The game that we are going to test is battleship without GUI, all the functionalities of the game are performed in console.

The github repository of this game is forked to us account in this location: https://github.com/AdriaOrozco/BattleShipTesting

The original github repository of this game is:

https://github.com/cristianve/BattleShipTesting

TEST CASES:

Test	Case ID			TC_Smoke_01			
Desc	cription	Set boat in the first p	osition for tr				
Mod	ule	BattleShip					
	ared By	Adrià Orozco	Date I	Prepared	30/11/2020		
	ewed / Updated	Arnau Cruz	Date F	Reviewed 03/12/2020			
Test	ed By	Adrià and Arnau		Date Tested 03/12/2020			
			Test	Activities			
SI. No.	Ste	p Description		E	xpected Resu	llts	Actual Results
1.	Run the project		Starte	r menu of battle	ship game		Ok
2.	Write 1 to start th	ne game	Game	started			Ok
3.	Set X coordinate			am ask for the Y	coordinate		Ok
4.	Set Y coordinate			am ask for the o			Ok
5.	. Set Orientation			nserted correctly			Ok
			Progra	am ask for the X	coordinate of	the next boat	Ok
			Tost	Data Sets			
	Data Type	Data Set 1			Set 2	Data Set	3
	ordinate	1		1			
	ordinate	1		1			
Orier	ntation	0 (Right)		(Down)			
Test	Case Result			Both Datasets	results are co	rrect.	
Toot	Caso ID			TC Sm	oka 02		

Test	Case ID		TC_Sn	noke_02		
Desc	ription	Set boat in the last po	ositions for true values			
Module BattleShip.java						
Prepared By Adrià Orozco			Date Prepared	30/11/2020		
Reviewed / Updated Arnau Cruz			Date Reviewed	03/12/2020		
Teste	Tested By Adrià and Arnau		Date Tested	03/12/2020		
			Test Activities			
SI.	Step	Description	E	Expected Results		
No.					Results	
1.	Run the project		Starter menu of battle	Starter menu of battleship game		
2.	Write 1 to start the	game	Game started		Ok	

3.	Set X coordinate		Progra	m ask for the Y	coordinate		Ok
4.	Set Y coordinate			nm ask for the or			Ok
5.	Set Orientation			nserted correctly			Put the
٥.	Oct Officilitation		Doat ii	iscriba correctly			boat in
							another
							direction
			Progra	m ask for the X	coordinate of the	e next boat	Ok
			riogio	- OK			
			Test	Data Sets			
	Data Type	Data Set 1			Set 2	Data Set	3
X Cc	ordinate	10		10			
Y Co	ordinate	10		10			
Orie	ntation	2 (Up)		3(Left)			
		\ , ,					
Tost	Case Result			Roth of Datase	ite ineart a hoat i	 n another direction, Iı	n the case
1621	Case Result			pat to the left, and in t			
					eft" insert the bo		ille case of
				T Ordeniador E		ат арогао.	
	Case ID			TC_Smo	oke_02		
Desc	cription	Set boat in the next limit	values (1,10)			
Mod	ule	BattleShip.java					
	ared By	Adrià Orozco		Prepared	30/11/2020		
Revi	ewed / Updated	Arnau Cruz		Reviewed	03/12/2020		
Test	ed By	Adrià and Arnau	Date 1		03/12/2020		
SI.	Ston	Description	Test	Activities	spected Results		Actual
No.	Step	Description		Ε)	cpecied Results		Results
1.	Run the project		Starte	r menu of battles	hip game		Ok
2.	Write 1 to start the	game		started			Ok
3.	Set X coordinate		Progra	m ask for the Y	coordinate		Ok
4.	Set Y coordinate		Progra	m ask for the or	ientation		OK
5.	Set Orientation			nserted correctly			Ok
	5. Set Orientation			-			
1							Ok
							Ok Put the
							Ok Put the boat in another direction
			Progra	nm ask for the X	coordinate of the	e next boat	Ok Put the boat in another
			Progra	nm ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction
			Progra	am ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction
			Progra	am ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction
			Progra	am ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction
			Progra	am ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction
			Progra	am ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction
			Progra	am ask for the X	coordinate of the	e next boat	Ok Put the boat in another direction

Test Case Result

			Toot	Data Sets			
	Data Type	Data Set 1	rest	Data Sets Data	Sat 2	Data Set 3	
Y Co	ordinate	1		1	OCI Z	Data Set S	
	ordinate	10		10			
	tation	3 (Left)		1(Down)			
Onen	itation	3 (Leit)		T(DOWII)			
Test	Case Result					 s incorrect according to on left and up has to b	
Test	Case ID			TC_Smc	oke 02		
	Description Set boat in the next lin				·		
Modu	•	BattleShip.java		, -,			
	Prepared By Adrià Orozco		Date F	Prepared	30/11/2020		
	ewed / Updated	Arnau Cruz		Reviewed	03/12/2020		
	ed By	Adrià and Arnau	Date Tested 03/12/2020				
10310	, a by	7 dila alla 7 illaa		Activities	00/12/2020		
SI. No.	SI. Step Description Expec				pected Results	3	Actual Results
1.	Dup the project		Storto	manu of hattlas	hin gama		Ok
2.	Run the project	~~~~		menu of battles	nip game		Ok
3.	Write 1 to start the Set X coordinate	game			no ordinata		Ok
				m ask for the Y			
4.	Set Y coordinate		Program ask for the orientation				Ok
5.	Set Orientation		Boat inserted correctly Program ask for the X coordinate of the next boat				Ok Ok
			Test	Data Sets			
	Data Type	Data Set 1		Data	Set 2	Data Set 3	
	ordinate	1		1			
Y Co	ordinate	10		10			
	tation	3 (Left)		1(Down)			

Correct Result for Dataset 2

Lest	Case ID			TC Sm	noke 03				
	cription	Set boat in the next lim	it values (10110_00				
Mod		BattleShip.java	10 1011010 (,-,					
	ared By	Adrià Orozco	Date F	Prepared	30/11/2020				
	ewed / Updated	Arnau Cruz		Reviewed	03/12/2020				
	ed By	Adrià and Arnau		Tested	03/12/2020				
1000	ou by	7 taria aria 7 triad		Activities	00/12/2020				
SI.	Sten	Description	1		xpected Results		Actual		
No.	Ctop	2000		_	mpootou recount		Results		
1.	Run the project		Starte	r menu of battle	ship game		Ok		
2.	Write 1 to start the	game		started			Ok		
3.	Set X coordinate	9		am ask for the Y	coordinate		Ok		
4.	Set Y coordinate		Progra		Ok				
5.	Set Orientation			nserted correctl			Put the		
٥.	Cot Onomation		Dout ii	1001104 00110011	,		boat in		
							another		
							direction		
			Progra	am ask for the X	coordinate of the	e next boat	Ok		
			Test	Data Sets					
	Data Type	Data Set 1			a Set 2	Data Set 3	3		
	ordinate	1		l 1					
		l 10							
Orie		Y Coordinate 10		10					
	ntation	2(Up)		10 0(Right)					
	ntation								
				0(Right)					
Test	Case Result			0(Right) For the first D		s incorrect according			
Test				0(Right) For the first D that the game	haves (Orientation	s incorrect according on left and up has to b			
Test				0(Right) For the first D	haves (Orientation	•			
	Case Result			O(Right) For the first D that the game interchanged)	haves (Orientation	•			
Test	Case Result Case ID	2(Up)		O(Right) For the first D that the game interchanged) TC_Sn	haves (Orientation	•			
Test	Case Result Case ID cription	2(Up) Set boat in the next lim	it values (O(Right) For the first D that the game interchanged) TC_Sn	haves (Orientation	•			
Test Desc Mod	Case Result Case ID cription ule	2(Up) Set boat in the next lim BattleShip.java	,	O(Right) For the first D that the game interchanged) TC_Sn 10,0)	haves (Orientation	•			
Test Desc Mod Prep	Case Result Case ID cription ule pared By	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco	Date I	O(Right) For the first D that the game interchanged) TC_Sm 10,0)	haves (Orientation noke_03	•			
Test Desc Mod Prep Revi	Case Result Case ID cription ule bared By ewed / Updated	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz	Date I	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed	haves (Orientation) noke_03 30/11/2020 03/12/2020	•			
Test Desc Mod Prep Revi	Case Result Case ID cription ule pared By	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco	Date I	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed Fested	haves (Orientation noke_03	•			
Test Desc Mod Prep Revi Test	Case Result Case ID cription ule bared By ewed / Updated ed By	Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz Adrià and Arnau	Date I	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed Fested Activities	noke_03 30/11/2020 03/12/2020 03/12/2020	on left and up has to b	e		
Test Desc Mod Prep Revi	Case Result Case ID cription ule bared By ewed / Updated ed By	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz	Date I	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed Fested Activities	haves (Orientation) noke_03 30/11/2020 03/12/2020	on left and up has to b			
Test Desc Mod Prep Revi Test SI. No.	Case Result Case ID cription ule bared By ewed / Updated ed By	Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz Adrià and Arnau	Date I Date I Date I Test	TC_Sn 10,0) Prepared Reviewed Fested Activities T (Right)	noke_03 30/11/2020 03/12/2020 03/12/2020 Expected Results	on left and up has to b	e Actual		
Test Desc Mod Prep Revi Test	Case Result Case ID cription ule pared By ewed / Updated ed By Step	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz Adrià and Arnau Description	Date I Date I Date I Test	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed Fested Activities	noke_03 30/11/2020 03/12/2020 03/12/2020 Expected Results	on left and up has to b	Actual Results		
Test Desc Mod Prep Revi Test SI. No.	Case Result Case ID cription ule pared By ewed / Updated ed By Step Run the project	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz Adrià and Arnau Description	Date II Date II Date II Test Starte Game	TC_Sn 10,0) Prepared Reviewed Fested Activities T (Right)	30/11/2020 03/12/2020 03/12/2020 Expected Results	on left and up has to b	Actual Results Ok		
Test Desc Mod Prep Revi Test SI. No. 1. 2.	Case ID cription ule pared By ewed / Updated ed By Step Run the project Write 1 to start the	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz Adrià and Arnau Description	Date II Date II Date II Test Starte Game Progra	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed Fested Activities r menu of battle	haves (Orientation haves (Orientation haves) 30/11/2020 03/12/2020 03/12/2020 Expected Results ship game	on left and up has to b	Actual Results Ok Ok		
Test Desc Mod Prep Revi Test SI. No. 1. 2. 3.	Case Result Case ID cription ule pared By ewed / Updated ed By Step Run the project Write 1 to start the Set X coordinate	2(Up) Set boat in the next lim BattleShip.java Adrià Orozco Arnau Cruz Adrià and Arnau Description	Date II Date II Date II Test Starte Game Progra	For the first D that the game interchanged) TC_Sn 10,0) Prepared Reviewed Fested Activities r menu of battle started am ask for the N	anoke_03 30/11/2020 03/12/2020 03/12/2020 Expected Results ship game coordinate rientation	on left and up has to b	Actual Results Ok Ok Ok		

