slambdin: csce322a04part02.pl
                                                            - 3 days late
39 12/12/2015 01:22:28 slambdin: csce322a04part02.pl
                                                            - Deleted by User
30 12/12/2015 01:24:47 slambdin: csce322a04part02.pl
                                                            - 3 days late
)1 12/12/2015 01:25:33 slambdin: csce322a04part02.pl
                                                            - 3 days late
32 12/12/2015 01:25:33 slambdin: csce322a04part02.pl
                                                            - Deleted by User
33 12/12/2015 01:33:52 slambdin: csce322a04part02.pl
                                                            - 3 days late
94 12/12/2015 01:33:52 slambdin: csce322a04part02.pl
                                                            - Deleted by User
05 12/12/2015 01:40:42 slambdin: csce322a04part02.pl
                                                            - 3 days late
36 12/12/2015 01:40:42 slambdin: csce322a04part02.pl
                                                            - Deleted by User
97 12/12/2015 01:41:26 slambdin: csce322a04part02.pl
                                                            - 3 days late
98 12/12/2015 01:41:26 slambdin: csce322a04part02.pl
                                                            - Deleted by User
39 12/12/2015 01:43:03 slambdin: csce322a04part02.pl
                                                            - 3 days late
00 12/12/2015 01:43:03 slambdin: csce322a04part02.pl
                                                            - Deleted by User
)1 12/12/2015 01:43:47 slambdin: csce322a04part02.pl
                                                            - 3 days late
02 12/12/2015 01:43:47 slambdin: csce322a04part02.pl
                                                            - Deleted by User
03 12/12/2015 01:45:45 slambdin: csce322a04part02.pl
                                                            - 3 days late
)4 12/12/2015 01:45:45 slambdin: csce322a04part02.pl
                                                            - Deleted by User
05 12/12/2015 01:46:34 slambdin: csce322a04part02.pl
                                                            - 3 days late
06 12/12/2015 01:46:34 slambdin: csce322a04part02.pl
                                                            - Deleted by User
)7 12/12/2015 01:47:40 slambdin: csce322a04part02.pl
                                                            - 3 days late
)8 12/12/2015 01:47:40 slambdin: csce322a04part02.pl
                                                            - Deleted by User
)9 12/12/2015 01:48:22 slambdin: csce322a04part02.pl
                                                            - 3 days late
10 12/12/2015 01:48:22  slambdin: csce322a04part02.pl
                                                            - Deleted by User
l1 12/12/2015 01:49:08 slambdin: csce322a04part02.pl
                                                            - 3 days late
12 12/12/2015 01:49:08 slambdin: csce322a04part02.pl
                                                            - Deleted by User
l3 12/12/2015 01:51:06 slambdin: csce322a04part02.pl
                                                            - 3 days late
l4 12/12/2015 01:51:06 slambdin: csce322a04part02.pl
                                                            - Deleted by User
l5 12/12/2015 01:52:04 slambdin: csce322a04part02.pl
                                                            - 3 days late
l6 12/12/2015 01:52:04 slambdin: csce322a04part02.pl
                                                            - Deleted by User
17 12/12/2015 01:53:05 slambdin: csce322a04part02.pl
                                                            - 3 days late
l8 12/12/2015 01:53:05 slambdin: csce322a04part02.pl
                                                            - Deleted by User
19 12/12/2015 01:57:49 slambdin: csce322a04part02.pl
                                                            - 3 days late
20 12/12/2015 01:57:49 slambdin: csce322a04part02.pl
                                                            - Deleted by User
21 12/12/2015 01:58:32 slambdin: csce322a04part02.pl
                                                            - 3 days late
```

```
22 12/12/2015 01:58:32 slambdin: csce322a04part02.pl
                                                            - Deleted by User
23 12/12/2015 02:00:59 slambdin: csce322a04part02.pl
                                                            - 3 days late
24 12/12/2015 02:00:59 slambdin: csce322a04part02.pl
                                                            - Deleted by User
25 12/12/2015 02:02:12 slambdin: csce322a04part02.pl
                                                            - 3 days late
26 12/12/2015 02:02:12 slambdin: csce322a04part02.pl
                                                            - Deleted by User
                                                            - 3 days late
27 12/12/2015 02:03:02 slambdin: csce322a04part02.pl
28 12/12/2015 02:03:02 slambdin: csce322a04part02.pl
                                                            - Deleted by User
29 12/12/2015 02:04:00 slambdin: csce322a04part02.pl
                                                            - 3 days late
30 12/12/2015 02:06:42 slambdin: csce322a04part02.pl
                                                            - 3 days late
31 12/12/2015 02:06:42 slambdin: csce322a04part02.pl
                                                            - Deleted by User
32 12/12/2015 02:08:14 slambdin: csce322a04part02.pl
                                                            - 3 days late
                                                            - Deleted by User
33 12/12/2015 02:08:14 slambdin: csce322a04part02.pl
34 12/12/2015 02:08:50 slambdin: csce322a04part02.pl
                                                            - 3 days late
35 12/12/2015 02:08:50 slambdin: csce322a04part02.pl
                                                            - Deleted by User
36 12/12/2015 02:09:45 slambdin: csce322a04part02.pl
                                                            - 3 days late
37 12/12/2015 02:09:45 slambdin: csce322a04part02.pl
                                                            - Deleted by User
38 12/12/2015 02:10:44 slambdin: csce322a04part02.pl
                                                            - 3 days late
                                                            - Deleted by User
39 12/12/2015 02:10:44 slambdin: csce322a04part02.pl
40 12/12/2015 02:13:41 slambdin: csce322a04part02.pl
                                                            - 3 days late
41 12/12/2015 02:13:41 slambdin: csce322a04part02.pl
                                                            - Deleted by User
42 12/12/2015 02:14:32 slambdin: csce322a04part02.pl
                                                            - 3 days late
43 12/12/2015 02:14:32 slambdin: csce322a04part02.pl
                                                            - Deleted by User
44 12/12/2015 02:15:55 slambdin: csce322a04part02.pl
                                                            - 3 days late
45 12/12/2015 02:15:55 slambdin: csce322a04part02.pl
                                                            - Deleted by User
46 12/12/2015 02:18:30 slambdin: csce322a04part02.pl
                                                            - 3 days late
47 12/12/2015 02:18:30 slambdin: csce322a04part02.pl
                                                            - Deleted by User
48 12/12/2015 02:19:38 slambdin: csce322a04part02.pl
                                                            - 3 days late
49 12/12/2015 02:19:38 slambdin: csce322a04part02.pl
                                                            - Deleted by User
50 12/12/2015 02:28:21 slambdin: csce322a04part02.pl
                                                            - 3 days late
51 12/12/2015 02:28:21 slambdin: csce322a04part02.pl
                                                            - Deleted by User
52 12/12/2015 02:30:09 slambdin: csce322a04part02.pl
                                                            - 3 days late
53 12/12/2015 02:30:09 slambdin: csce322a04part02.pl
                                                            - Deleted by User
54 12/12/2015 02:39:22 slambdin: csce322a04part02.pl
                                                            - 3 days late
55 12/12/2015 02:39:22 slambdin: csce322a04part02.pl
                                                            - Deleted by User
56 12/12/2015 02:44:58 slambdin: csce322a04part02.pl
                                                            - 3 days late
57 12/12/2015 02:44:58 slambdin: csce322a04part02.pl
                                                            - Deleted by User
58 12/12/2015 09:36:40 slambdin: csce322a04part02.pl
                                                            - 3 days late
59 12/12/2015 09:36:40 slambdin: csce322a04part02.pl
                                                            - Deleted by User
30 12/12/2015 09:37:32 slambdin: csce322a04part02.pl
                                                            - 3 days late
31 12/12/2015 09:37:32 slambdin: csce322a04part02.pl
                                                            - Deleted by User
32 12/12/2015 09:38:30 slambdin: csce322a04part02.pl
                                                            - 3 days late
33 12/12/2015 09:38:30 slambdin: csce322a04part02.pl
                                                            - Deleted by User
34 12/12/2015 09:40:09 slambdin: csce322a04part02.pl
                                                            - 3 days late
35 12/12/2015 09:40:09 slambdin: csce322a04part02.pl
                                                            - Deleted by User
36 12/12/2015 09:41:21 slambdin: csce322a04part02.pl
                                                            - 3 days late
37 12/12/2015 09:41:21 slambdin: csce322a04part02.pl
                                                            - Deleted by User
38 12/12/2015 09:42:19 slambdin: csce322a04part02.pl
                                                            - 3 days late
39 12/12/2015 09:42:19 slambdin: csce322a04part02.pl
                                                            - Deleted by User
70 12/12/2015 09:43:20 slambdin: csce322a04part02.pl
                                                            - 3 days late
71 12/12/2015 09:43:20 slambdin: csce322a04part02.pl
                                                            - Deleted by User
72 12/12/2015 09:45:12 slambdin: csce322a04part02.pl
                                                            - 3 days late
                                                            - Deleted by User
73 12/12/2015 09:45:12 slambdin: csce322a04part02.pl
74 12/12/2015 09:46:07 slambdin: csce322a04part02.pl
                                                            - 3 days late
75 12/12/2015 09:46:07 slambdin: csce322a04part02.pl
                                                            - Deleted by User
76 12/12/2015 09:46:57 slambdin: csce322a04part02.pl
                                                            - 3 days late
77 12/12/2015 09:46:57 slambdin: csce322a04part02.pl
                                                            - Deleted by User
78 12/12/2015 09:47:50 slambdin: csce322a04part02.pl
                                                            - 3 days late
79 12/12/2015 09:47:50 slambdin: csce322a04part02.pl
                                                            - Deleted by User
30 12/12/2015 12:16:43 slambdin: csce322a04part02.pl
                                                            - 3 days late
31 12/12/2015 12:16:43 slambdin: csce322a04part02.pl
                                                           - Deleted by User
```

32	12/12/2015	12:18:30	slambdin:	csce322a04part02.pl	- 3 days late
33	12/12/2015	12:18:30	slambdin:	csce322a04part02.pl	- Deleted by User
34	12/12/2015	12:21:37	slambdin:	csce322a04part02.pl	- 3 days late
35	12/12/2015	12:21:37	slambdin:	csce322a04part02.pl	- Deleted by User
36	12/12/2015	12:22:53	slambdin:	csce322a04part02.pl	- 3 days late
37	12/12/2015	12:22:53	slambdin:	csce322a04part02.pl	- Deleted by User
38	12/12/2015	19:29:29	slambdin:	csce322a04part02.pl	- 3 days late
39	12/12/2015	19:29:29	slambdin:	csce322a04part02.pl	- Deleted by User
90	12/12/2015	19:34:49	slambdin:	csce322a04part02.pl	- 3 days late
€1	12/12/2015	19:34:49	slambdin:	csce322a04part02.pl	- Deleted by User
92	12/12/2015	19:36:32	slambdin:	csce322a04part02.pl	- 3 days late
93	12/06/2015	11:40:32	slambdin:	csce322a04part03.pl	- Deleted by User
94	12/12/2015	19:47:11	slambdin:	csce322a04part03.pl	- 3 days late
<del>9</del> 5	12/12/2015	19:47:11	slambdin:	csce322a04part03.pl	- Deleted by User
96	12/12/2015	19:55:41	slambdin:	csce322a04part03.pl	- 3 days late
97	12/12/2015	19:55:41	slambdin:	csce322a04part03.pl	- Deleted by User
98	12/12/2015	19:57:30	slambdin:	csce322a04part03.pl	- 3 days late
99	12/12/2015	19:57:30	slambdin:	csce322a04part03.pl	- Deleted by User
)0	12/12/2015	20:26:22	slambdin:	csce322a04part03.pl	- 3 days late

# 1.2 webgrader Runs

webgrader.time

# 1.3 diffs

submission.diffs

# Chapter 2

# webgrader Run

webgrader Report Generated Successfully

# Chapter 3

# csce322a04part01.pl

# 3.1 part01test01

### 3.1.1 Diff

part01test01.diff

# 3.1.2 Input File

part01test01.m

```
[x,x,x,x,x,x,x].

