



MODULE 3– UF2 Programming

TRAINING UNIT 2 Structured Programming		Pt2 Project “Buscaminas”	
Surnames and Name:		Date:	
Project “Minesweeper” <p>In this project, a game of “Minesweeper” must be made.</p> <p>It is a single-player game where the player must to discover squares on a board. Below each square there may be a bomb, a number that indicates the number of bombs that surround this square or nothing, if there are no bombs around.</p> <p>The purpose of the game is to discover all the squares that do not have a bomb below. If the player discovers a square with a bomb below, the game ends and the player loses the game.</p> <p>The player must be able to play as many games as he wants and he can choose between three levels:</p> <ul style="list-style-type: none">a) Level 1: 8X8 board with 10 bombs.b) Level 2: 16X20 board and 50 bombs.c) (see extra points) <p>The bombs will be placed on the board in random positions (1 point) and the board will be displayed only with the squares uncovered (1 point).</p> <p>When selecting a square, it must be verified that it is not already open (0.5 points), calculate the surrounding bombs and show the corresponding number in the square (1 point). If a square is discovered without anything, all the squares around it will be automatically discovered until they are numbered, recursively (1 point).</p> <p>Lastly, the game must have a "Pirate" option. This means that when a coordinate is introduced to discover a square, if instead of setting a value we put a "-1", a discovered board will be shown with the locations of all the bombs (1 point) and we will continue to play.</p> <p>The game ends when a square with a bomb is uncovered or all squares without a bomb are uncovered (1 point). In both cases, the score obtained be calculated and displayed (1 point) which will be the sum of the values of all the opened squares.</p> <p>The game will be implemented with the Java language, on the console and using structured and modular programming.</p> <p>You have an application of the game at http://buscaminas.eu/</p> <p>Extra points:</p> <ul style="list-style-type: none">1) Show each turn the time taken since the beginning of the game. (0,5p)2) Add another level of game where the dimensions of the board and number of bombs are chosen by the player, with the necessary validations and logic. (0,5p)3) Clarity, organization, "clean code", documentation, use de utility package ... (up to 1.5p)			