			Test	Data Sets			
	Data Type	Data Set 1		Data	Set 2	Data Set 3	
X Co	ordinate	1		1			
Y Co	ordinate	10		10			
Orier	ntation	ation 2(Up)		0(Right)			
Test	Case Result			Result for data	set2 is correct		
Test Case ID				TC_Sm			
Description Set boat in a middle value			e of the i	matrix expecting	true results (5,5)	
Module BattleShip.java							
	Prepared By Adrià Orozco			repared	03/12/2020		
	ewed / Updated	Arnau Cruz		Reviewed	03/12/2020		
Test	ed By	Adrià and Arnau	Date T		03/12/2020		
			Taet	Activities			
			1030	Activities			
SI. No.	Step	Description	TCSC.		spected Results		Actual Results
	Step Run the project	Description					
No.	Run the project Write 1 to start the	•	Starter	E			Results Ok Ok
No. 1.	Run the project	•	Starter Game	menu of battles	hip game		Results Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra	menu of battles started m ask for the Y m ask for the or	hip game coordinate ientation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3.	Run the project Write 1 to start the Set X coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in	menu of battles started m ask for the Y m ask for the or eserted correctly	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	•	Starter Game Progra Progra Boat in Progra	menu of battles started m ask for the Y m ask for the oriserted correctly m ask for the X	hip game coordinate ientation		Results Ok Ok Ok Ok Ok Ok Ok
1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation	game	Starter Game Progra Progra Boat in Progra	menu of battles started m ask for the Y m ask for the or iserted correctly m ask for the X Data Sets	hip game coordinate ientation coordinate of the	next boat	Results Ok Ok Ok Ok Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation	game Data Set 1	Starter Game Progra Progra Boat in Progra	menu of battles started m ask for the Y m ask for the oriserted correctly m ask for the X Data Sets	hip game coordinate ientation	next boat Data Set 3	Results Ok Ok Ok Ok Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate	game Data Set 1	Starter Game Progra Progra Boat in Progra	menu of battles started m ask for the Y m ask for the or serted correctly m ask for the X Data Sets Data	hip game coordinate ientation coordinate of the	next boat	Results Ok Ok Ok Ok Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate ordinate	game Data Set 1 5 5	Starter Game Progra Progra Boat in Progra	menu of battles started m ask for the Y m ask for the oriserted correctly m ask for the X Data Sets Data 5 5	hip game coordinate ientation coordinate of the	Data Set 3 5	Results Ok Ok Ok Ok Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate	game Data Set 1	Starter Game Progra Progra Boat in Progra	menu of battles started m ask for the Y m ask for the or serted correctly m ask for the X Data Sets Data	hip game coordinate ientation coordinate of the	next boat Data Set 3	Results Ok Ok Ok Ok Ok Ok Ok Ok

Test	Case Result			Result for Da	taset1 and 2 are	correct	Result for Dataset1 and 2 are correct			
Test	Case ID			TC_Smoke_0)4					
	ription			Set boat in a middle value of the matrix expecting true results						
	, iption			(5,5)						
Mod	ule			BattleShip.java						
	ared By	Adrià Orozco	Date F	Date Prepared 03/12/2020						
Revi	ewed / Updated	Arnau Cruz		Reviewed	03/12/2020					
	ed By	Adrià and Arnau	Date 1	Tested	03/12/2020					
			Test	Activities						
SI.	Ste	p Description		E	Expected Result	S		Actua		
No.		•			•			Result		
	Run the project		Starte	r menu of battle	ship game			Ok		
2.	Write 1 to start t	he game	Game started					Ok		
3.	Set X coordinate)		m ask for the \				Ok		
1.	Set Y coordinate	9		ım ask for the c				Ok		
5.	Set Orientation		Boat in	nserted correctl	У			Put the		
								boat in		
								anothe		
								direction		
								۱		
			Program ask for the X coordinate of the next boat					Ok		
		5.0.11	Test	Data Sets	0.10		5 4 6 4 6			
	Data Type	Data Set 1			a Set 2	_	Data Set 3			
	ordinate	5		5		5				
	ordinate	5		5		5				
<u>Jrier</u>	ntation	0(Right)		1(Down)		2(Left)				
						1				
T 1	Ossa Darrill			F 0 . 0 . 15	2-111					
ı est	Case Result				Dataset the resul					
					haves (Orientat	ion left and	up has to b	е		
				interchanged))					

Test Case ID				TC_Smoke_05		
Description			Set boat on and	other boat		
Module			BattleShip.java			
Prepared By	Adrià Orozco	Date P	repared	03/12/2020		
Reviewed / Updated	Reviewed / Updated Arnau Cruz D		Date Reviewed 03/12/2020			
Tested By	Adrià and Arnau	Date T	Date Tested 03/12/2020			
		Test	Activities			
SI. Step Description		Expected Results		Actual		
No.					Results	

1.	Run the project	un the project		r manu of hattles	Starter menu of battleship game				
2.	Write 1 to start the	name		started	nip game		Ok Ok		
3.	Set X coordinate	game		am ask for the Y	coordinate		Ok		
4.	Set Y coordinate			am ask for the ori			Ok		
5.	Set Orientation			nserted correctly	Citation		Ok		
0.	Cot Chomation			am ask for the X	coordinate of the	next boat	Ok		
6.	Set X coordinate			am ask for the Y			Ok		
7.	Set Y coordinate			Program ask for the orientation					
8.	Set Orientation			Boat not inserted					
			Progra	am ask for the firs	st X coordinate a	gain	Ok		
			Test	Data Sets					
	Data Type	Data Set 1		Data	Set 2	Data Set	3		
	ordinate	5		5					
Y Co	ordinate	5		5					
Orie	Orientation 0(Right)			1(Down)					
Test	Case Result			Correct Result					
Test	Case ID			TC Smoke 06					
Desc	cription			Set the last coordinate of boat on another boat					
Mod	ule			BattleShip.java					
Prep	ared By	Adrià Orozco	Date F	Date Prepared 03/12/2020					
Revi	iewed / Updated	Arnau Cruz	Date F	Reviewed	03/12/2020				
Test	ed By	Adrià and Arnau	Date 7	Fested	03/12/2020				
			Test	Activities					
SI.	Step	Description		Ex	pected Results		Actual		
No.							Results		
1.	Run the project			r menu of battles	hip game		Ok		
2.	Write 1 to start the	game		started			Ok		
3.	Set X coordinate			am ask for the Y			Ok		
4.	Set Y coordinate			am ask for the ori	entation		Ok		
5.	Set Orientation			nserted correctly	a a a unition and the section		Ok		
	Oat V ====:			am ask for the X		next boat	Ok		
6.	Set X coordinate			am ask for the Y			Ok		
7.	Set Y coordinate			am ask for the ori	entation		Ok		
8.	Set Orientation			not inserted am ask for the firs	et Y coordinate a	gain	Ok Ok		
			Flogra	ani ask ioi liie iiis	st v continuitier a	yalli	OK .		
	1		1				i		