[x,x,x,-,-,-,x].

[x,-,-,-,-,-,x].

[x,-,-,1,3,4,x].

[x,-,-,2,x,-,x].

[x,-,-,-,x,-,x].

[x,g,-,-,-,x].
```

### 3.1.3 Submission Output

part01test01.output

```
[x,x,x,x,x,x,x]

[x,x,x,-,-,-,x]

[x,-,-,-,1,3,4,x]

[x,-,-,2,x,-,x]

[x,-,-,-,x,-,x]

[x,g,-,-,-,x]

[x,x,x,x,x,x,x]

false
```

### 3.1.4 Solution Output

part01test01.output

```
[x,x,x,x,x,x,x]
[x,x,x,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,1,3,4,x]
[x,-,-,2,x,-,x]
[x,-,-,-,x,-,x]
[x,g,-,-,-,x]
[x,x,x,x,x,x,x]
false
```

# part01test01.err 3.2 part01test02 3.2.1Diff

part01test02.diff

#### 3.2.2Input File

part01test02.m

```
[x,x,x,x,x,x,x,x].
[x,-,-,-,-,3,-,x].
[x,-,-,-,-,2,x].
[x,g,-,-,-,-,x].
[x,1,x,-,-,-,x].
[x,x,x,x,x,x,x].
```

# 3.2.3 Submission Output

part01test02.output

```
[x,x,x,x,x,x,x]
[x,-,-,-,3,-,x]
[x,-,-,-,-,2,x]
[x,g,-,-,-,-,x]
[x,1,x,-,-,-,x]
[x,x,x,x,x,x,x]
false
```

## 3.2.4 Solution Output

```
part01test02.output
[x,x,x,x,x,x,x]
[x,-,-,-,-,3,-,x]
[x,-,-,-,-,2,x]
[x,g,-,-,-,-,x]
[x,1,x,-,-,-,x]
[x,x,x,x,x,x,x,x]
false
3.2.5 stderr
```

part01test02.err

#### part01test03 3.3

#### 3.3.1Diff

part01test03.diff

#### 3.3.2Input File

part01test03.m

```
[x,x,x,x,x,x,x,x].
[x,-,-,-,g,-,x].
[x,-,-,-,-,x,x].
```

```
[x,-,-,-,-,-,x].
[x,-,-,-,-,1,-,x].
[x,-,-,x,-,-,x].
[x,3,2,-,-,-,x].
[x,x,-,-,-,x,-,x].
[x,x,-,-,-,-,x].
[x,x,x,x,x,x,x,x].
3.3.3 Submission Output
                                     part01test03.output
[x,x,x,x,x,x,x]
[x,-,-,-,g,-,x]
[x,-,-,-,-,x,x]
[x,-,-,-,-,x]
[x,-,-,-,1,-,x]
[x,-,-,x,-,-,x]
[x,3,2,-,-,-,x]
[x,x,-,-,-,x,-,x]
[x,x,-,-,-,-,x]
[x,x,x,x,x,x,x]
false
3.3.4
      Solution Output
                                     part01test03.output
[x,x,x,x,x,x,x]
[x,-,-,-,g,-,x]
[x,-,-,-,-,x,x]
[x,-,-,-,-,x]
[x,-,-,-,1,-,x]
[x,-,-,x,-,-,x]
[x,3,2,-,-,-,x]
[x,x,-,-,-,x,-,x]
[x,x,-,-,-,-,x]
[x,x,x,x,x,x,x]
false
3.3.5
      stderr
                                       part01test03.err
3.4
     part01test04
3.4.1
     \operatorname{Diff}
                                      part01test04.diff
3.4.2
      Input File
                                       part01test04.m
[x,x,x,x,x,x,x].
[x,g,1,-,-,x].
[x,x,-,-,-,x].
[x,-,-,-,x,x].
[x,-,2,3,-,-,x].
```

[x,-,-,-,-,x]. [x,-,-,-,-,x]. [x,x,x,x,x,x,x].

## 3.4.3 Submission Output

true

```
part01test04.output
[x,x,x,x,x,x]
[x,g,1,-,-,x]
[x,x,-,-,-,x]
[x,-,-,-,x,x]
[x,-,2,3,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,x,x,x,x,x,x]
true
3.4.4
     Solution Output
                                     part01test04.output
[x,x,x,x,x,x,x]
[x,g,1,-,-,x]
[x,x,-,-,-,x]
[x,-,-,-,x,x]
[x,-,2,3,-,-,x]
[x,-,-,-,x]
[x, -, -, -, -, -, x]
[x,x,x,x,x,x]
true
3.4.5
     stderr
                                       part01test04.err
3.5
      part01test05
3.5.1
      Diff
                                       part01test05.diff
3.5.2 Input File
                                       part01test05.m
[x,x,x,x,x,x,x,x].
[x,-,-,-,-,x,x].
[x,-,-,-,1,-,x,x].
[x,-,x,-,-,-,x].
[x,-,-,-,-,-,x].
[x,2,-,-,-,-,x].
[x,-,-,g,-,-,x].
[x,x,x,x,x,x,x].
3.5.3 Submission Output
                                     part01test05.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x,x]
[x,-,-,-,1,-,x,x]
[x,-,x,-,-,-,x]
[x,-,-,-,-,-,x]
[x,2,-,-,-,-,x]
[x,-,-,g,-,-,x]
[x,x,x,x,x,x,x]
```

### 3.5.4 Solution Output

```
part01test05.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x,x]
[x,-,-,-,1,-,x,x]
[x,-,x,-,-,-,x]
[x,-,-,-,x]
[x,2,-,-,-,-,x]
[x,-,-,g,-,-,x]
[x,x,x,x,x,x,x,x]
true
3.5.5
      stderr
                                        part01test05.err
3.6
      part01test06
3.6.1
      \operatorname{Diff}
                                        part01test06.diff
3.6.2
      Input File
                                        part01test06.m
[x,x,x,x,x,x,x,x,x].
[x,-,2,3,-,-,x,g,x].
[x,-,-,-,-,-,x].
[x,-,-,-,1,-,4,x,x].
[x,x,x,x,x,x,x,x].
3.6.3 Submission Output
                                      part01test06.output
[x,x,x,x,x,x,x,x]
[x,-,2,3,-,-,x,g,x]
[x,-,-,-,-,-,x]
[x,-,-,-,1,-,4,x,x]
[x,x,x,x,x,x,x,x]
false
3.6.4
      Solution Output
                                      part01test06.output
[x,x,x,x,x,x,x,x]
[x,-,2,3,-,-,x,g,x]
[x,-,-,-,-,-,x]
[x,-,-,-,1,-,4,x,x]
[x,x,x,x,x,x,x,x]
false
3.6.5
     stderr
                                        part01test06.err
```

part01test07 3.7

3.7.1 Diff

## 3.7.2 Input File

part01test07.m

```
[x,x,x,x,x,x,x].

[x,-,-,x,x,-,x].

[x,-,-,-,2,1,x].

[x,-,-,-,x].

[x,-,-,-,x].
```

[x,x,x,x,x,x,x].

# 3.7.3 Submission Output

part01test07.output

```
[x,x,x,x,x,x,x]
[x,-,-,x,x,-,x]
[x,-,-,-,2,1,x]
[x,-,-,-,x,-,x]
[x,-,-,-,g,x]
[x,x,x,x,x,x,x]
false
```

### 3.7.4 Solution Output

part01test07.output

```
[x,x,x,x,x,x,x]
[x,-,-,x,x,-,x]
[x,-,-,-,2,1,x]
[x,-,-,-,x,-,x]
[x,-,-,-,g,x]
[x,x,x,x,x,x,x]
false
```

**3.7.5** stderr

part01 test07.err

# 3.8 part01test08

#### 3.8.1 Diff

part01test08.diff

### 3.8.2 Input File

part01test08.m

```
[x,x,x,x,x,x,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].

[x,-,-,-,-,x].
```

### 3.8.3 Submission Output

#### part01test08.output

```
[x,x,x,x,x,x,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,x]

[x,-,2,-,1,-,x]

[x,x,x,x,x,x,x]

true
```

## 3.8.4 Solution Output

part01test08.output

[x,x,x,x,x,x,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,x,x,x,x,x]
true

3.8.5 stderr

part01test08.err

# 3.9 part01test09

#### 3.9.1 Diff

part01test09.diff

## 3.9.2 Input File

part01test09.m

```
[x,x,x,x,x].

[x,x,-,-,x].

[x,-,g,x,x].

[x,-,-,-,x].

[x,-,-,-,x].

[x,-,1,3,x].

[x,2,-,-,x].

[x,2,-,-,x].

[x,-,4,-,x].
```

## 3.9.3 Submission Output

part01test09.output

[x,x,x,x,x] [x,x,-,-,x] [x,-,g,x,x] [x,-,-,x] [x,-,-,x]

```
[x,-,1,3,x]
[x,2,-,-,x]
[x,-,4,-,x]
[x,x,x,x,x]
false
3.9.4
      Solution Output
                                        part01test09.output
[x,x,x,x,x]
[x,x,-,-,x]
[x, -, g, x, x]
[x,-,-,x]
[x,-,-,x]
[x,-,1,3,x]
[x,2,-,-,x]
[x,-,4,-,x]
[x,x,x,x,x]
false
3.9.5
       stderr
                                         part01test09.err
       part01test10
3.10
3.10.1
       Diff
                                         part01test10.diff
       Input File
3.10.2
                                          part01test10.m
[x,x,x,x,x].
[x,x,2,-,x].
[x,3,-,-,x].
[x,g,-,-,x].
[x,-,-,x].
[x,-,1,-,x].
[x,x,x,x,x].
3.10.3 Submission Output
                                        part01test10.output
[x,x,x,x,x]
[x,x,2,-,x]
[x,3,-,-,x]
[x,g,-,-,x]
[x,-,-,x]
[x,-,1,-,x]
[x,x,x,x,x]
true
3.10.4 Solution Output
                                        part01test10.output
[x,x,x,x,x]
[x,x,2,-,x]
```

[x,3,-,-,x]

```
[x,g,-,-,x]
[x,-,-,x]
[x,-,1,-,x]
[x,x,x,x,x]
true
3.10.5 stderr
                                           part01test10.err
        part01test11
3.11
3.11.1
       \operatorname{Diff}
                                           part01test11.diff
3.11.2 Input File
                                           part01test11.m
[x,x,x,x,x].
[x, -, x, -, x].
[x,-,3,-,x].
[x,-,-,1,x].
[x,2,-,x,x].
[x,x,g,-,x].
[x,x,x,x,x].
3.11.3 Submission Output
                                         part 01 test 11.output
[x,x,x,x,x]
[x,-,x,-,x]
[x,-,3,-,x]
[x,-,-,1,x]
[x,2,-,x,x]
[x,x,g,-,x]
[x,x,x,x,x]
true
3.11.4 Solution Output
                                         part01test11.output
[x,x,x,x,x]
[x, -, x, -, x]
[x,-,3,-,x]
[x,-,-,1,x]
[x,2,-,x,x]
[x,x,g,-,x]
[x,x,x,x,x]
true
3.11.5 stderr
                                           part01test11.err
3.12
        part01test12
```

3.12.1 Diff

## 3.12.2 Input File

part01test12.m

[x,x,x,x,x,x,x,x]. [x,-,-,-,-,x,1,x]. [x,-,-,-,-,2,3,x]. [x,-,-,-,x,-,-,x]. [x,-,-,x,-,-,x]. [x,-,-,-,-,-,x]. [x,-,-,-,-,-,x]. [x,-,-,-,-,x]. [x,-,-,-,-,x].

# 3.12.3 Submission Output

part01test12.output

 $\begin{bmatrix} x, x, x, x, x, x, x, x, x \\ x, -, -, -, -, x, 1, x \end{bmatrix} \\ \begin{bmatrix} x, -, -, -, -, 2, 3, x \\ x, -, -, -, x, -, -, x \end{bmatrix} \\ \begin{bmatrix} x, -, -, x, -, -, -, x \\ x, -, -, -, -, -, -, x \end{bmatrix} \\ \begin{bmatrix} x, -, -, -, -, -, -, x \\ x, -, -, -, -, -, -, x \end{bmatrix} \\ \begin{bmatrix} x, -, -, -, -, -, -, x \\ x, x, x, x, x, x, x, x \end{bmatrix}$ 

# 3.12.4 Solution Output

part01test12.output

[x,x,x,x,x,x,x,x] [x,-,-,-,-,x,1,x] [x,-,-,-,-,2,3,x] [x,-,-,-,-,-,x] [x,-,-,-,-,-,x] [x,-,-,-,-,-,x] [x,-,-,-,-,-,x] [x,-,-,-,-,x] [x,-,-,-,x] [x,x,x,x,x,x,x,x]

3.12.5 stderr

part01test12.err

# 3.13 part01test13

# 3.13.1 Diff

part01test13.diff

### 3.13.2 Input File

part01test13.m

[x,x,x,x,x,x,x]. [x,-,3,-,-,x]. [x,-,-,x,-,x,x].

