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# LCD DISPLAY

## 1. How to Run the Project.

The project was created using Eclipse, the folder Code/LCD contains an Eclipse project ready to import it and run it.

In case you want to run the project without Eclipse, you will need to compile files located in folder Code\LCD\src\main and then run the LCDGenerator class.

## 2. Representation used

1	2	3	4	5	6	7	8	9	0
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	--	--	--	--	--		--	--	
	--	--		--	--		--		--

A matrix representation was generated for each number, then the matrix was converted to a one dimension array numerating items in the following way:

0	1	2
3	4	5
6	7	8
9	10	11
12	13	14

In this way, we have 10 possible array combinations, one for each number.

Number 1									
Number 2	-			-				-	
Number 3	-			-				-	
Number 4				-					
Number 5	-			-				-	
Number 6	-			-				-	
Number 7	-								
Number 8	-			-				-	
Number 9	-			-					
Number 0	-							-	

In this way, each number array is being iterated and the LCD number is generated replacing values into a matrix, the matrix contains  $(size + 2) * amount\ of\ numbers$  columns and  $(2 * size) + 3$  rows.

In this way we iterate the amount of numbers inserted by user and generated the matrix with those values parsed to “ ”, “-” or “|”.

Finally the matrix is printed out and the user is able to check the result. When the user inserts the “0,0” input, the execution is terminated.