Test Data Sets							
Data Type	Data Set 1	Data Set 2	Data Set 3				
X Coordinate	5	3					
Y Coordinate	5	5					
Orientation	0(Right)	1(Down)					
Test Case Result		Correct Result					

Test	Case ID			TC_Smoke_07			
Desc	ription			Set invalid coor	dinates		
Mod	ule			BattleShip.java			
Prep	ared By	Adrià Orozco	Date F	Prepared	03/12/2020		
Revi	ewed / Updated	Arnau Cruz	Date F	Reviewed	03/12/2020		
Test	ed By	Adrià and Arnau	Date 1	Tested Tested	03/12/2020		
			Test	Activities			
SI. No.	Step	Description		Ex	pected Results		Actual Results
1.	Run the project		Starte	r menu of battlest	nip game		Ok
2.	Write 1 to start the game Game started						Ok
3.	Set X coordinate		Progra	nm ask for the Y	coordinate		Ok
4.	Set Y coordinate		m ask for the ori	entation		Ok	
5.	Set Orientation			nserted correctly			Ok
			Program ask for the X coordinate of the next boat				Ok
6.	Set X coordinate		Program ask again for the X coordinate				Ok
			Test	Data Sets			
	Data Type	Data Set 1	- 1001	Data	Set 2	Data Set	3
X Co	ordinate	-1		-9		11	
	ordinate	5		5		5	
	ntation	0(Right)		1(Down)		0(Right)	
				- /		, , , , , , , , , , , , , , , , , , ,	
Test	Case Result			Correct Result			

Test	Case ID			TC_Smoke_08		
Desc	ription			Shoot boat		
Module				BattleShip.java		
Prepared By Adrià Orozco Date P		repared	03/12/2020			
Revi	Reviewed / Updated Arnau Cruz Dat		Date R	Reviewed	03/12/2020	
Teste	ed By	Adrià and Arnau	Date T	ested	03/12/2020	
			Test	Activities		
SI.	SI. Step Description		Expected Results		Actual	
No.						Results

Run the project

l.	Run the project		Starter	Thenu of bat	liesnip game			Ok
2.	Write 1 to start the	game	Game	Game started				
3.	Insert all the boats		Choos	Choose a coordinate to shoot				
4.	Set X coordinate		Set Y	coordinate				Ok
5.	Set Y coordinate		Result	of the Shoot				Ok
6.	Set X coordinate			Set Y coordinate				Ok
7.	Set Y coordinate			of the Shoot				Ok
8.	oct i occidinate		- result	01 1110 011001				- Oil
9.								
<u> </u>								
			Test	Data Sets				
	Data Type	Data Set 1			ata Set 2		Data Set 3	
X Cc	ordinate	5		9		7		
	ordinate	5		9		7		
	oramato					•		
Test	Case Result			Correct Res	sult, Shows the c	orrect respon	se to the int	eraction
. 00.	rest dase nesult			with the user. Miss or Hit.				
				1 1111111111111111111111111111111111111	311 141100 01 1 11111			
Test	: Case ID			TC_Smoke	09			
	cription			Sunk boat				
Mod				BattleShip.j	ava			
	pared By	Adrià Orozco	Date F	Prepared	03/12/2020			
	iewed / Updated	Arnau Cruz		Reviewed	03/12/2020			
	ed By	Adrià and Arnau	Date 1		03/12/2020			
	.ou	Trana ana tinaa		Activities	00/12/2020			
SI.	Sten	Description	1000	71011711100	Expected Resi	ılte		Actual
No.	Otop	Description		Expedied Results				
1.	Run the project		Starte	r menu of bat	tleship game			Results Ok
2.	Write 1 to start the	game		started				Ok
3.	Insert all the boats			e a coordinat	te to shoot			Ok
<u> </u>	Set X coordinate			coordinate				Ok
5 .	Set Y coordinate			of the Shoot				Ok
6.	Set X coordinate			coordinate				Ok
7.	Set Y coordinate			of the Shoot				Ok
7. 8.				coordinate				Ok
9.				Result of the Shoot (Sunked)				Shows
J.	Oct i coordinate		resuit	or the onoot	(Garikea)			only
								that the
								boat is
								hit
								1111
	Í.							

Starter menu of battleship game

Ok

Test Data Sets							
Data Type	Data Set 1	Data Set 2	Data Set 3				
X Coordinate	5	9	9				
Y Coordinate	5	9	10				
Test Case Result		Incorrect Result, the game must show that the boat is sunk, we only know that we hit the boat, but never when we sunke it					

Test	Case ID			TC_Smoke_10				
Desc	ription			Invalid coordinates to shoot a boat				
Mod	ule			BattleShip.java				
Prep	ared By	Adrià Orozco	Date F	Prepared	03/12/2020			
	ewed / Updated	Arnau Cruz	Date F	Reviewed	03/12/2020			
Test	ed By	Adrià and Arnau		Tested	03/12/2020			
			Test	Activities				
SI. No.		Description			pected Result	S		Actual Results
1.	Run the project			r menu of battles	hip game			Ok
2.	Write 1 to start the	e game		started				Ok
3.				e a coordinate to				Ok
4.	4. Set X coordinate		Set ag	ain the X coording	nate			Ok
				D 1 0 1				
	Doto Type	Data Set 1	lest	Data Sets Data	Sat 2		Data Set	2
V Co	71			11	Jel Z	10	Dala Sel	ა
	ordinate ordinate	-1 5		10		19 7		
1 00	orumate	J		10		1		
Test	Case Result			Correct Result		1		
	Case ID			TC_Smoke_11				
Desc	cription			Shoot a boat co	oordinate that is	already s	hooted	

Test	Test Case ID			TC_Smoke_11			
Desc	Description			Shoot a boat of	coordinate that is already shooted		
Module			BattleShip.java	a			
Prep	ared By	Adrià Orozco	Date F	Prepared	03/12/2020		
Revi	Reviewed / Updated Arnau Cruz Da		Date F	Reviewed 03/12/2020			
Teste	Tested By Adrià and Arnau Date T		ested	03/12/2020			
	Test Activities						
SI.	SI. Step Description		Expected Results		Actual		
No.						Results	

1.	Pun the project		Ctarta	many of hottle	chin gama		Ok
2.	Run the project Write 1 to start the	gama		menu of battle	silip yaille		Ok
3.	Insert all the boats		Game started Choose a coordinate to shoot				Ok
					to shoot		
4. 5.	Set X coordinate Set Y coordinate		Set Y coordinate Result of the Shoot				Ok Ok
			Set Y coordinate				
6.	Set X coordinate						Ok
7.	Set Y coordinate		Set Y	coordinate agai	n		The
							game
							let you
							shoot
							again
							the
							same
							position
			Test	Data Sets			
	Data Type	Data Set 1		Data	a Set 2	Data Set 3	3
X Co	X Coordinate 9			9			
Y Co	Y Coordinate 9			9			
Test	Case Result			Incorrect resu	It, the game let yo	ou shoot the same coo	ordinate of
						t shoot to a miss shoo	
				board.			
Test	Case ID			TC_Smoke_1	2		
Desc	ription			Shoot a coord	linate that was a r	miss shoot before	
Mod				BattleShip.jav			
Prep	ared By	Adrià Orozco	Date F	repared	03/12/2020		
	ewed / Updated	Arnau Cruz		Reviewed	03/12/2020		
	ed By	Adrià and Arnau	Date T		03/12/2020		
	,			Activities			
SI.	Step	Description			xpected Results		Actual
No.							Results
1.	Run the project		Starter	menu of battle	ship game		Ok
2.	Write 1 to start the	game		started	- I- J		Ok
3.	Insert all the boats			e a coordinate	to shoot		Ok
4.	Set X coordinate			coordinate			Ok
5.	Set X coordinate Set Y coordinate			of the Shoot			Ok
6.	Set X coordinate			coordinate			Ok
7.	Set Y coordinate			coordinate agai	n		The
' ·	Jet i coolullate		0611	Journale agai	11		game
							let you
							shoot
							again
							the
	İ		1				1 1110