```
[x,-,-,-,-,x].
[x,-,2,-,-,x].
[x,-,-,-,-,g,x].
[x,-,-,x,-,-,x].
[x,-,-,-,-,x].
[x,-,-,-,-,1,x].
[x,x,x,x,x,x,x].
3.13.3 Submission Output
                                      part01test13.output
[x,x,x,x,x,x,x]
[x,-,3,-,-,x]
[x,-,-,x,-,x,x]
[x,-,-,-,-,x]
[x,-,2,-,-,x]
[x,-,-,-,g,x]
[x,-,-,x,-,-,x]
[x,-,-,-,x]
[x,-,-,-,-,1,x]
[x,x,x,x,x,x,x]
true
      Solution Output
3.13.4
                                      part01test13.output
[x,x,x,x,x,x,x]
[x,-,3,-,-,x]
[x,-,-,x,-,x,x]
[x,-,-,-,x]
[x,-,2,-,-,x]
[x,-,-,-,g,x]
[x,-,-,x,-,-,x]
[x,-,-,-,x]
[x,-,-,-,1,x]
[x,x,x,x,x,x,x]
true
3.13.5
       stderr
                                        part01test13.err
3.14
       part01test14
3.14.1
       \operatorname{Diff}
                                        part01test14.diff
3.14.2
       Input File
                                        part01test14.m
[x,x,x,x,x].
[x,1,g,-,x].
[x,-,-,x].
[x,-,-,2,x].
[x,-,-,-,x].
[x,-,-,x].
```

[x,-,-,x,x]. [x,x,x,x,x].

# 3.14.3 Submission Output

r	
	part01test14.output
[x,x,x,x,x] [x,1,g,-,x]	
[x,-,-,x]	
[x,-,-,2,x] [x,-,-,-,x]	
[x,-,-,x] [x,-,-,x,x]	
[x,x,x,x,x]	
false 3.14.4 Solution Output	
3.14.4 Solution Output	
	part01test14.output
[x,x,x,x,x] [x,1,g,-,x]	
[x,-,-,x] [x,-,-,2,x]	
[x,-,-,x]	
[x,-,-,x] [x,-,-,x,x]	
<pre>[x,x,x,x,x] false</pre>	
3.14.5 stderr	
	1011 114
	part01test14.err
3.15 part01test15	
3.15 part01test15 3.15.1 Diff	
•	part01test15.diff
3.15.1 Diff	part 01 test 15. diff
•	part 01 test 15. diff
3.15.1 Diff  3.15.2 Input File	part01 test15. diff $part01 test15. m$
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x]. [x,-,-,-,x].	
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x].	
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x].	
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x].	
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x]. [x,x,x,-,x].	
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x]. [x,x,x,-,x]. [x,x,x,x,x].	
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x]. [x,x,x,x,x].  3.15.3 Submission Output	part01test15.m
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x]. [x,x,x,x,x].  3.15.3 Submission Output  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,-,-,x]. [x,-,-,-,x].	part01test15.m
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x]. [x,x,x,x,x].  3.15.3 Submission Output  [x,x,x,x,x,x].	part01test15.m
3.15.1 Diff  3.15.2 Input File  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,g,2,x]. [x,-,-,1,x]. [x,x,x,-,x]. [x,x,x,x,x].  3.15.3 Submission Output  [x,x,x,x,x,x]. [x,-,-,-,x]. [x,-,-,-,x]. [x,-,-,-,x].	part01test15.m

## 3.15.4 Solution Output

[x,x,x,x,x]

false

```
part01test15.output
[x,x,x,x,x]
[x,-,-,x]
[x,-,g,2,x]
[x,-,-,1,x]
[x,x,x,-,x]
[x,-,-,x]
[x,x,x,x,x]
false
3.15.5
       stderr
                                         part01test15.err
       part01test16
3.16
3.16.1
        Diff
                                         part01test16.diff
3.16.2
        Input File
                                          part01test16.m
[x,x,x,x,x].
[x,-,-,-,x].
[x,x,-,-,x].
[x,-,-,x,x].
[x,g,-,-,x].
[x,-,2,-,x].
[x,x,1,-,x].
[x,x,x,x,x].
3.16.3 Submission Output
                                        part01test16.output
[x,x,x,x,x]
[x,-,-,x]
[x,x,-,-,x]
[x,-,-,x,x]
[x,g,-,-,x]
[x,-,2,-,x]
[x,x,1,-,x]
[x,x,x,x,x]
false
3.16.4 Solution Output
                                        part01test16.output
[x,x,x,x,x]
[x,-,-,x]
[x,x,-,-,x]
[x,-,-,x,x]
[x,g,-,-,x]
[x,-,2,-,x]
[x,x,1,-,x]
```

3.16.5 stderr part01test16.err 3.17 part01test17 3.17.1Diff part01test17.diff **3.17.2** Input File part01test17.m[x,x,x,x,x]. [x,g,x,3,x].[x,-,-,2,x]. [x,-,x,-,x]. [x,1,-,-,x]. [x,x,x,x,x]. 3.17.3 Submission Output part01test17.output [x,x,x,x,x] [x,g,x,3,x][x, -, -, 2, x][x,-,x,-,x] [x,1,-,-,x] [x,x,x,x,x]true 3.17.4 Solution Output part01test17.output [x,x,x,x,x] [x,g,x,3,x][x,-,-,2,x][x,-,x,-,x] [x,1,-,-,x] [x,x,x,x,x]true 3.17.5 stderr part01test17.err part01test18 3.18 3.18.1Diff part01test18.diff 3.18.2Input File part01test18.m [x,x,x,x,x,x,x,x]. [x,-,-,-,-,-,x].

[x,-,-,x,-,-,-,x].

```
[x,-,-,-,-,x,-,g,x].
[x,-,-,-,-,-,x].
[x,-,-,-,-,-,-,x].
[x,x,-,-,-,-,-,x].
[x,-,3,-,-,-,-,x].
[x,-,-,1,2,x,-,-,x].
[x,x,x,x,x,x,x,x].
3.18.3 Submission Output
                                    part01test18.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,-,x]
[x,-,-,x,-,-,-,x]
[x,-,-,-,-,x,-,g,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,x]
[x,x,-,-,-,-,-,x]
[x,-,3,-,-,-,-,x]
[x, -, -, 1, 2, x, -, -, x]
[x,x,x,x,x,x,x,x]
true
3.18.4
       Solution Output
                                    part01test18.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x]
[x,-,-,x,-,-,-,x]
[x,-,-,-,x,-,g,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,x,-,-,-,-,x]
[x,-,3,-,-,-,-,x]
[x,-,-,1,2,x,-,-,x]
[x,x,x,x,x,x,x,x]
true
3.18.5 stderr
                                      part01test18.err
3.19
       part01test19
3.19.1
       Diff
                                      part01test19.diff
3.19.2
      Input File
                                      part01test19.m
[x,x,x,x,x,x].
[x,-,2,g,-,x].
[x, -, x, -, -, x].
[x,-,1,-,-,x].
[x,-,x,-,3,x].
[x,x,x,x,x,x].
```

3.19.3 Submission Output

```
part01test19.output
```

[x,-,2,g,-,x] [x,-,x,-,-,x][x,-,1,-,-,x] [x,-,x,-,3,x][x,x,x,x,x,x]

false

[x,x,x,x,x]

# 3.19.4 Solution Output

part 01 test 19. output[x,x,x,x,x,x][x,-,2,g,-,x][x,-,x,-,-,x] [x,-,1,-,-,x] [x,-,x,-,3,x][x,x,x,x,x]false 3.19.5stderr

part01test19.err

#### 3.20part01test20

#### 3.20.1Diff

part01test20.diff

#### 3.20.2Input File

part01test20.m

[x,x,x,x,x,x]. [x,3,1,x,4,x]. [x,-,2,g,-,x]. [x,-,-,-,x]. [x,x,x,-,-,x]. [x,-,-,-,-,x]. [x,x,x,x,x,x].

## 3.20.3 Submission Output

part01test20.output

[x,x,x,x,x,x][x,3,1,x,4,x][x,-,2,g,-,x][x,-,-,-,x][x,x,x,-,-,x] [x,-,-,-,x] [x,x,x,x,x,x] true

## 3.20.4 Solution Output

part01test20.output

[x,x,x,x,x][x,3,1,x,4,x][x,-,2,g,-,x]

```
[x,-,-,-,x]
[x,x,x,-,-,x]
[x,-,-,-,x]
[x,x,x,x,x,x]
true
```

3.20.5 stderr

part01test20.err

### 3.21 Source Code

```
csce 322a04 part 01.pl
```

```
1 colsAndPlayers([Row|Rows]):- length(Row, NumOfCols), numberOfPlayers([Row|Rows], Playa)
      , (even(NumOfCols) -> even(Playa); odd(Playa)).
  even(N):-N rem 2 =:= 0.
  odd(N):-N rem 2 =:= 1.
5
  isValidPlayer(Num): - member(Num,[1,2,3,4]).
7
8
  addNumbers (X,Y,Z):-Z is X+Y.
9
10 numberOfPlayersHelper([],0).
  numberOfPlayersHelper([Y|T],N1):- isValidPlayer(Y),numberOfPlayersHelper(T,N2),N1 is
11
      N2+1,!.
12
  numberOfPlayersHelper([_|T],N1):- numberOfPlayersHelper(T,N1).
13
14 numberOfPlayers([],0).
  numberOfPlayers([X|T],FinalNum):- numberOfPlayersHelper(X,NewNum),numberOfPlayers(T,
      TempNum), addNumbers(NewNum, TempNum, Sum), FinalNum is Sum.
```

# Chapter 4

# csce322a04part02.pl

# 4.1 part02test01

### 4.1.1 Diff

part02test01.diff

# 4.1.2 Input File

part02test01.m

```
[x,x,x,x,x,x,x,x,x].

[x,-,x,2,-,-,-,x].

[x,-,-,-,-,-,-,x].

[x,-,-,g,-,1,-,x].

[x,-,-,-,-,-,3,x].