							same position
			Tost	Data Sets			
	Data Type	Data Set 1	1030	Data	Set 2	Data Set 3	
X Co	ordinate	5		5	0012	2414 001 0	
	ordinate	5		5			
1 00	ordinato						
Test	Case Result			Incorrect result	the game let yo	u shoot the same coo	rdinate
					<u> </u>		
Test	Case ID			TC_Smc	ke_13		
Desc	ription	Invalid Orientation					
Module BattleShip							
Prepared By Adrià Orozco			Prepared	06/12/2020			
	ewed / Updated	Arnau Cruz		Reviewed	06/12/2020		
Test	ed By	Adrià and Arnau	Date T		06/12/2020		
			Test	Activities			
			1031				
SI. No.		Description		Ex	pected Results		Actual Results
No. 1.	Run the project	·	Starter	r menu of battles			Results Ok
No. 1. 2.	Run the project Write 1 to start the	·	Starter Game	r menu of battles started	hip game		Results Ok Ok
No. 1. 2. 3.	Run the project Write 1 to start the Set X coordinate	·	Starter Game Progra	r menu of battles started am ask for the Y	hip game		Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3.	Run the project Write 1 to start the Set X coordinate	·	Starter Game Progra	r menu of battles started am ask for the Y	hip game coordinate entation		Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra	r menu of battles started im ask for the Y on an ask for the ori	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate	·	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation		Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation	game	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation coordinate again		Results Ok Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation	game Data Set 1	Starter Game Progra Progra	r menu of battles started am ask for the Y am ask for the X am ask for the	hip game coordinate entation	Data Set 3	Results Ok Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5.	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate	game Data Set 1	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation coordinate again	Data Set 3	Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5. X Co	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate ordinate	game Data Set 1 5 5	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation coordinate again	Data Set 3 5 5	Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5. X Co	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate	game Data Set 1	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation coordinate again	Data Set 3	Results Ok Ok Ok Ok Ok
No. 1. 2. 3. 4. 5. X Co	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate ordinate	game Data Set 1 5 5	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation coordinate again	Data Set 3 5 5	Results Ok Ok Ok Ok Ok Ok
X Co Y Co Orier	Run the project Write 1 to start the Set X coordinate Set Y coordinate Set Orientation Data Type ordinate ordinate	game Data Set 1 5 5	Starter Game Progra Progra	r menu of battles started am ask for the Y of am ask for the X of	hip game coordinate entation coordinate again	Data Set 3 5 5	Results Ok Ok Ok Ok Ok Ok

Invalid Orientation

Test Case ID Description

Mod	ule	BattleShip					
Prep	ared By	Adrià Orozco	Date P	repared	09/12/2020		
	ewed / Updated	Arnau Cruz		Reviewed	09/12/2020		
Test	ed By	Adrià and Arnau	Date T	ested	09/12/2020		
	•		Test	Activities			
SI.	Step	Description		E	xpected Results		Actual
No.							Results
1.	Run the project		Starter	menu of battle	ship game		Ok
2.	Write 1 to start the	game	Game	started			Ok
3.	Set X coordinate		Progra	m ask for the \	coordinate /		Ok
4.	Set Y coordinate			m ask for the c			Ok
5.	Set Orientation		Progra	m ask for the >	Coordinate again	1	Ok
			T 4 1	D-1- 0-1-			
	Data Tara	D-1- 0-14	lest	Data Sets	- 0-10	D-1- 0-11	
	Data Type	Data Set 1			a Set 2	Data Set 3	3
	ordinate	1		1		1	
	ordinate	1		1		1	
Orier	ntation	2(Up)*		3(Left)*		5	
Toct	Case Result			All Dotocoto r	esults are correct		
1631	Case Nesult					and 4 are interchange	d so we
						hese to make this test	
						Jp instead of left and	
					s Left instead of L		
Test	Case ID			TC_Sn	noke_15		
Desc	cription	Invalid Orientation					
Mod	ule	BattleShip					
	Prepared By Adrià Orozco			repared	09/12/2020		
	ewed / Updated	Arnau Cruz		Date Reviewed 09/12/2020			
Test	sted By Adrià and Arnau Date Tested 09/12/2020						
			Test	Activities			
SI.	Step	Description		E	Expected Results		Actual
No.	D (1		-		, .		Results
1.	Run the project			menu of battle	ship game		Ok
2.		game	Game started			Ok	
2	Write 1 to start the						
3.	Set X coordinate	-		m ask for the			Ok
4.	Set X coordinate Set Y coordinate		Progra	m ask for the c	rientation		Ok
	Set X coordinate		Progra	m ask for the c			
4.	Set X coordinate Set Y coordinate		Progra	m ask for the c	rientation	1	Ok
4.	Set X coordinate Set Y coordinate		Progra	m ask for the c	rientation		Ok

TC_Smoke_14

			Test	Data Sets			
	Data Type	Data Set 1		Data	Set 2	Data Set	3
X Co	ordinate	9		9		10	
Y Co	ordinate	9		9		10	
Orier	ntation	2(Up)*		*3(Left)		-1	
Test	Case Result				sults are correct		
						and 4 are interchange	
						hese to make this tes	st cases.
						Jp instead of left and	
				orientation 4 is	Left instead of L	Jρ.	
Tost	Case ID			TC_Smo	ko 16		
	cription	Invalid Orientation		10_0110	<u> </u>		
Mod	•	BattleShip					
	ared By	Adrià Orozco	Date F	Prepared	09/12/2020		
	ewed / Updated	Arnau Cruz		Reviewed	09/12/2020		
	ed By	Adrià and Arnau	Date T		09/12/2020		
		7 taria aria 7 triaa		Activities	00/12/2020		
SI.	Step	Description			pected Results	<u> </u>	Actual
No.	·	•			•		Results
1.	Run the project			menu of battlesh	nip game		Ok
2.	Write 1 to start the	game	Game	started			Ok
3.	Set X coordinate			m ask for the Y o			Ok
4.	Set Y coordinate			m ask for the ori			Ok
5.	Set Orientation		Progra	m ask for the X o	coordinate again	1	Ok
			Toot	Data Sets			
	Doto Tymo	Data Set 1	162[Data Sets Data	Set 2	Data Set	3
		Daid Sti I			OGI Z		3
Y C -	Data Type			10		1 1	
	ordinate	10		10		1	
Y Co	ordinate ordinate	10		1		1	
Y Co	ordinate	10					
Y Co	ordinate ordinate	10		1		1	

l orientation 4 is Left instead of Up.
--

				orientation 4 is L		In	
				1 Onomation 4 to L	on motoda of C	′ ۲ ·	
Test	: Case ID			TC_Smoke_17			
Des	cription	Invalid Orientation wit	th a previous	s boat set			
Mod	ule	BattleShip	•				
Prep	pared By	Adrià Orozco	Date F	Prepared	09/12/2020		
Revi	iewed / Updated	Arnau Cruz	Date F	e Reviewed 09/12/2020			
Test	ed By	Adrià and Arnau	Date 1	Tested Tested	09/12/2020		
			Test	Activities			
SI. No.	Step	Description		Exp	ected Results		Actual Results
1.	Run the project		Starte	r menu of battlesh	ip game		Ok
2.	Write 1 to start the	game		started			Ok
3.	Set X coordinate			m ask for the Y co			Ok
4.	Set Y coordinate			m ask for the orie	ntation		Ok
5.	Set Orientation			nserted correctly			Ok
6.	Set X coordinate		Progra	Program ask for the Y coordinate			
7.	Set Y coordinate			m ask for the orie			Ok
8.	Set Orientation		Progra	m ask for the X co	oordinate again		Ok
			Test	Data Sets			
	Data Type	Data Set 1		Data S	et 2	Data Set	3
X Co	oordinate	5		5		7	
Y Co	ordinate	3		1		4	
Orie	ntation	0(Right)		0(Right)		3(Up)*	
		, ,		, , ,		, , ,	
Test	Case Result					e coordinates of the force orientations that we	
				*As we said the	orientations 3 a	and 4 are interchange	ed, so we
						nese to make this tes	
						Jp instead of left and	
				orientation 4 is L			
				These Two last	datasets are bo	th correct.	

Test Case ID	est Case ID TC_Smoke_18						
Description	Invalid Orientation with	valid Orientation with a previous boat set					
Module	Module BattleShip						
Prepared By	Adrià Orozco	Date Prepared	09/12/2020				
Reviewed / Updated	Arnau Cruz	Date Reviewed	09/12/2020				
Tested By	Adrià and Arnau	Date Tested	09/12/2020				
Test Activities							
SI. Step	Description	Expected Results Actual					

No.						Results	
1.	Run the project		Starte	r menu of battleship game		Ok	
2.	Write 1 to start the	game	Game	Same started			
3.	Set X coordinate		Progra	m ask for the Y coordinate		Ok	
4.	Set Y coordinate			nm ask for the orientation		Ok	
5.	Set Orientation		Boat in	nserted correctly		Ok	
6.	Set X coordinate Prog			m ask for the Y coordinate		Ok	
7.	Set Y coordinate			m ask for the orientation		Ok	
8.	Set Orientation		Progra	m ask for the X coordinate aga	in	Ok	
			Test	Data Sets			
	Data Type	Data Set 1		Data Set 2	Data Set 3	<u> </u>	
	ordinate	5		3	5		
	ordinate	3		4	9		
Orier	ntation	0(Right)		1(Down)	2(Left)*		
Test	Case Result			First Dataset corresponds to t the second ones are the inval *As we said the orientations 3 consider the correct values of Assuming that orientation 3 is orientation 4 is Left instead of These Two last datasets are b	id orientations that we that and 4 are interchange these to make this test Up instead of left and Up.	ried. d, so we	

		10_0	Smoke_19						
ption	Invalid Orientation wit	h a previous boat set							
е	BattleShip								
Prepared By Adrià Orozco		Date Prepared	09/12/2020						
Reviewed / Updated Arnau Cruz		Date Reviewed	09/12/2020						
Tested By Adrià and Arnau		Date Tested	09/12/2020						
Test Activities									
SI. Step Description No.			Expected Results	Actual					
				Results					
Run the project		Starter menu of batt	Starter menu of battleship game						
 Write 1 to start the game Set X coordinate 		Game started		Ok					
Set X coordinate				Ok					
Set Y coordinate				Ok					
Set Orientation		Boat inserted correct	Boat inserted correctly						
Set X coordinate		Program ask for the	Program ask for the Y coordinate						
Set Y coordinate		Program ask for the	orientation	Ok					
Set Orientation		Program ask for the	X coordinate again	Ok					
	ed By ed / Updated By Step Sun the project Vrite 1 to start the et X coordinate et Y coordinate et Orientation et X coordinate et Y coordinate et Y coordinate	BattleShip Adrià Orozco Arnau Cruz By Adrià and Arnau Step Description BattleShip ed By Adrià Orozco ed / Updated Arnau Cruz By Adrià and Arnau Date Reviewed Test Activities Step Description Starter menu of batt Vrite 1 to start the game et X coordinate et Y coordinate et Orientation et X coordinate et X coordinate et X coordinate et Orientation et X coordinate et Y coordinate	BattleShip ed By Adrià Orozco Date Prepared 09/12/2020 By Adrià and Arnau Date Tested 09/12/2020 Test Activities Step Description Expected Results Starter menu of battleship game Vrite 1 to start the game et X coordinate et Y coordinate Program ask for the Y coordinate et Y coordinate et Orientation Expected Results Program ask for the Orientation Boat inserted correctly et X coordinate et Y coordinate Program ask for the Orientation Program ask for the Orientation						

Test Data Sets									
Data Type	Data Set 1	Data Set 2	Data Set 3						
X Coordinate	1	1	6						
Y Coordinate	1	4	1						
Orientation	1(Down)	2(Left)*	3(Up)*						
Test Case Result		the second ones are the in *As we said the orientation consider the correct values Assuming that orientation orientation 4 is Left instead	First Dataset corresponds to the coordinates of the first boat, the second ones are the invalid orientations that we tried. *As we said the orientations 3 and 4 are interchanged, so we consider the correct values of these to make this test cases. Assuming that orientation 3 is Up instead of left and orientation 4 is Left instead of Up. These Two last datasets are both correct.						

	Case ID			TC_Smc	ke_20			
	ription	Invalid Orientation with a	a previous	boat set				
Mod		BattleShip			1			
	ared By	Adrià Orozco		Date Prepared 09/12/2020				
	ewed / Updated	Arnau Cruz		eviewed	09/12/2020			
Test	ed By	Adrià and Arnau	Date T		09/12/2020			
			Test /	Activities			Actual	
SI. No.	Step	Description		Expected Results				
1.	Run the project		Starter	menu of battles	hip game		Ok	
2.	Write 1 to start the	game	Game	started			Ok	
3.				m ask for the Y			Ok	
4.				m ask for the ori	entation		Ok	
5.				serted correctly			Ok	
6.				m ask for the Y			Ok	
7.	Set Y coordinate			m ask for the ori			Ok	
8.	Set Orientation		Prograi	m ask for X coo	dinate again		Ok	
			To a 4 F	2-1- 0-1-				
	Data Type	Data Set 1	rest L	Data Sets Data	Sot 2	Data Set	2	
V 0-				Dala	Jel Z	= 5.55	ა	
	ordinate	1		2		5		
	1 Coordinate		2 1					
Orier	ntation	1(Down)		1(Down)		1(Down)		

Test Desc Mod Prep Revi				First Dataset corresponds to the coordinates of the first boat, the second ones are the invalid orientations that we tried. *As we said the orientations 3 and 4 are interchanged, so we consider the correct values of these to make this test cases. Assuming that orientation 3 is Up instead of left and orientation 4 is Left instead of Up. These Two last datasets are both correct. TC_Smoke_21 Date Prepared 09/12/2020 Date Reviewed 09/12/2020			
1620	eu by	Auria ariu Arriau		Activities	09/12/2020		
SI. No.			1030		pected Results	<u> </u>	Actual Results
1.	Run the project			r menu of battles	ship game		Ok
2.	· ·			started			Ok
3.				m ask for the Y			Ok
4.				am ask for the or			Ok
5.	5. Set Orientation		Progra	am ask for the or	ientation again		The game should ask for the orientation again
			Test	Data Sets			
	Data Type	Data Set 1		Data	Set 2	Data Set	3
	ordinate	1		1		5	
	Y Coordinate 1			5		5	
Orier	ntation	string		а		up	
Test	Case Result			We tried to intr	oduce an string	instead a numeric va	lue, and the

result is that the game doesn't control these exceptions, instead of ask for a new orientation, the game crashes.

Test	Case ID			TC_Sm	oke_22			
Desc	ription	Invalid type of values						
Mod	ule	BattleShip						
Prep	ared By	Adrià Orozco	Date F	Prepared	09/12/2020			
Revi	ewed / Updated	Arnau Cruz	Date F	Reviewed	09/12/2020			
Test	ed By	Adrià and Arnau	Date 1	Tested	09/12/2020			
			Test	t Activities				
SI. No.	Step	Description		Ex	pected Results	S	Actual Results	
1.	Run the project		Starte	Starter menu of battleship game				
2.	Write 1 to start the	e game		started			Ok	
3.				am ask for the Y	coordinate		Ok	
4.				am ask for the or	ientation		Ok	
5. Set Orientation		Flogia	Program ask for the orientation Program ask for the orientation again					
			Test	Data Sets				
	Data Type	Data Set 1		Data	Set 2	Data Se	t 3	
X Co	ordinate	9		1		5		
Y Co	Y Coordinate 9			1		5		
Orier	ntation	5-3		1+1		/n		
Test	Case Result			instead a nume	eric value, and t xceptions, inste	tion or a reserved ke he result is that the g ad of ask for a new o	ame doesn't	

Test	Case ID			TC Smoke 23				
	ription	Put correct X coordinate	but wror					
Mod		BattleShip		<u> </u>				
Prep	ared By	Arnau Cruz	Date F	Date Prepared 09/12/2020				
Revi	ewed / Updated	Adria Orozco	Date F	Date Reviewed 09/12/2020				
Test	ed By	Adrià and Arnau	Date 1	Tested	09/12/2020			
			Test	Activities				
SI. No.	Step	Description		Ex	xpected Results	5	Actual Results	
1.	Run the project		Starte	Starter menu of battleship game				
2.	Write 1 to start the	e game		started			Ok	
3.	Set X coordinate			am ask for the Y			Ok	
4.	Set Y coordinate		Progra	am ask for Y coo	rdinate again		Ok	
			Test	Data Sets				
	Data Type	Data Set 1		Data	Set 2	Data Set	3	
	ordinate	1		1		1		
Y Co	ordinate	17		-12		17890		
Test	Test Case Result			We tried to introduce a wrong Y coordinate and the result is that game asks for a new Y coordinate, so it's designed				

Test	Case ID			TC Sm	oke 24			
	ription	Put 0 before the orientation	on.		_			
Mod		BattleShip						
	ared By	Arnau Cruz	Date F	Prepared	09/12/2020			
	ewed / Updated	Adria Orozco		Reviewed	09/12/2020			
	ed By	Adrià and Arnau	Date 1	Tested	09/12/2020			
			Test	Activities				
SI. No.		Description	Expected Results					Actual Results
1.	Run the project			r menu of battles	hip game			Ok
2.	Write 1 to start the	game		started				Ok
	3. Set X coordinate			m ask for the Y				Ok
4.	Set Y coordinate)	am ask for orienta				Ok
5.	5. Set orientation			am ask for orienta	ation again			The game write the wrong orientation
			Test	Data Sets				
	Data Type	Data Set 1		Data	Set 2		Data Set	3
X Co	ordinate	1		5		9		
Y Co	ordinate	1		5		9		
Orier	ntation	01		02		04		
Test	Test Case Result			We tried to introduce an orientation with a 0 before, because this can be a problem that user wants to write 0 and by mistate he can add a 1 after 0, so in this case we want that the system ask again for orientation, but when we doing this test the system just takes the last integer since 0 before a number is "null number".			by mistake the system t the	

EXPLORATORY TESTING:

Attack 1: Apply inputs that force all error messages to occur at least once.

- 1.1 Value from outside of the options of the menu.

 Result: Error controlled, correct information to the user.
- 1.2 Value from outside the board

Result: Error well controlled, the user can't put a boat outside the board, but there isn't informative error to the user as is showed below.

```
Position your boats!
Position (X, Y) head of the ship it occupies 4 squares (1/1)
Position X (1-10):

11
Position X (1-10):
15
Position X (1-10):
-20
Position X (1-10):
-1
Position X (1-10):
```

1.3 Input type

-Non numeric: The program doesn't control if there is an input that isn't a numeric value so the exception is not caught and the program crash.

```
Position X (1-10):
string
Exception in thread "main" java.util.InputMismatchException
        at java.base/java.util.Scanner.throwFor(Scanner.java:939)
        at java.base/java.util.Scanner.next(Scanner.java:1594)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Board.readPosition(Board.java:257)
        at BattelshipTesting.Board.insertPosicion(Board.java:285)
        at BattelshipTesting.Player.locateBoat(Player.java:54)
        at BattelshipTesting.Player.<init>(Player.java:37)
        at BattelshipTesting.Match.<init>(Match.java:29)
        at BattelshipTesting.Menu.getOption(Menu.java:43)
        at BattelshipTesting.Menu.getOption(Menu.java:51)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
        at BattelshipTesting.Game.main(Game.java:21)
```

-Decimal value: The program doesn't control if there is an input that isn't an enter value so the exception is not caught when the user introduced a floating value and the program crash.