[x,x,x,x,x,x,x,x].
```

#### 4.1.3 Submission Output

part02test01.output

```
[x,x,x,x,x,x,x,x]

[x,-,x,2,-,-,-,x]

[x,-,-,-,-,-,-,x]

[x,-,-,g,-,1,-,x]

[x,-,-,-,-,-,3,x]

[x,x,x,x,x,x,x,x]

paths

[1]

true
```

### 4.1.4 Solution Output

part02test01.output

```
[x,x,x,x,x,x,x,x]

[x,-,x,2,-,-,-,x]

[x,-,-,-,-,-,x]

[x,-,-,-,-,-,x]

[x,-,-,g,-,1,-,x]

[x,-,-,-,-,-,3,x]

[x,x,x,x,x,x,x,x,x]

paths

[1]

true
```

#### 4.1.5 stderr

part02test01.err

# 4.2 part02test02

#### 4.2.1 Diff

part02test02.diff

## 4.2.2 Input File

part02test02.m

```
 \begin{bmatrix} x , x , x , x , x , x , x , x , x \end{bmatrix} . \\ [x , - , - , - , - , - , - , x] . \\ [x , - , - , - , - , - , - , x] . \\ [x , - , - , - , - , - , - , x] . \\ [x , - , - , - , - , - , - , x] . \\ [x , - , - , - , 1 , x , - , x] . \\ [x , - , 2 , - , g , - , - , x] . \\ [x , x , x , x , x , x , x , x ] .
```

# 4.2.3 Submission Output

part02test02.output

```
[x,x,x,x,x,x,x,x]

[x,-,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,x]

[x,-,2,-,g,-,-,x]

[x,x,x,x,x,x,x,x]

paths

[d]

true
```

# 4.2.4 Solution Output

part02test02.output

```
[x,x,x,x,x,x,x,x]

[x,-,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,1,x,-,x]

[x,-,2,-,g,-,-,x]

[x,x,x,x,x,x,x,x]

paths

[d]

true
```

4.2.5 stderr

part02test02.err

# 4.3 part02test03

#### 4.3.1 Diff

#### 4.3.2 Input File

```
part02test03.m
```

```
[x,x,x,x,x].
[x,-,-,-,x].
[x,-,-,2,x].
[x,-,-,1,x].
[x, -, -, -, x].
[x,-,-,x].
[x,-,-,x].
[x,-,-,-,x].
[x,g,-,-,x].
[x,x,x,x,x].
```

### 4.3.3 Submission Output

#### part02test03.output

```
[x,x,x,x,x]
[x,-,-,x]
[x,-,-,2,x]
[x,-,-,1,x]
[x,-,-,x]
[x,-,-,x]
[x,-,-,x]
[x,-,-,x]
[x,g,-,-,x]
[x,x,x,x,x]
paths
[d,1]
[1,d]
true
```

#### 4.3.4 **Solution Output**

part02test03.output

```
[x,x,x,x,x]
[x,-,-,x]
[x,-,-,2,x]
[x,-,-,1,x]
[x,-,-,x]
[x,-,-,x]
[x,-,-,x]
[x,-,-,x]
[x,g,-,-,x]
[x,x,x,x,x]
paths
[d,1]
[1,d]
true
4.3.5
      stderr
```

part02test03.err

#### part02test04 4.4

#### 4.4.1Diff

#### Input File 4.4.2

[x,-,3,2,x]. [x,-,g,-,x]. [x,x,x,x,x].

```
part02test04.m
[x,x,x,x,x,x,x,x,x].
[x,-,g,-,-,x,-,-,x].
[x,-,-,2,1,-,-,-,x].
[x,-,-,3,-,-,-,-,x].
[x,-,4,-,-,-,-,-,x].
[x,-,-,-,-,-,-,x].
[x,x,x,x,x,x,x,x,x].
4.4.3 Submission Output
                                      part02test04.output
[x,x,x,x,x,x,x,x,x,x]
[x,-,g,-,-,x,-,-,x]
[x,-,-,2,1,-,-,-,x]
[x,-,-,3,-,-,-,-,x]
[x,-,4,-,-,-,-,-,x]
[x,-,-,-,-,-,-,x]
[x,x,x,x,x,x,x,x,x]
paths
[u,1]
true
4.4.4
      Solution Output
                                      part02test04.output
[x,x,x,x,x,x,x,x,x,x]
[x,-,g,-,-,x,-,-,x]
[x,-,-,2,1,-,-,-,x]
[x,-,-,3,-,-,-,-,x]
[x,-,4,-,-,-,-,-,x]
[x,-,-,-,-,-,-,x]
[x, x, x, x, x, x, x, x, x, x, x]
paths
[u,1]
true
4.4.5
      stderr
                                        part02test04.err
4.5
      part02test05
4.5.1
      Diff
                                        part02test05.diff
      Input File
4.5.2
                                        part02test05.m
[x,x,x,x,x].
[x, -, -, -, x].
[x, -, -, 1, x].
```

#### 4.5.3 Submission Output

[x,-,-,-,-,-,1,-,x]

```
part02test05.output
[x,x,x,x,x]
[x, -, -, -, x]
[x,-,-,1,x]
[x,-,3,2,x]
[x,-,g,-,x]
[x,x,x,x,x]
paths
[1,d,r]
true
      Solution Output
4.5.4
                                       part02test05.output
[x,x,x,x,x]
[x,-,-,x]
[x,-,-,1,x]
[x,-,3,2,x]
[x,-,g,-,x]
[x,x,x,x,x]
paths
[1,d,r]
true
4.5.5 stderr
                                        part02test05.err
      part02test06
4.6
4.6.1
      Diff
                                        part02test06.diff
      Input File
4.6.2
                                        part02test06.m
[x,x,x,x,x,x,x,x,x,x].
[x,-,-,-,-,x,-,-,x].
[x,-,g,-,-,2,x,-,-,x].
[x,x,-,x,-,-,-,-,x].
[x,-,3,-,-,-,-,-,x].
[x,-,-,-,-,-,1,-,x].
[x,-,-,-,-,x,-,-,x].
[x,-,-,-,x,-,-,-,x].
[x,x,x,x,x,x,x,x,x].
      Submission Output
4.6.3
                                       part02test06.output
[x,x,x,x,x,x,x,x,x,x]
[x,-,-,-,-,x,-,-,x]
[x,-,g,-,-,2,x,-,-,x]
[x,x,-,x,-,-,-,-,x]
[x,-,3,-,-,-,-,x]
```

```
[x,-,-,-,-,x,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,x,x,x,x,x,x,x,x,x]
false
4.6.4
      Solution Output
```

[x,x,x,x,x,x,x,x,x,x][x,-,-,-,-,x,-,-,x][x,-,g,-,-,2,x,-,-,x][x,x,-,x,-,-,-,-,x][x,-,3,-,-,-,-,-,x][x,-,-,-,-,-,1,-,x] [x,-,-,-,x,-,-,x] [x,-,-,-,x,-,-,-,x][x,x,x,x,x,x,x,x,x,x]false

4.6.5stderr

#### 4.7part02test07

4.7.1 $\operatorname{Diff}$ 

part02test07.diff

#### Input File 4.7.2

part02test07.m

[x,x,x,x,x]. [x, -, x, -, x]. [x,-,-,-,x]. [x,-,-,-,x]. [x,g,-,x,x]. [x, -, -, -, x]. [x,-,-,2,x]. [x,x,-,-,x]. [x,-,1,-,x].

[x,x,x,x,x].

#### 4.7.3**Submission Output**

[x,x,x,x,x][x,-,x,-,x] [x,-,-,x] [x,-,-,x] [x,g,-,x,x][x,-,-,-,x][x,-,-,2,x] [x,x,-,-,x] [x,-,1,-,x][x,x,x,x,x]paths [u,1,d] true

part02test06.output

part02test06.err

part02test07.output

### 4.7.4 Solution Output

part02test07.output [x,x,x,x,x][x,-,x,-,x] [x, -, -, -, x][x,-,-,x] [x,g,-,x,x] [x,-,-,x] [x, -, -, 2, x][x,x,-,-,x] [x,-,1,-,x][x,x,x,x,x] paths [u,1,d] true 4.7.5stderr part02test07.err 4.8 part02test08 4.8.1 Diff part02test08.diff Input File 4.8.2 part02test08.m [x,x,x,x,x,x,x,x]. [x,-,-,-,-,-,x]. [x,-,-,-,-,x,x]. [x,-,-,x,x,-,-,x]. [x,-,-,-,-,1,x]. [x,-,-,-,-,-,x]. [x,-,-,-,-,-,x]. [x,-,-,-,-,x]. [x,-,-,g,x,-,2,x]. [x,x,x,x,x,x,x]. 4.8.3 **Submission Output** part02test08.output [x,x,x,x,x,x,x][x,-,-,-,-,x][x,-,-,-,-,x,x][x,-,-,x,x,-,-,x][x,-,-,-,-,1,x] [x,-,-,-,-,-,x][x,-,-,-,-,x][x,-,-,-,-,x] [x,-,-,g,x,-,2,x][x,x,x,x,x,x,x,x]paths [1,d,r] true

## 4.8.4 Solution Output

```
part02test08.output
```

```
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x,x]
[x,-,-,x,x,-,-,x]
[x,-,-,-,-,1,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,x]
[x,-,-,g,x,-,2,x]
[x,x,x,x,x,x,x,x]
paths
[1,d,r]
true
4.8.5
      stderr
                                       part02test08.err
4.9
      part02test09
4.9.1
     Diff
                                       part02test09.diff
4.9.2 Input File
                                       part02test09.m
[x,x,x,x,x,x].
[x,-,1,2,-,x].
[x,-,-,-,x,x].
[x,-,-,-,x].
[x,-,-,-,x].
[x,-,g,-,-,x].
[x,x,x,x,x,x].
4.9.3 Submission Output
                                      part02test09.output
[x,x,x,x,x,x]
[x,-,1,2,-,x]
[x,-,-,x,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,-,g,-,-,x]
[x,x,x,x,x,x]
paths
[d]
true
4.9.4
      Solution Output
                                      part02test09.output
[x,x,x,x,x]
[x, -, 1, 2, -, x]
[x,-,-,x,x]
[x,-,-,-,x]
```

[x,-,-,-,x] [x,-,g,-,-,x]

```
[x,x,x,x,x,x]
paths
[d]
true
4.9.5
      stderr
                                      part02test09.err
4.10
       part02test10
4.10.1
       \operatorname{Diff}
                                      part02test10.diff
4.10.2
       Input File
                                       part02test10.m
[x,x,x,x,x,x,x,x,x].
[x,-,-,-,-,-,-,x].
[x,-,-,-,-,-,-,x].
[x,-,2,x,-,-,-,x].
[x,-,-,3,-,-,-,x].
[x,-,-,-,-,x,x,x].
[x,g,-,-,-,-,x,x].
[x,-,-,1,-,-,-,x].
[x,-,-,-,-,-,x].
[x,x,x,x,x,x,x,x].
4.10.3 Submission Output
                                     part02test10.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,2,x,-,-,-,x]
[x,-,-,3,-,-,-,x]
[x, -, -, -, -, -, x, x, x]
[x,g,-,-,-,-,x,x]
[x,-,-,1,-,-,-,x]
[x,-,-,-,-,-,x]
[x,x,x,x,x,x,x,x]
paths
[1,u]
true
       Solution Output
4.10.4
                                     part02test10.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,2,x,-,-,-,x]
[x,-,-,3,-,-,-,x]
[x,-,-,-,-,x,x,x]
[x,g,-,-,-,-,x,x]
[x,-,-,1,-,-,-,x]
```

[x,-,-,-,-,-,-,x][x,x,x,x,x,x,x,x,x]