1.4 After discover that the type of the inputs of the user are integers, we made proves with the length of these and discover that the program doesn't caught the exceptions if the value entered is bigger than the length of an integer and the program crashes too.

```
<terminated> Game [Java Application] C:\Users\adri-\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x
-----Main Menu-----
1- Play
2- Exit
2147483647
Invalid Option!-----Main Menu-----
1- Play
2- Exit
2147483648
Exception in thread "main" java.util.InputMismatchException: For input string: "2147483648
        at java.base/java.util.Scanner.nextInt(Scanner.java:2264)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Menu.getOption(Menu.java:39)
        at BattelshipTesting.Menu.getOption(Menu.java:51)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
        at BattelshipTesting.Game.main(Game.java:21)
```

Attack 2: Apply inputs that force the software to establish default values

2.1 We tried to shoot positions already shooted to see if the program controlled it properly and the status of the board change or not.

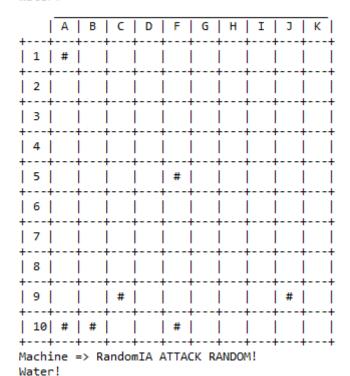
The first case is to shoot a position where there is a boat and shoot it again.

Result: The first shoot is correctly showed at the board, but in the second shoot there is not informative error message, and there is a mistake on the code that actualize the position of the board like if there isn't a boat there. Showed with screenshots below. First shoot at position [9,3]:

Position X (1-10):

Second shoot at the same position:

```
What position do you want to attack?
Position X (1-10):
9
Position Y (1-10):
3
Water!
```



So now there is no way to know if there was a boat in there or if the boat has got more positions at this row/column.

2.2 On the other hand to shoot a position already shouted don't change anything at the board, but there isn't an informative error to the user.

Attack 3: Explore allowable character sets and potentially special meaning values in string fields

3.1 Reserved keywords

First off all we prove to insert an "\n", as the type of the values entered is integer the program crashes on input a no numerical value:

```
Position Y (1-10):
Exception in thread "main" java.util.InputMismatchException
        at java.base/java.util.Scanner.throwFor(Scanner.java:939)
        at java.base/java.util.Scanner.next(Scanner.java:1594)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Board.readPosition(Board.java:266)
        at BattelshipTesting.Board.attack(Board.java:376)
        at BattelshipTesting.Player.attack(Player.java:79)
        at BattelshipTesting.Match.startMatch(Match.java:42)
        at BattelshipTesting.Match.<init>(Match.java:31)
        at BattelshipTesting.Menu.getOption(Menu.java:43)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
        at BattelshipTesting.Game.main(Game.java:21)
This happens with all the other options of special values like "+ or -":
-----Main Menu-----
1- Play
2- Exit
1+1
Exception in thread "main" java.util.InputMismatchException
        at java.base/java.util.Scanner.throwFor(Scanner.java:939)
        at java.base/java.util.Scanner.next(Scanner.java:1594)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Menu.getOption(Menu.java:39)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
        at BattelshipTesting.Game.main(Game.java:21)
-----Main Menu-----
1- Play
2- Exit
Exception in thread "main" java.util.InputMismatchException
        at java.base/java.util.Scanner.throwFor(Scanner.java:939)
        at java.base/java.util.Scanner.next(Scanner.java:1594)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Menu.getOption(Menu.java:39)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
```

3.2 Special characters.

In case of NULL(^%) and EOF(^Z) the program behavior it's the same:

at BattelshipTesting.Game.main(Game.java:21)

```
-----Main Menu-----
1- Play
2- Exit
NULL(^%)
Exception in thread "main" java.util.InputMismatchException
        at java.base/java.util.Scanner.throwFor(Scanner.java:939)
        at java.base/java.util.Scanner.next(Scanner.java:1594)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Menu.getOption(Menu.java:39)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
        at BattelshipTesting.Game.main(Game.java:21)
1- Play
2- Exit
EOF(^Z)
Exception in thread "main" java.util.InputMismatchException
        at java.base/java.util.Scanner.throwFor(Scanner.java:939)
        at java.base/java.util.Scanner.next(Scanner.java:1594)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
        at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
        at BattelshipTesting.ManagerIO.inInt(ManagerIO.java:40)
        at BattelshipTesting.Menu.getOption(Menu.java:39)
        at BattelshipTesting.Menu.<init>(Menu.java:18)
        at BattelshipTesting.Game.main(Game.java:21)
```

Attack 4: Overflow input buffers in string fields or parameters.

We can't do this attack because this attack is supposed to overflow input buffers in string fields, but in this game there isn't any input string.

Attack 5: Find inputs that may interact and test combinations of their values.

We are going to do this attack where we want to place the second coord from the ship so we will combine the first position with the second one and let's see what the result is.

5.1We put a correct value for X and then an incorrect value for Y and vice versa:

The program reacts well and ask again for the value Y since the number that we wrote isn't in the specified values:

```
-----Main Menu-----

1- Play

2- Exit

1
-----Starting Game------Player: HumanPlayer

Position your boats!

Position (X, Y) head of the ship it occupies 4 squares (1/1)

Position X (1-10):

2

Position Y (1-10):

14

Position Y (1-10):
```

The program reacts well and ask again for the value Y since the number that we wrote isn't in the specified values:

```
-----Main Menu-----

1- Play

2- Exit

1
-----Starting Game------Player: HumanPlayer

Position your boats!

Position (X, Y) head of the ship it occupies 4 squares (1/1)

Position X (1-10):

13

Position X (1-10):
```

The same for negative values:

```
1- Play
2- Exit
1
-----Starting Game------Player: HumanPlayer
Position your boats!
Position (X, Y) head of the ship it occupies 4 squares (1/1)
Position X (1-10):
-3
Position X (1-10):
```

5.2 We put correct coords and then we will put a wrong orientation:

The program reacts good and ask for a new position:

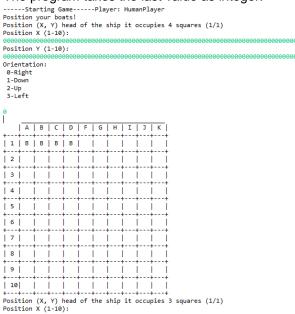
```
1- Play
2- Exit
-----Starting Game-----Player: HumanPlayer
Position your boats!
Position (X, Y) head of the ship it occupies 4 squares (1/1)
Position X (1-10):
Position Y (1-10):
Orientation:
 0-Right
 1-Down
 2-Up
3-Left
Position Position [x=2, y=9, orientation=Right]
It is not correct!
Enter one again!
Position X (1-10):
```

Attack 6: Add a lot of 0 before the value:

We are going to do this attack where we want to put the coordinates to place the boat. We will add a lot of 0 before the value desired.

6.1 We put 80 0 before the value:

The program takes the last value as integer.



6.2 We put 01 in orientation, so we can create confusion between 0 "Right", 1 "Down".

The program takes the last value as integer "1" so it takes "Down" orientation.

```
-----Starting Game-----Player: HumanPlayer
Position your boats!
Position (X, Y) head of the ship it occupies 4 squares (1/1)
Position X (1-10):
Position Y (1-10):
Orientation:
 0-Right
1-Down
 2-Up
 3-Left
      | A | B | C | D | F | G | H | I | J | K |
| 1 | B |
| 2 | B |
3 | B
 4 B
j 5 j
6
 j 7 j
  8
 9 |
 10
```

Attack 7: Repeat the same input or series of inputs numerous times

We tried to input the same number a lot of times to check if there is a maximum number of intents, but the result of the test is failed, the program controlled well the buffer of entries and ever ask again for a new coordinate to put on the boat.

Attack 8: Force data structures (known from source code or guessed) to store too many or too few values

In this attack we will try to shoot all the positions from the board including repeated positions to see if the shoots of the user are stored in some structure and we can overload it. (We will try to not sunk all the boats in order to shoot as many positions as possible)

++			•	•		•	•	•	•	К
1 1	#	#	#	X	#	#	#	#	#	#
2	#	X	#	X	#	X	Х	X	#	#
3	#	#	#	#	#	#	#	#	#	X
+ 4 +	#	X	Х	#	Х	#	#	#	#	#
5	#	#	#	#	#	#	#	#	#	#
6	#	#	#	#	Х	X	X	#	#	#
++ 7 +	#	#	#	#	#	#	#	#	#	#
8	#	#	#	X	#	#	#	#	#	#
+ 9 +	#	X	#	X	#	#	Х	Х		X
										#

After arrive to this situation the program responds properly and let us to shoot again without any problems, to continue with the test we won't sunk the last boat, instead of we will shoot the positions marked with an X to see if our test can be successful.

+				•	•	•	•		•	K
	#	#	#	#	#	#	#	#	#	#
	#	#	#	#	#	#	#	#	#	#
3	#	#	#	#	#	#	#	#	#	#
+ 4 +	#	#	#	#	#	#	#	#	#	#
	#	#	#	#	#	#	#	#	#	#
6	#	#	#	#	#	#	#	#	#	#
+ 7 +	#	#	#	#	#	#	#	#	#	#
8	#	#	#	#	#	#	#	#	#	#
+ 9 +	#	#	#	#	#	#	#	#		#
	#	#	#	#	#	#	#	#	#	#

After shoot all the positions marked with an x, we shoot to all the positions marked with an # and this is the result of the board, to verify we are not closely to make the test successful we spam some positions a lot of times, but the program responds well and quickly, now it's time to see if the game is over shooting the last position. (The positions where there was a boat now change their state, that's an error that we documented in another tests.)

										K
1	#	#	#	#	#	#	#	#	#	#
2	#	#	#	#	#	#	#	#	#	#
3	#	#	#	#	#	#	#	#	#	#
4	#	#	#	#	#	#	#	#	#	#
5	#	#	#	#	#	#	#	#	#	+ # +
6	#	#	#	#	#	#	#	#	#	#
7	#	#	#	#	#	#	#	#	#	#
8	#	#	#	#	#	#	#	#	#	#
9	#	#	#	#	#	#	#	#	X	#
10	#	#	#	#	#	#	#	#	#	#
iame										

As we can see the game it's over and the test fails.

Note: Due to the simplicity of this code we cannot perform more attacks, this program only accept integers as entry values and don't caught the exceptions in case other type is entered. Also the decisions that the user could taka are few, he only can put a board on the board, and shoot a position.

AUTOMATED TESTING:

In our case we have to test a game that works in console, so in order to do automated test, we made a mockObject that creates a simple GUI that contains two textAreas and buttons to simulate the user entries. Then we substitute all the user entries and all the print sentences to do it through the GUI without alter any piece of code.

Doing that we achieve to open the interface in jubula a record some executions, that are stored on an export file on our folder "JubulaTest->BattleShip".

The records that we made are:

-4 records for complete games.

These 4 records finished without errors.

-To do that we dispose the boats in the board introducing some false values that force message errors or user to repeat some entries.

In the first record we complete a game playing as a human will do-it winning the game. We remember that the opponent set random boats in every execution so a lot of times the game won't be the same.

To fix that we made the three next records, that force to the user to shoot all the positions of the board in different directions every record (Horizontal, vertical, diagonal).

-The next two records are destined to show how the game could crash when the user entry is a number bigger than an Integer length or what happens if instead an Integer value the user entry for example an String.

CALCULATOR AUTOMATED TESTING:

This test is located in this folder: JubulaTest->Calculator".

Description about every test Suite:

TestSuite: Arrel:

TestCase Arrel:

Operation: sqrt(16) Expected result: 4.0 Result obtained: 4.0

Test result: Ok.

TestCase Quadrat:

Operation: 4² Expected result: 16.0 Result obtained: 16.0

Test result: Ok.

TestSuite: Arrel2:

TestCase Arrel2:

Operation: sqrt(64) Expected result: 8.0 Result obtained: 8.0 Test result: Ok.

TestCase Quadrat2:

Operation: 8^2

Expected result: 64.0 **Result obtained:** 64.0

Test result: Ok.

TestSuite: ExpLog:

TestCase Log:

Operation: In(8)

Expected result: 2.0794415416798357 **Result obtained:** 2.0794415416798357

Test result: Ok.

TestCase Exp:

Operation: e(2.0794415416798357)

Expected result: 8.0

Result obtained: 8.000020899932483

Test result: Wrong, the operation is correct but we need to round to 8.0.

TestSuite: ExpLog2:

TestCase Log2:

Operation: In(1) Expected result: 0.0 Result obtained: 0.0 Test result: Ok.

TestCase Exp2:

Operation: e(0) Expected result: 1.0 Result obtained: 1.0 Test result: Ok.

TestSuite: SinAsin:

TestCase Sin:

Operation: sin(90) Expected result: 1.0 Result obtained: 1.0 Test result: Ok.

TestCase Asin:

Operation: asin(1) Expected result: 90

Result obtained: 0.01745240643728351 **Test result:** Wrong, the operation is wrong.

TestSuite: SinAsin2:

TestCase Sin2:

Operation: sin(30) Expected result: 0.5

Result obtained: 0.4999999999999994

Test result: Wrong, the operation is correct but we need to round to 0.5.

TestCase Asin2:

Operation: asin(0.5) Expected result: 30.0

Result obtained: 0.008726535498373935 **Test result:** Wrong, the operation is wrong.

TestSuite: CosAcos:

TestCase Cos:

Operation: cos(0) Expected result: 1.0 Result obtained: 1.0 Test result: Ok.

TestCase Acos:

Operation: acos(1)

Expected result: 0

Result obtained: 0.9998476951563913 **Test result:** Wrong, the operation is wrong.

TestSuite: CosAcos2:

TestCase Cos2:

Operation: cos(60) Expected result: 0.5

Result obtained: 0.5000000000000001

Test result: Wrong, the operation is correct but we need to round to 0.5.

TestCase Acos2:

Operation: acos(0.5) Expected result: 60.0

Result obtained: 0.9999619230641713 **Test result:** Wrong, the operation is wrong.

TestSuite: TanAtan:

TestCase Tan:

Operation: tan(45) Expected result: 1.0

Test result: Wrong, the operation is correct but we need to round to 1.0.

TestCase Atan:

Operation: atan(1) Expected result: 45.0

Result obtained: 0.017455064928217585 **Test result:** Wrong, the operation is wrong.

TestSuite: TanAtan2:

TestCase Tan2:

Operation: tan(0) Expected result: 0.0 Result obtained: 0.0 Test result: Ok.

TestCase Atan2:

Operation: atan(0) Expected result: 0.0 Result obtained: 0.0 Test result: Ok.

Conclusions:

Sqrt works properly.

Power works properly.

Log works but need to round the number properly.

Exp works but need to round the number properly.

Sin works but need to round the number properly.

Cos works but need to round the number properly.

Tan works but need to round the number properly.

Asin doesn't work properly.

Acos doesn't work properly.

Atan doesn't work properly.

RTF:

RTF: This is the RTF from the code that we tested for the second practice.

Inspection Summary Report

Inspection Identification:

Project: BattleShip

Inspection ID: 02

Meeting Date: 07/12/2020

Work Product Description:

<u>Inspectors</u>		<u>Signature</u>	Preparation		
Time					
Author:	Cristian Vega Sánchez	1426805	1	hours	
Moderator:	Ismael Pajuelo Berjano	1456941	1	hours	
Recorder:	Adrià Orozco Lorente	1490952	1	hours	
Reader:	Arnau Cruz Gargallo	1494996	1 h 30	min	
Inspector:	Arnau Cruz Gargallo	1494996	1 h 30	min	
Inspector:	Adrià Orozco Lorente	1490952	1	hours	
Inspector:	Ismael Pajuelo Berjano	1456941	1	hours	
Inspector:	Ruben Campuzano	1528709	30	min	
Inspector	Javier Martinez Abril	1497512	30	min	
Inspector:	Alex Cruz Gargallo	1494995	30	min	

Inspection Data

Pages or Lines of Code: 920 Meeting Time: 1h 40min

Planned for	Inspection:	All code

Total Planning Effort: 5h 30min

Actually Inspected: All code

Total Overview Effort: 7h 10min Total Preparation Effort: 5h 30min Actual Rework Effort: 4 labor hours

Product Appraisal

ACC	CEPTED	NOT	ACCEPTED
<u>X</u>	as is conditionally upon verification		reinspect following rework inspection not completed

Verifier: Juan Manuel Vicente, Keyao li

Projected Rework Completion Date: 14/12/2020

Inspection Issue Log

Project:	Origin:	Requirements, Design, Construction, Testing
Inspection ID:	Type:	Missing, Wrong, Extra, Usability, Performance,
		Style, Clarity, Question
Meeting Date:	Severity:	Major, minor
Recorder:		

Defects Found: 20, Major 4, Minor 16.