```
paths
[1,u]
true
4.10.5
        stderr
                                       part02test10.err
       part02test11
4.11
4.11.1
       Diff
                                       part02test11.diff
       Input File
4.11.2
                                        part02test11.m
[x,x,x,x,x,x,x,x,x,x].
[x,-,x,-,-,-,-,-,x].
[x,-,-,-,x,2,-,4,-,x].
[x,-,x,-,3,-,-,-,x].
[x,-,-,-,1,g,-,-,x,x].
[x,-,-,-,-,x,-,x,x].
[x,x,x,x,x,x,x,x,x].
4.11.3 Submission Output
                                      part02test11.output
[x,x,x,x,x,x,x,x,x]
[x,-,x,-,-,-,-,x]
[x,-,-,-,x,2,-,4,-,x]
[x,-,x,-,3,-,-,-,x]
[x,-,-,-,1,g,-,-,x,x]
[x,-,-,-,x,-,x,x]
[x,x,x,x,x,x,x,x,x]
paths
[r]
true
4.11.4
        Solution Output
                                      part02test11.output
[x,x,x,x,x,x,x,x,x,x]
[x,-,x,-,-,-,-,-,x]
[x,-,-,x,2,-,4,-,x]
[x,-,x,-,3,-,-,-,x]
[x,-,-,-,1,g,-,-,x,x]
[x,-,-,-,-,x,-,x,x]
[x,x,x,x,x,x,x,x,x,x]
paths
[r]
true
4.11.5
        stderr
                                       part02test11.err
```

#### 4.12part02test12

#### 4.12.1Diff

## 4.12.2 Input File

part02test12.m [x,x,x,x,x,x,x,x].

[x, -, -, -, -, -, -, x].

[x,-,-,-,-,-,x].

[x,-,-,x,-,-,x].

[x,x,-,-,-,x,-,x]. [x,2,-,-,-,-,x].

[x,2,-,-,-,-,x]

[x,x,-,-,x,g,1,x]. [x,x,x,x,x,x,x,x].

## 4.12.3 Submission Output

part02test12.output

[x,x,x,x,x,x,x,x] [x,-,-,-,-,x]

[x,-,-,-,-,-,x]

[x,-,-,-,x,-,-,x]

[x,x,-,-,-,x,-,x]

[x,2,-,-,-,x]

[x,x,-,-,x,g,1,x]

[x,x,x,x,x,x,x,x]

paths

[1]

true

## 4.12.4 Solution Output

part02test12.output

[x,x,x,x,x,x,x,x]

[x,-,-,-,x]

[x,-,-,-,-,-,x]

[x,-,-,x,-,-,x]

[x,x,-,-,x,-,x]

[x,2,-,-,-,-,x][x,x,-,-,x,g,1,x]

[x,x,x,x,x,x,x]

paths

[1]

true

**4.12.5** stderr

part02test12.err

# 4.13 part02test13

#### 4.13.1 Diff

part02test13.diff

### **4.13.2** Input File

part02test13.m

[x,x,x,x,x,x].

[x,-,-,-,x].

```
[x,3,-,1,x,x].
[x,-,-,-,x].
[x,-,g,-,-,x].
[x,2,-,-,x].
[x,x,x,x,x,x].
4.13.3 Submission Output
                                      part02test13.output
[x,x,x,x,x,x]
[x,-,-,-,x]
[x,3,-,1,x,x]
[x,-,-,-,x]
[x,-,g,-,-,x]
[x,2,-,-,x]
[x,x,x,x,x,x]
paths
[1,d]
true
        Solution Output
4.13.4
                                      part02test13.output
[x,x,x,x,x]
[x,-,-,-,x]
[x,3,-,1,x,x]
[x,-,-,-,x]
[x,-,g,-,-,x]
[x,2,-,-,x]
[x,x,x,x,x]
paths
[1,d]
true
4.13.5
       stderr
                                        part02test13.err
4.14
       part02test14
4.14.1
       \operatorname{Diff}
                                        part02test14.diff
       Input File
4.14.2
                                        part02test14.m
[x,x,x,x,x,x,x,x].
[x,-,-,-,-,x].
[x,-,x,-,-,-,x].
[x,-,-,-,-,-,x].
[x,3,x,-,-,x,x,x].
[x,-,-,-,-,-,x].
[x,-,g,2,x,-,1,x].
[x,-,-,x,-,-,x].
[x,x,-,-,-,-,x].
[x,x,x,x,x,x,x].
```

4.14.3 Submission Output

#### part02test14.output

```
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x]
[x,-,x,-,-,-,x]
[x,-,-,-,-,x]
[x,3,x,-,-,x,x,x]
[x,-,-,-,-,x]
[x,-,g,2,x,-,1,x]
[x,-,-,x,-,-,x]
[x,x,-,-,-,-,x]
[x,x,x,x,x,x,x]
paths
[d,1,u]
true
```

## 4.14.4 Solution Output

```
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x]
```

[x,-,x,-,-,-,x]

[x,-,-,-,-,x]

[x,3,x,-,-,x,x,x][x,-,-,-,-,-,x]

[x,-,g,2,x,-,1,x]

[x,-,-,x,-,-,x]

[x,x,-,-,-,-,x]

[x,x,x,x,x,x,x]

paths

[d,1,u]

true

#### 4.14.5stderr

#### 4.15 part02test15

#### 4.15.1Diff

#### 4.15.2Input File

[x,x,x,x,x,x,x,x,x]. [x,-,-,2,-,3,-,-,x].

[x,-,-,g,-,4,-,-,x].

[x,-,-,-,-,-,x].

[x,1,-,x,-,-,-,x].

[x,x,x,x,x,x,x,x].

#### 4.15.3 Submission Output

```
[x,x,x,x,x,x,x,x,x]
[x,-,-,2,-,3,-,-,x]
[x,-,-,g,-,4,-,-,x]
```

[x,-,-,-,-,-,x]

part02test14.output

part02test14.err

part02test15.diff

part02test15.m

part02test15.output

```
[x,1,-,x,-,-,-,x]
[x,x,x,x,x,x,x,x]
false
4.15.4
       Solution Output
                                      part02test15.output
[x,x,x,x,x,x,x,x]
[x,-,-,2,-,3,-,-,x]
[x,-,-,g,-,4,-,-,x]
[x,-,-,-,-,-,x]
[x,1,-,x,-,-,-,x]
[x,x,x,x,x,x,x,x]
false
4.15.5
       stderr
                                       part02test15.err
4.16
       part02test16
4.16.1
       Diff
                                       part02test16.diff
4.16.2 Input File
                                        part02test16.m
[x,x,x,x,x,x].
[x,2,-,-,-,x].
[x,g,x,x,-,x].
[x,x,-,4,-,x].
[x,-,1,3,-,x].
[x,x,-,-,x].
[x,x,x,x,x,x].
4.16.3 Submission Output
                                      part02test16.output
[x,x,x,x,x]
[x,2,-,-,x]
[x,g,x,x,-,x]
[x,x,-,4,-,x]
[x,-,1,3,-,x]
[x,x,-,-,x]
[x,x,x,x,x]
false
4.16.4
       Solution Output
```

part02test16.output

```
[x,x,x,x,x,x]
[x,2,-,-,-,x]
[x,g,x,x,-,x]
[x,x,-,4,-,x]
[x,-,1,3,-,x]
[x,x,-,-,-,x]
[x,x,x,x,x,x]
false
```

#### 4.16.5 stderr

part02test16.err

#### part02test17 4.17

#### 4.17.1 $\operatorname{Diff}$

part02test17.diff

#### 4.17.2Input File

part02test17.m

```
[x,x,x,x,x,x].
[x,-,-,x,2,x].
[x,-,-,-,x].
[x,-,g,4,-,x].
[x,-,-,3,-,x].
[x,-,x,x,-,x].
[x,1,-,-,x].
[x,-,x,-,-,x].
[x,x,x,x,x,x].
```

## 4.17.3 Submission Output

part02test17.output

```
[x,x,x,x,x,x]
[x,-,-,x,2,x]
[x,-,-,-,x]
[x,-,g,4,-,x]
[x, -, -, 3, -, x]
[x,-,x,x,-,x]
[x,1,-,-,x]
[x,-,x,-,-,x]
[x,x,x,x,x,x]
paths
[u,r,d]
true
```

### 4.17.4 Solution Output

part02test17.output

```
[x,x,x,x,x,x]
[x,-,-,x,2,x]
[x,-,-,-,x]
[x,-,g,4,-,x]
[x,-,-,3,-,x]
[x,-,x,x,-,x]
[x,1,-,-,x]
[x,-,x,-,-,x]
[x,x,x,x,x,x]
paths
[u,r,d]
true
```

#### 4.17.5stderr

part02test17.err

# 4.18 part02test18 4.18.1 Diff part02test18.diff 4.18.2 Input File part02test18.m [x,x,x,x,x,x,x]. [x,1,-,-,-,x]. [x,-,-,-,x,-,x]. [x,-,-,-,3,-,x]. [x,-,-,x,g,-,x]. [x,-,2,x,-,-,x]. [x,x,x,x,x,x,x]. 4.18.3 Submission Output part02test18.output [x,x,x,x,x,x,x][x,1,-,-,-,x] [x,-,-,x,-,x] [x,-,-,3,-,x] [x,-,-,x,g,-,x][x,-,2,x,-,-,x][x,x,x,x,x,x]paths [r,d,1,u] true **Solution Output** 4.18.4part02test18.output [x,x,x,x,x,x][x,1,-,-,-,x] [x,-,-,x,-,x] [x,-,-,3,-,x] [x,-,-,x,g,-,x] [x,-,2,x,-,-,x][x,x,x,x,x,x,x]paths [r,d,1,u] true 4.18.5 stderr

part 02 test 18.err

# 4.19 part02test19

4.19.1 Diff

part02test19.diff

#### **4.19.2** Input File

```
part02test19.m
[x,x,x,x,x].
[x,-,2,-,x].
[x,g,x,-,x].
[x,1,-,-,x].
[x,x,-,x,x].
[x,-,-,x].
[x,x,x,x,x].
4.19.3 Submission Output
                                        part02test19.output
[x,x,x,x,x]
[x,-,2,-,x]
[x,g,x,-,x]
[x,1,-,-,x]
[x,x,-,x,x]
[x,-,-,x]
[x,x,x,x,x]
paths
[u]
true
4.19.4
        Solution Output
                                        part02test19.output
[x,x,x,x,x]
[x,-,2,-,x]
[x,g,x,-,x]
[x,1,-,-,x]
[x,x,-,x,x]
[x,-,-,x]
[x,x,x,x,x]
paths
[u]
true
4.19.5
        stderr
                                         part02test19.err
4.20
        part02test20
4.20.1
        Diff
                                         part02test20.diff
4.20.2
       Input File
```

part02test20.m

# [x,x,x,x,x,x].4.20.3 Submission Output

[x,x,x,x,x,x]. [x,-,x,-,-,x]. [x,-,-,1,4,x]. [x,x,-,3,x,x]. [x,x,g,2,-,x].