#	Origin	Type	Severity	Location	Description
1	D, C	S	m	3	Some print sentences are allocated on functions from the model classes.
2	С	S	m	3	Repeated conditionals into some functions that can be encapsulated into another procedures

3	С	S	m	Board.java	The conditions of boatProtection() and isValidOrientation() can be replaced for the boat length instead of hard-code to reuse the code in case that new boats with different length are inserted.
5	D	S	m	Board.java	Change the MAGIC NUMBERS that control the frontier values and others to Constants.
6	D	S	m	Board.java	This class is too big and do so many things, it could be better to assign some responsibilities to another classes.
7	D	S	m	Board.java	Add comments to isValidOrientation() function to see correctly all the options from the switch case.
8	D	S	m	Board, ManagerIO.java	Some variables are not defined with a proper name.
9	Т	M	m	Board.java	At line 59 on the method showBoard() we can see that the test not cover all the sentences.
10	D	S	m	Board.java	At isValidOrientation() and insertBoat() methods there isn't no default case for switch case.
11	D	S	m	Board.java	At showBoard() method there is no default este for nested conditions.
12	С	W	М	ManagerIO.java	The game crash when the user insert a string instead of an integer.
13	С	W	M	ManagerIO.java	The game crash when the user insert a longer value than the maximum length of an integer.
14	С	W	M	ManagerIO.java	The scanner not use try catch sentences to check the input of the user.
15	С	W	M	Board.java	The sentences of the switch case to control the orientation of the boat are interchanged, (Left and Up), so when the user tries to insert a boat in one of this orientations the result is incorrect.
16	R	M	m	Board.java	The user can't know when a boat is sunked.
17	D	U	m	Board.java	The information of the shoots could be showed under the information board.
18	D	U	m	Board.java	The board isn't showed at the start of the game, so the user can't know where he'll put the first boat.
19	D	U	m	Board.java	The information of the columns are showed with letters, and the user only can introduce numbers.
20	D	U	m	Board.java	When the user shoot a position already shouted where there was a boat in there, the previous mark disappear showing that there isn't a boat there.

Generic Checklist for Code Reviews

Structure

- o Does the code completely and correctly implement the design?
- o Does the code conform to any pertinent coding standards?
- o Is the code well-structured, consistent in style, and consistently formatted?
- o Are there any uncalled or unneeded procedures or any unreachable code?
- o Are there any leftover stubs or test routines in the code?
- o Can any code be replaced by calls to external reusable components or library functions?
- o Are there any blocks of repeated code that could be condensed into a single procedure?
- o Is storage use efficient?
- o Are symbolics used rather than "magic number" constants or string constants?
- o Are any modules excessively complex and should be restructured or split into multiple routines?

Documentation

- o Is the code clearly and adequately documented with an easy-to-maintain commenting style?
- o Are all comments consistent with the code?

Variables

- o Are all variables properly defined with meaningful, consistent, and clear names?
- o Do all assigned variables have proper type consistency or casting?
- o Are there any redundant or unused variables?

Arithmetic Operations

- o Does the code avoid comparing floating-point numbers for equality?
- o Does the code systematically prevent rounding errors?
- o Does the code avoid additions and subtractions on numbers with greatly different magnitudes?
- o Are divisors tested for zero or noise?

Loops and Branches

- o Are all loops, branches, and logic constructs complete, correct, and properly nested?
- o Are the most common cases tested first in IF--ELSEIF chains?
- o Are all cases covered in an IF- -ELSEIF or CASE block, including ELSE or DEFAULT clauses?
- o Does every case statement have a default?
- o Are loop termination conditions obvious and invariably achievable?
- o Are indexes or subscripts properly initialized, just prior to the loop?
- o Can any statements that are enclosed within loops be placed outside the loops?
- O Does the code in the loop avoid manipulating the index variable or using it upon exit from the loop?

Defensive Programming

- o Are indexes, pointers, and subscripts tested against array, record, or file bounds?
- o Are imported data and input arguments tested for validity and completeness?
- o Are all output variables assigned?
- o Are the correct data operated on in each statement?
- o Is every memory allocation deallocated?
- o Are timeouts or error traps used for external device accesses?
- o Are files checked for existence before attempting to access them?
- o Are all files and devices are left in the correct state upon program termination?

This is the RTF from our code of the first practice

Inspection Summary Report

Inspection Identification:

Project: HundirFlota

Inspection ID: 01

Meeting Date: 06/12/2020

Work Product Description:

m:	Inspectors	Signature	Prepar	ation_
<u>Time</u>				
Author:	Arnau Cruz Gargallo	1494996	1	hours
Moderator:	Carlos Fernandez	1428230	30	min
Recorder:	Adrià Orozco Lorente	1490952	1	hours
Reader:	Zakaria el Haddad	1462424	30	min
Inspector:	Carlos Fernandez	1428230	30	min
Inspector:	Adrià Orozco Lorente	1490952	1	hours
Inspector:	Zakaria el Haddad	1462424	30	min

Inspection Data

Pages or Lines of Code: 886 Meeting Time: 1hour 10min

Planned for Inspection: Board.java, Barco.java, Player.java, Main.java

Total Planning Effort: 3 labor hours

Actually Inspected: Board.java, Barco.java, Player.java, Main.java

Total Overview Effort: 4 hours 10min Total Preparation Effort: 3 labor hours Actual Rework Effort: 2 labor hours

Product Appraisal

ACCEPTED NOT ACCEPTED

Adri	à Orozco Lorente 1490952 and Arnau cruz (Gargallo	1494996
X	as is conditionally upon verification		reinspect following rework inspection not completed
Veri	fier: Juan Manuel Vicente, Keyao li		

Inspection Issue Log

Project:	Origin:	Requirements, Design, Construction, Testing
Inspection ID:	Type:	Missing, Wrong, Extra, Usability, Performance,
_		Style, Clarity, Question
Meeting Date:	Severity:	Major, minor
Recorder:		

Defects Found: 14, Major 4, Minor 10.

Projected Rework Completion Date: 13/12/2020

#	Origin	Type	Severity	Location	Description
1	D, C	S	m	Board.java	Some print sentences are allocated on functions from the model classes.
2	D	S	m	Game, Board.java	Some variables not use the lowerCaseCammel notation.
3	С	S	m	Board.java, Game.java	Repeated conditionals into some functions that can be encapsulated into another procedures
4	С	S	m	Board.java	The conditions of checkSpace() can be replaced for the boat length instead of hard-coded to reuse the code in case that new boats with different length are inserted.
5	D	S	m	Board, Barco,java	Change the MAGIC NUMBERS that control the frontier values and others to Constants.
6	С	S	m	Board.java	Encapsulate some conditions from checkSpace() and insertLastPos(), into another functions in order to have functions with less lines of code.
7	D	S	m	All classes	Remove redundant comments and add description comments.

8	D	S	m	Main.java	Unused import sentences.
9	R	W	M	Player.java	The game crash when the user shoot a position above 9.
10	С	W	М	Player.java	The game crash when the user insert a string instead of an integer.
11	С	W	М	Game.java	The game crash when the user insert a longer value than the maximum length of an integer.
12	С	W	M	Game.java	The scanner not use try catch sentences to check the input of the user.
13	D	U	m	Game.java	The length of the boat must be showed under the board information.
14	D	U	m	Game.java	It could be better to ask for a direction instead of the last position of the boat.

Generic Checklist for Code Reviews

Structure

- o Does the code completely and correctly implement the design?
- o Does the code conform to any pertinent coding standards?
- o Is the code well-structured, consistent in style, and consistently formatted?
- o Are there any uncalled or unneeded procedures or any unreachable code?
- o Are there any leftover stubs or test routines in the code?
- o Can any code be replaced by calls to external reusable components or library functions?
- o Are there any blocks of repeated code that could be condensed into a single procedure?
- o Is storage use efficient?
- o Are symbolics used rather than "magic number" constants or string constants?
- o Are any modules excessively complex and should be restructured or split into multiple routines?

Documentation

- o Is the code clearly and adequately documented with an easy-to-maintain commenting style?
- o Are all comments consistent with the code?

Variables

- o Are all variables properly defined with meaningful, consistent, and clear names?
- o Do all assigned variables have proper type consistency or casting?
- o Are there any redundant or unused variables?

Arithmetic Operations

- o Does the code avoid comparing floating-point numbers for equality?
- o Does the code systematically prevent rounding errors?
- O Does the code avoid additions and subtractions on numbers with greatly different magnitudes?

o Are divisors tested for zero or noise?

Loops and Branches

- o Are all loops, branches, and logic constructs complete, correct, and properly nested?
- o Are the most common cases tested first in IF--ELSEIF chains?
- o Are all cases covered in an IF- -ELSEIF or CASE block, including ELSE or DEFAULT clauses?
- o Does every case statement have a default?
- o Are loop termination conditions obvious and invariably achievable?
- o Are indexes or subscripts properly initialized, just prior to the loop?
- o Can any statements that are enclosed within loops be placed outside the loops?
- O Does the code in the loop avoid manipulating the index variable or using it upon exit from the loop?

Defensive Programming

- o Are indexes, pointers, and subscripts tested against array, record, or file bounds?
- o Are imported data and input arguments tested for validity and completeness?
- o Are all output variables assigned?
- o Are the correct data operated on in each statement?
- o Is every memory allocation deallocated?
- o Are timeouts or error traps used for external device accesses?
- o Are files checked for existence before attempting to access them?
- o Are all files and devices are left in the correct state upon program termination?