```
part02test20.output
```

```
[x,x,x,x,x,x]

[x,-,x,-,-,x]

[x,-,-,1,4,x]

[x,x,-,3,x,x]

[x,x,g,2,-,x]

[x,x,x,x,x,x]

false
```

#### 4.20.4 Solution Output

part02test20.output

```
[x,x,x,x,x,x]
[x,-,x,-,-,x]
[x,-,-,1,4,x]
[x,x,-,3,x,x]
[x,x,g,2,-,x]
[x,x,x,x,x,x,x]
false
```

4.20.5 stderr

#### 4.21 Source Code

fewestSlides(Maze,PathToGoal):-

csce322a04part02.pl

part02test20.err

```
2
           findInMaze(Maze, 1, PlayerPosition),
           getShortestPath(Maze, PlayerPosition, ShortestPath),
3
4
           PathToGoal=ShortestPath.
6 % findInMaze(Maze, Element, Position)
  findInMaze([Row|_],What,(0,C)):-
7
8
       findInRow(Row, What, C).
  findInMaze([_|Rows],What,(R,C)):-
       findInMaze(Rows, What, (TempR, C)),
10
11
       R is TempR + 1.
12
13 % findInRow([Col|Cols], What, Where)
  findInRow([What | _], What, 0).
14
  findInRow([_|Tail],What,Where):-
15
16
       findInRow(Tail, What, TWhere),
17
       Where is TWhere + 1.
18
  isWallOrPlayer(Element): - (Element == x; member(Element,[2,3,4])).
19
20
21
  isGoal(Element):- Element==g.
22
23 checkIsGoal(X, Maze):-
24
           getValFromPosition(Maze, X, Val),
25
           isGoal(Val).
26
27
  getAdjacentNode((X,Y), (AdjacentX,Y), Direction):- AdjacentX is X-1, Direction=u.
  getAdjacentNode((X,Y), (AdjacentX,Y), Direction): - AdjacentX is X+1, Direction=d.
  getAdjacentNode((X,Y), (X, AdjacentY), Direction): - AdjacentY is Y-1, Direction=1.
30
   getAdjacentNode((X,Y), (X, AdjacentY), Direction):- AdjacentY is Y+1, Direction=r.
31
  slideFromToDirection(Maze, (X,Y), (SlideX,SlideY), Direction):-
```

```
33
           getAdjacentNode((X,Y), (AdjX,AdjY), Direction),
34
           getValFromPosition(Maze, (AdjX,AdjY), Val),
35
           ((isGoal(Val),SlideX is AdjX, SlideY is AdjY);
36
                    (not(isWallOrPlayer(Val)),
                            (slideFromToDirection(Maze, (AdjX, AdjY), (NextX, NextY),
37
      Direction) ->
                                     (SlideX is NextX, SlideY is NextY); (SlideX is AdjX,
38
      SlideY is AdjY))
39
                    )
10
           ) .
11
12
   getPathToGoal(Maze, (X,Y), TempPath, Path):-
13
           slideFromToDirection(Maze, (X,Y), (AdjX,AdjY), Direction),
14
           append(TempPath, [Direction], NewPath),
15
           findInMaze(Maze, g, GoalPosition),
16
           (GoalPosition == (AdjX, AdjY) -> Path = NewPath;
17
                    (length (NewPath, Length),
18
                    Length < 10,
                    getPathToGoal(Maze, (AdjX,AdjY), NewPath, Path)
19
50
                    )).
51
  \verb| \%getValFromPosition(Maze, Position, Val)| \\
52
53 getValFromPosition(Maze, (X,Y), Val):-
54
           nthO(X, Maze, Row),
55
           nthO(Y, Row, Elem),
56
           Val=Elem.
57
58 getShortestPath(Maze, (X,Y), ShortestPath):-
59
       setof((Length,Path), (getPathToGoal(Maze, (X,Y), [], Path), length(Path, Length)),
       SortedPaths),
       nth0(0, SortedPaths, (ShortestLength,_)),
30
       member((ShortestLength, ShortestPath), SortedPaths).
31
```

# Chapter 5

# csce322a04part03.pl

# 5.1 part03test01

#### 5.1.1 Diff

part03test01.diff

## 5.1.2 Input File

part03test01.m

```
 \begin{bmatrix} x , x , x , x , x , x , x , x , x \\ x , - , - , g , - , x , - , x \end{bmatrix} . \\ [x , 1 , - , - , - , - , - , x] . \\ [x , - , - , - , - , - , - , x] . \\ [x , - , - , - , - , - , x ] . \\ [x , - , 2 , - , - , - , - , x] . \\ [x , - , - , - , - , - , - , x] . \\ [x , - , - , - , - , - , - , x] . \\ [x , x , x , x , x , x , x , x , x ] .
```

## 5.1.3 Submission Output

part03test01.output

```
[x,x,x,x,x,x,x,x]

[x,-,-,g,-,x,-,x]

[x,1,-,-,-,-,x]

[x,-,-,-,-,x,x]

[x,-,2,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,x]

[x,x,x,x,x,x,x,x]
```

#### 5.1.4 Solution Output

part03test01.output

```
[x,x,x,x,x,x,x,x,x]
[x,-,-,g,-,x,-,x]
[x,1,-,-,-,-,x]
[x,-,-,-,-,x,x]
[x,-,-,-,-,x,x]
[x,-,2,-,-,-,x]
[x,-,-,-,-,x]
```

```
[x,x,x,x,x,x,x]
false
5.1.5
     stderr
                                      part03test01.err
5.2
     part03test02
5.2.1
     Diff
                                      part03test02.diff
5.2.2
     Input File
                                      part03test02.m
[x,x,x,x,x,x,x,x].
[x,-,-,2,x,g,-,x].
[x,-,-,-,-,-,x].
[x,-,-,-,-,x].
[x,-,-,-,x,-,-,x].
[x,-,-,x,x,-,x].
[x,-,-,x,x,-,-,x].
[x,-,-,-,-,1,-,x].
[x,-,-,-,-,-,x].
[x,x,x,x,x,x,x,x].
      Submission Output
                                     part03test02.output
[x,x,x,x,x,x,x]
[x,-,-,2,x,g,-,x]
[x,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,x,-,-,x]
[x,-,-,-,x,x,-,x]
[x,-,-,x,x,-,-,x]
[x,-,-,-,-,1,-,x]
[x,-,-,-,-,x]
[x,x,x,x,x,x,x]
false
5.2.4
      Solution Output
                                     part03test02.output
[x,x,x,x,x,x,x]
[x,-,-,2,x,g,-,x]
[x,-,-,-,-,x]
[x,-,-,-,-,x]
[x,-,-,x,-,-,x]
[x,-,-,-,x,x,-,x]
[x,-,-,x,x,-,-,x]
[x,-,-,-,1,-,x]
[x,-,-,-,-,x]
[x,x,x,x,x,x,x]
```

false 5.2.5

stderr

# 5.3 part03test03

#### 5.3.1 Diff

part03test03.diff

### 5.3.2 Input File

part03test03.m

```
[x,x,x,x,x].

[x,-,-,g,x].

[x,3,-,-,x].

[x,-,2,-,x].

[x,x,1,x,x].

[x,x,-,-,x].

[x,-,-,-,x].

[x,-,-,-,x].

[x,-,-,-,x].
```

## 5.3.3 Submission Output

part03test03.output

```
[x,x,x,x,x]
[x,-,-,g,x]
[x,3,-,-,x]
[x,-,2,-,x]
[x,x,1,x,x]
[x,x,-,-,x]
[x,x,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,x,x,x,x]
true
```

## 5.3.4 Solution Output

part03test03.output

```
[x,x,x,x,x]
[x,-,-,g,x]
[x,3,-,-,x]
[x,-,2,-,x]
[x,x,1,x,x]
[x,x,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,x,x,x,x]
true

5.3.5 stderr
```

part03test03.err

# 5.4 part03test04

#### 5.4.1 Diff

part03test04.diff

#### 5.4.2 Input File

```
part03test04.m
[x,x,x,x,x,x].
[x,-,1,-,x,x].
[x,-,2,-,-,x].
[x,-,g,-,-,x].
[x,-,-,-,-,x].
[x,x,x,x,x,x].
5.4.3 Submission Output
                                       part03test04.output
[x,x,x,x,x,x]
[x, -, 1, -, x, x]
[x,-,2,-,-,x]
[x,-,g,-,-,x]
[x,-,-,-,x]
[x,x,x,x,x]
true
      Solution Output
5.4.4
                                       part03test04.output
[x,x,x,x,x,x]
[x,-,1,-,x,x]
[x,-,2,-,-,x]
[x,-,g,-,-,x]
[x,-,-,-,x]
[x,x,x,x,x,x]
true
5.4.5
     stderr
                                        part03test04.err
5.5
      part03test05
      Diff
5.5.1
                                        part03test05.diff
5.5.2
     Input File
                                        part03test05.m
[x,x,x,x,x,x,x,x,x].
[x,-,x,-,-,-,2,-,x].
[x,-,-,-,-,-,-,1,x].
[x,-,-,-,x,x,g,-,-,x].
[x,-,-,-,x,-,-,-,x].
[x,-,-,-,-,-,x,-,x].
[x,-,-,-,x,-,-,3,-,x].
[x,-,-,4,-,-,x,-,x].
[x,-,-,-,-,x,-,-,x].
[x,x,x,x,x,x,x,x,x].
      Submission Output
5.5.3
```

```
part03test05.output
[x,x,x,x,x,x,x,x,x]
[x,-,x,-,-,-,2,-,x]
[x,-,-,-,-,-,-,1,x]
[x,-,-,-,x,x,g,-,-,x]
[x,-,-,x,-,-,x]
[x,-,-,-,-,-,x,-,x]
[x, -, -, -, x, -, -, 3, -, x]
[x,-,-,4,-,-,x,-,x]
[x,-,-,-,x,-,-,x]
[x,x,x,x,x,x,x,x,x,x]
true
5.5.4
      Solution Output
                                      part03test05.output
[x,x,x,x,x,x,x,x,x,x]
```

[x,-,x,-,-,-,-,2,-,x]
[x,-,-,-,-,-,-,1,x]
[x,-,-,-,x,x,g,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,-,-,-,-,-,x,-,x]
[x,-,-,-,x,-,x,-,x]
[x,-,-,4,-,-,x,-,x]
[x,-,-,-,x,-,x,-,x]
[x,x,x,x,x,x,x,x,x,x]
true

5.5.5 stderr

part03test05.err

## 5.6 part03test06

5.6.1 Diff

part03test06.diff

#### 5.6.2 Input File

part03test06.m

```
[x,x,x,x,x,x,x,x,x,x,x].

[x,-,x,-,-,-,-,-,-,x].

[x,-,-,-,-,-,-,-,x].

[x,1,-,-,-,-,2,-,-,x].

[x,-,-,x,-,-,-,x,-,x].

[x,g,-,3,-,x,-,-,-,x].

[x,x,x,x,x,x,x,x,x,x].
```

#### 5.6.3 Submission Output

part03test06.output

[x,x,x,x,x,x,x,x,x,x,x] [x,-,x,-,-,-,-,-,-,x] [x,-,-,-,-,-,-,-,x] [x,1,-,-,-,-,2,-,-,x] [x,-,-,x,-,-,-,x,-,x] [x,g,-,3,-,x,-,-,-,x] [x,x,x,x,x,x,x,x,x,x,x] false

#### 5.6.4 Solution Output

[x,-,-,-,x,-,-,x]

```
part03test06.output
[x,x,x,x,x,x,x,x,x,x]
[x,-,x,-,-,-,-,-,x]
[x,-,-,-,x]
[x,1,-,-,-,2,-,-,x]
[x,-,-,x,-,-,x,-,x]
[x,g,-,3,-,x,-,-,x]
[x,x,x,x,x,x,x,x,x,x]
false
5.6.5
      stderr
                                       part03test06.err
5.7
      part03test07
5.7.1
      Diff
                                       part03test07.diff
      Input File
5.7.2
                                       part03test07.m
[x,x,x,x,x,x,x,x].
[x,-,-,-,1,-,-,x].
[x,-,-,-,-,-,x].
[x,-,-,-,x,-,-,x].
[x,-,-,-,-,2,-,x].
[x,-,-,-,-,x,-,x].
[x,-,-,-,-,g,x].
[x,x,-,-,x,-,-,x].
[x,-,-,x,-,-,x].
[x, x, x, x, x, x, x, x].
5.7.3 Submission Output
                                     part03test07.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,1,-,-,x]
[x,-,-,-,-,x]
[x,-,-,-,x,-,-,x]
[x,-,-,-,2,-,x]
[x,-,-,-,x,-,x]
[x,-,-,-,-,g,x]
[x,x,-,-,x,-,-,x]
[x,-,-,x,-,-,x]
[x,x,x,x,x,x,x]
false
      Solution Output
                                     part03test07.output
[x,x,x,x,x,x,x]
[x,-,-,1,-,-,x]
[x,-,-,-,-,-,x]
```

```
[x,-,-,-,2,-,x]
[x,-,-,-,x,-,x]
[x,-,-,-,-,g,x]
[x,x,-,-,x,-,-,x]
[x,-,-,x,-,-,x]
[x,x,x,x,x,x,x]
false
5.7.5
      stderr
                                       part03test07.err
      part03test08
5.8
5.8.1
     Diff
                                       part03test08.diff
5.8.2
     Input File
                                       part03test08.m
[x, x, x, x, x, x, x, x].
[x,3,-,-,-,-,x].
[x,-,-,-,g,-,-,x].
[x,-,-,4,2,-,-,x].
[x,-,-,-,x,-,-,x].
[x,-,-,x,-,1,-,x].
[x,-,-,-,-,-,x].
[x,x,x,x,x,x,x].
5.8.3 Submission Output
                                      part03test08.output
[x,x,x,x,x,x,x]
[x,3,-,-,-,-,x]
[x,-,-,-,g,-,-,x]
[x,-,-,4,2,-,-,x]
[x,-,-,x,-,-,x]
[x,-,-,x,-,1,-,x]
[x,-,-,-,-,-,x]
[x,x,x,x,x,x,x]
true
      Solution Output
5.8.4
                                      part03test08.output
[x,x,x,x,x,x,x]
[x,3,-,-,-,-,x]
[x,-,-,-,g,-,-,x]
[x,-,-,4,2,-,-,x]
[x,-,-,x,-,-,x]
[x,-,-,x,-,1,-,x]
```

5.8.5 stderr

true

[x,-,-,-,-,-,x][x,x,x,x,x,x,x,x]

# 5.9 part03test09 5.9.1Diff part03test09.diff 5.9.2 Input File part03test09.m [x,x,x,x,x,x]. [x,-,-,-,x]. [x,g,-,-,3,x].[x,-,2,1,-,x]. [x,x,x,x,x,x]. 5.9.3 Submission Output part03test09.output [x,x,x,x,x] [x,-,-,-,x] [x,g,-,-,3,x][x,-,2,1,-,x][x,x,x,x,x,x]true 5.9.4Solution Output part03test09.output [x,x,x,x,x,x][x,-,-,-,x] [x,g,-,-,3,x][x,-,2,1,-,x] [x,x,x,x,x,x] true 5.9.5stderr part03test09.err part03test10 5.10 Diff 5.10.1part03test10.diff Input File 5.10.2part03test10.m [x,x,x,x,x,x,x,x]. [x,-,-,-,-,g,x,-,x]. [x,-,-,2,-,x,-,-,x]. [x,-,x,-,-,-,-,x]. [x,-,1,-,-,-,x,x]. [x,-,-,-,x,-,-,x]. [x,-,-,-,-,-,-,x].

[x,-,-,-,x,-,x,-,x]. [x,x,x,x,x,x,x,x,x].

#### 5.10.3 Submission Output

part03test10.output

```
[x,x,x,x,x,x,x,x,x]

[x,-,-,-,-,g,x,-,x]

[x,-,x,-,-,-,-,x]

[x,-,1,-,-,-,-,x,x]

[x,-,-,-,-,-,x]

[x,-,-,-,-,x]

[x,-,-,-,x]

[x,-,-,x]

[x,-,-,x]

[x,-,-,x]

[x,x,x,x,x,x,x,x,x]
```

## 5.10.4 Solution Output

part03test10.output

```
[x,x,x,x,x,x,x,x,x,x]

[x,-,-,-,-,g,x,-,x]

[x,-,x,-,-,-,-,x]

[x,-,1,-,-,-,-,x,x]

[x,-,-,-,-,x,x]

[x,-,-,-,-,x,x]

[x,-,-,-,x,x]

[x,-,-,x,x,x,x,x,x,x,x]

true
```

5.10.5 stderr

part03test10.err

### 5.11 Source Code

noAdvantage(Maze):-

csce322a04part03.pl

```
2
                                 numberOfPlayers(Maze, PlayaNum),
                                  checkifPlayerIsInMaze(1, PlayaNum, Maze, Path1),
 3
 4
                                  checkifPlayerIsInMaze(2, PlayaNum, Maze, Path2),
                                  checkifPlayerIsInMaze(3, PlayaNum, Maze, Path3),
 6
                                  checkifPlayerIsInMaze(4, PlayaNum, Maze, Path4),
 7
                                 not(checkIfHasAdvantage(Path1, Path2, Path3, Path4)).
 8
 9
       checkifPlayerIsInMaze(PlayerNum, TotalPlayerCount, Maze, PathLength):-
                                  (PlayerNum = < TotalPlayerCount,
10
                                 findInMaze(Maze, PlayerNum, PlayerPosition),
11
12
                                  getShortestPath(Maze, PlayerPosition, ShortestPath)) ->
13
                                  (length(ShortestPath, Length),
                                 PathLength is Length); PathLength is 11.
14
15
16
        checkIfHasAdvantage(Path1, Path2, Path3, Path4):-
                                  (Path1 = < Path2), (Path1 = < Path3), (Path1 = < Path4).
17
18
        % ------ FROM PART 1 ------
19
20
21
      numberOfPlayersHelper([],0).
        numberOfPlayersHelper([Y|T],N1):-\ isValidPlayer(Y),numberOfPlayersHelper(T,N2),N1\ isValidPlayersHelper(T,N2),N1\ isValidPlayersHelper(T,N2),N2\ isValid
23
        numberOfPlayersHelper([_|T],N1):- numberOfPlayersHelper(T,N1).
```

```
24
25 numberOfPlayers([],0).
26
  numberOfPlayers([X|T],FinalNum):- numberOfPlayersHelper(X,NewNum),numberOfPlayers(T,
      TempNum), addNumbers (NewNum, TempNum, Sum), FinalNum is Sum.
27
  isValidPlayer(Num): - member(Num,[1,2,3,4]).
28
29
30 addNumbers(X,Y,Z):- Z is X+Y.
31
33
34 % findInMaze(Maze, Element, Position)
35 findInMaze([Row|_], What, (0, C)):-
       findInRow(Row, What, C).
36
37 findInMaze([_|Rows],What,(R,C)):-
38
       findInMaze(Rows, What, (TempR, C)),
       R is TempR + 1.
39
10
41 % findInRow([Col|Cols], What, Where)
42 findInRow([What|_],What,0).
43 findInRow([_|Tail],What,Where):-
14
       findInRow(Tail, What, TWhere),
15
       Where is TWhere + 1.
16
47 isWallOrPlayer(Element):- (Element==x; member(Element,[1,2,3,4])).
18
49 isGoal(Element):- Element==g.
50
51 checkIsGoal(X, Maze):-
52
           getValFromPosition(Maze, X, Val),
53
           isGoal(Val).
54
55 getAdjacentNode((X,Y), (AdjacentX,Y), Direction):- AdjacentX is X-1, Direction=u.
  getAdjacentNode((X,Y), (AdjacentX,Y), Direction):- AdjacentX is X+1, Direction=d.
56
57
  getAdjacentNode((X,Y), (X, AdjacentY), Direction):- AdjacentY is Y-1, Direction=1.
58
  getAdjacentNode((X,Y), (X, AdjacentY), Direction):- AdjacentY is Y+1, Direction=r.
59
30 slideFromToDirection(Maze, (X,Y), (SlideX,SlideY), Direction):-
           getAdjacentNode((X,Y), (AdjX,AdjY), Direction),
31
32
           getValFromPosition(Maze, (AdjX,AdjY), Val),
33
           ((isGoal(Val),SlideX is AdjX, SlideY is AdjY);
34
                   (not(isWallOrPlayer(Val)),
35
                           (slideFromToDirection(Maze, (AdjX, AdjY), (NextX, NextY),
      Direction) ->
36
                                   (SlideX is NextX, SlideY is NextY); (SlideX is AdjX,
      SlideY is AdjY))
37
                   )
38
           ) .
39
   getPathToGoal(Maze, (X,Y), TempPath, Path):-
70
           slideFromToDirection(Maze, (X,Y), (AdjX,AdjY), Direction),
71
72
           append(TempPath, [Direction], NewPath),
           findInMaze(Maze, g, GoalPosition),
73
           (GoalPosition == (AdjX, AdjY) -> Path = NewPath;
74
75
                   (length (NewPath, Length),
76
                   Length < 10,
                   getPathToGoal(Maze, (AdjX,AdjY), NewPath, Path)
77
78
                   )).
79
30 %getValFromPosition(Maze, Position, Val)
```

```
31 \text{ getValFromPosition(Maze, (X,Y), Val):-}
32
           nthO(X, Maze, Row),
33
           nthO(Y, Row, Elem),
34
           Val=Elem.
35
  getShortestPath(Maze, (X,Y), ShortestPath):-
37
       setof((Length,Path), (getPathToGoal(Maze, (X,Y), [], Path), length(Path, Length)),
       SortedPaths),
38
       nth0(0, SortedPaths, (ShortestLength,_)),
39
       member((ShortestLength, ShortestPath), SortedPaths).
```

# Chapter 6

[x,x,x,x,x,x] [x,-,-,x,x,x] [x,-,-,-,x] [x,-,-,-,x] [x,-,-,-,x] [x,-,-,x] [x,1,g,-,-,x] [x,-,2,-,x]

# csce322a04part04.pl

```
part04test01
6.1
6.1.1
       Diff
                                        part04test01.diff
       Input File
6.1.2
                                         part04test01.m
[x,x,x,x,x,x].
[x, -, -, x, x, x].
[x,-,-,-,x].
[x,-,-,-,-,x].
[x,-,-,-,x].
[x,-,-,-,x].
[x,1,g,-,-,x].
[x,-,2,-,-,x].
[x,x,x,x,x,x].
       Submission Output
                                       part04test01.output
[x,x,x,x,x,x]
[x,-,-,x,x,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,1,g,-,-,x]
[x,-,2,-,-,x]
[x,x,x,x,x,x]
false
6.1.4
       Solution Output
```

part04test01.output

```
[x,x,x,x,x]
false
6.1.5 stderr
                                      part04test01.err
6.2
     part04test02
6.2.1
     Diff
                                      part04test02.diff
6.2.2
     Input File
                                      part04test02.m
[x,x,x,x,x,x,x,x].
[x,-,-,-,-,x,-,1,x].
[x,-,-,-,g,-,-,x].
[x,-,-,-,-,-,x].
[x,-,-,-,-,-,2,x].
[x,-,-,-,-,-,x].
[x,-,-,3,-,-,-,x].
[x,-,-,x,-,-,x,x,x].
[x,x,x,x,x,x,x,x].
6.2.3 Submission Output
                                    part04test02.output
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,x,-,1,x]
[x,-,-,-,g,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,2,x]
[x,-,-,-,-,-,x]
[x,-,-,3,-,-,-,x]
[x,-,-,x,-,-,x,x,x]
[x,x,x,x,x,x,x,x]
true
6.2.4
      Solution Output
                                    part04test02.output
[x,x,x,x,x,x,x,x,x]
[x,-,-,-,x,-,1,x]
[x,-,-,-,g,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,2,x]
[x,-,-,-,-,x]
[x,-,-,3,-,-,-,x]
[x, -, -, x, -, -, x, x, x]
[x,x,x,x,x,x,x,x]
true
6.2.5
     stderr
```

part04 test02.err

# 6.3 part04test03 Diff 6.3.1 part04test03.diff 6.3.2Input File part04test03.m [x,x,x,x,x,x,x,x,x]. [x,-,-,-,-,-,-,g,x]. [x,-,-,x,-,-,-,-,x]. [x,1,-,-,-,x,-,2,x]. [x,-,-,-,-,-,-,-,x]. [x,-,-,-,3,-,-,-,x]. [x,-,-,x,-,-,x]. [x,-,-,-,-,x,-,-,x]. [x,x,x,x,x,x,x,x,x]. 6.3.3 Submission Output part04test03.output [x, x, x, x, x, x, x, x, x, x][x,-,-,-,-,-,-,g,x][x,-,-,x,-,-,-,-,x][x,1,-,-,-,x,-,2,x][x,-,-,-,-,-,-,x][x,-,-,-,3,-,-,-,x][x,-,-,x,-,-,x,-,-,x][x,-,-,-,x,-,-,x] [x,x,x,x,x,x,x,x,x,x]true 6.3.4Solution Output part04test03.output [x,x,x,x,x,x,x,x,x,x][x,-,-,-,-,-,-,g,x][x,-,-,x,-,-,-,-,x][x,1,-,-,-,x,-,2,x][x,-,-,-,-,-,-,x][x,-,-,-,3,-,-,-,x][x,-,-,x,-,-,x,-,-,x][x,-,-,-,x,-,-,x] [x,x,x,x,x,x,x,x,x]6.3.5stderr part04test03.err 6.4 part04test04 6.4.1Diff part04test04.diff

6.4.2 Input File

#### part04test04.m

```
[x,x,x,x,x,x,x,x,x].
[x,-,-,-,x,-,-,x].
[x,x,x,-,2,x,-,-,x].
[x,-,-,1,-,-,-,-,x].
[x,-,-,-,-,-,-,x].
[x,-,-,-,x,-,-,-,x].
[x,-,-,-,x,-,-,-,x].
[x,-,-,-,-,x,-,-,x].
[x,x,x,x,x,x,x,x,x].
```

## 6.4.3 Submission Output

```
part04test04.output

[x,x,x,x,x,x,x,x,x]
[x,-,-,-,x,-,-,x]
[x,-,-,-,-,-,-,x]
[x,-,-,-,-,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,x,x,x,x,x,x,x,x]
```

## 6.4.4 Solution Output

true

```
part04test04.output

[x,x,x,x,x,x,x,x,x]
[x,-,-,-,x,-,-,x]
[x,x,x,-,2,x,-,-,x]
[x,-,-,-,-,-,-,x]
[x,-,-,-,-,-,-,x]
[x,-,-,-,x,-,-,-,x]
[x,-,-,-,-,-,-,x]
[x,-,-,-,-,-,-,x]
[x,x,x,x,x,x,x,x,x]
true

6.4.5 stderr
```

part04test04.err

```
6.5 part04test05
```

6.5.1 Diff

part04test05.diff

6.5.2 Input File

part04test05.m

```
[x,x,x,x,x,x,x,x,x].
[x,-,-,-,1,-,-,x].
[x,2,-,-,-,3,-,x].
[x,-,g,-,-,-,x].
```

```
[x,-,x,-,x,-,-,x].
[x,-,-,x,x,-,-,x].
[x,x,x,x,x,x,x,x].
6.5.3 Submission Output
                                      part04test05.output
[x,x,x,x,x,x,x]
[x,-,-,-,1,-,-,x]
[x,2,-,-,3,-,x]
[x,-,g,-,-,-,x]
[x,-,x,-,x,-,-,x]
[x,-,-,x,x,-,-,x]
[x,x,x,x,x,x,x,x]
true
6.5.4
      Solution Output
                                      part04test05.output
[x,x,x,x,x,x,x]
[x,-,-,1,-,-,x]
[x,2,-,-,3,-,x]
[x,-,g,-,-,-,x]
[x,-,x,-,x,-,-,x]
[x,-,-,x,x,-,-,x]
[x,x,x,x,x,x,x]
true
6.5.5
      stderr
                                       part04test05.err
      part04test06
6.6
6.6.1
     Diff
                                       part04test06.diff
6.6.2
      Input File
                                        part04test06.m
[x,x,x,x,x,x,x,x].
[x,-,-,-,-,4,-,x].
[x,-,-,x,-,-,x].
[x,-,-,1,-,x,-,x].
[x,x,x,x,-,-,x,x].
[x,x,-,-,-,-,x].
[x,-,-,-,-,x].
[x,-,g,-,-,3,x].
[x,-,-,2,-,-,x].
[x, x, x, x, x, x, x, x].
6.6.3 Submission Output
                                      part04test06.output
[x,x,x,x,x,x,x]
[x,-,-,-,-,4,-,x]
[x,-,-,x,-,-,x]
```

[x,-,-,1,-,x,-,x]

```
[x,x,x,x,-,-,x,x]
[x,x,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,g,-,-,-,3,x]
[x,-,-,2,-,-,x]
[x,x,x,x,x,x,x,x]
```

### 6.6.4 Solution Output

part04test06.output

```
[x,x,x,x,x,x,x,x]
[x,-,-,-,-,-,-,x]
[x,-,-,1,-,x,-,x]
[x,x,x,x,-,-,x,x]
[x,x,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,-,-,-,x]
[x,-,-,2,-,-,x]
[x,x,x,x,x,x,x,x]
false
```

6.6.5 stderr

part04test06.err

# 6.7 part04test07

6.7.1 Diff

part04test07.diff

#### 6.7.2 Input File

part04test07.m

```
[x,x,x,x,x,x,x,x,x,x].

[x,-,-,-,-,-,-,-,x].

[x,-,-,-,-,-,-,2,-,x].

[x,-,-,-,-,4,-,-,1,x].

[x,-,-,-,-,g,-,-,-,x].

[x,-,-,-,-,-,-,x].

[x,-,-,-,-,-,-,x].

[x,-,-,-,-,-,x].

[x,-,-,-,-,x].
```

#### 6.7.3 Submission Output

part04test07.output

#### 6.7.4 Solution Output

```
part04test07.output
[x,x,x,x,x,x,x,x,x,x]
[x,-,-,-,x,-,-,-,x]
[x,-,-,-,-,-,2,-,x]
[x,-,-,-,-,4,-,-,1,x]
[x,-,-,-,-,g,-,-,-,x]
[x, -, -, -, -, -, -, x, x]
[x,-,-,-,-,-,3,-,x]
[x,-,-,-,x,x,-,-,x]
[x,x,x,x,x,x,x,x,x,x]
false
6.7.5
      stderr
                                        part04test07.err
6.8
      part04test08
6.8.1
      Diff
                                       part04test08.diff
6.8.2
      Input File
                                        part04test08.m
[x,x,x,x,x,x,x].
[x,4,2,-,-,-,x].
[x,g,-,-,-,x].
[x,3,x,-,-,-,x].
[x,-,-,x,-,-,x].
[x,-,-,-,x].
[x,-,-,-,-,x].
[x,1,-,-,-,x].
[x,-,-,-,x,x].
[x,x,x,x,x,x,x].
6.8.3 Submission Output
                                      part04test08.output
[x,x,x,x,x,x,x]
[x,4,2,-,-,-,x]
[x,g,-,-,-,x]
[x,3,x,-,-,-,x]
[x,-,-,x,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,1,-,-,-,x]
[x,-,-,-,x,x]
[x,x,x,x,x,x,x]
true
6.8.4
      Solution Output
                                      part04test08.output
```

[x,x,x,x,x,x,x][x,4,2,-,-,-,x]

```
[x,g,-,-,-,x]
[x,3,x,-,-,x]
[x,-,-,x,-,-,x]
[x,-,-,-,x]
[x,-,-,-,x]
[x,1,-,-,-,x]
[x,-,-,-,x,x]
[x,x,x,x,x,x]
true
6.8.5 stderr
                                       part04test08.err
6.9
      part04test09
     Diff
6.9.1
                                       part04test09.diff
6.9.2 Input File
                                       part04test09.m
[x, x, x, x, x, x, x, x].
[x,1,g,-,-,-,x].
[x,-,-,-,x,-,x].
[x,-,-,-,x,-,2,x].
[x,-,-,-,-,-,x].
[x,x,x,x,x,x,x,x].
6.9.3 Submission Output
                                     part04test09.output
[x,x,x,x,x,x,x]
[x,1,g,-,-,-,x]
[x,-,-,-,x,-,x]
[x,-,-,-,x,-,2,x]
[x,-,-,-,-,-,x]
[x,x,x,x,x,x,x]
true
6.9.4
      Solution Output
                                     part04test09.output
[x,x,x,x,x,x,x]
[x,1,g,-,-,-,x]
[x,-,-,-,x,-,x]
[x,-,-,-,x,-,2,x]
[x,-,-,-,-,x]
[x,x,x,x,x,x,x]
true
6.9.5
     stderr
                                       part04test09.err
```

6.10 part 0.4 test 10

6.10.1 Diff

#### 6.10.2 Input File

part04test10.m

```
[x,x,x,x,x,x,x,x,x].

[x,-,1,-,-,-,-,x].

[x,4,-,g,-,-,-,x].

[x,2,3,-,-,-,x].

[x,x,x,x,x,x,x,x].
```

#### 6.10.3 Submission Output

part04test10.output

```
[x,x,x,x,x,x,x,x]
[x,-,1,-,-,-,x]
[x,4,-,g,-,-,-,x]
[x,2,3,-,-,-,x]
[x,x,x,x,x,x,x,x]
```

#### 6.10.4 Solution Output

part04test10.output

```
[x,x,x,x,x,x,x,x]
[x,-,1,-,-,-,x]
[x,4,-,g,-,-,-,x]
[x,2,3,-,-,-,x]
[x,x,x,x,x,x,x,x]
```

6.10.5 stderr

part04test10.err

#### 6.11 Source Code

csce 322a 04 part 04.pl

```
goalWall(Maze):-
2
           findInMaze(Maze, g, Location),
3
            (isRightToWall(Location, Maze);
4
                    isLeftToWall(Location, Maze);
                    isBelowToWall(Location, Maze);
6
                    isAboveToWall(Location, Maze)).
7
8
  isWall(Element):- Element == x.
9
  % findInMaze(Maze, Element, Position)
10
  findInMaze([Row|_],What,(0,C)):-
11
12
       findInRow(Row, What, C).
  findInMaze([_|Rows],What,(R,C)):-
13
       findInMaze(Rows, What, (TempR, C)),
14
15
       R is TempR + 1.
16
  % findInRow([Col|Cols], What, Where)
17
  findInRow([What|_],What,0).
18
19
  findInRow([_|Tail],What,Where):-
20
       findInRow(Tail, What, TWhere),
```

```
21
     Where is TWhere + 1.
22
23 isRightToWall((X,Y), Maze):-
24
           RowNum is X,
25
          ColNum is Y-1,
26
          nthO(RowNum, Maze, Row),
           nthO(ColNum, Row, Elem),
27
28
           isWall(Elem).
29
30 isLeftToWall((X,Y), Maze):-
31
          RowNum is X,
32
           ColNum is Y+1,
33
          nthO(RowNum, Maze, Row),
34
           nthO(ColNum, Row, Elem),
35
           isWall(Elem).
36
37 isAboveToWall((X,Y), Maze):-
38
          RowNum is X-1,
39
           ColNum is Y,
10
           nthO(RowNum, Maze, Row),
11
           nthO(ColNum, Row, Elem),
12
           isWall(Elem).
43
14 isBelowToWall((X,Y), Maze):-
45
          RowNum is X+1,
           ColNum is Y,
16
           nthO(RowNum, Maze, Row),
17
18
          nthO(ColNum, Row, Elem),
19
           isWall(Elem).
```

# Chapter 7

# helpers.pl

# 7.1 Source Code

```
helpers.pl
  :- module( helpers,
             [ readMazeGame/2
3
             , printMazeGame/1
5
       ).
   readMazeGame(File, Maze):-
8
       open(File, read, Input),
9
       readMaze(Input, Maze),
10
       close(Input).
11
12 readMaze(Input,[]):-
       at_end_of_stream(Input),
13
14
  readMaze(Input,[Row|Rows]):-
16
       \+ at_end_of_stream(Input),
17
       read(Input,Row),
       readMaze(Input,Rows).
18
19
   printMazeGame([]).
   printMazeGame([Row|Rows]):-
22
       writeln(Row),
23
       printMazeGame(Rows).
```