**Names:**

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| customer | Snakes and Ladders Inc Company |
| user | * Platform Clients |
| functional requirements | RF1- Board creation  RF2- Player Registration  RF3- Create Snakes  RF4- Create Stairs  RF5- Define shift system  RF6- Show ladders and snakes  RF7- Roll dice  RF8- Calculate the score  RF9- Show top of the players. |
| Problem Context | The Snakes and Ladders Inc company requires software that allows you to simulate and play the game of snakes and ladders. |
| non-functional requirements | N/A |

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| Name or identifier | RF1-Dashboard Creation | | |
| Summary | The system should present the user with a grid of n rows and m columns in which S snakes and E ladders will be found. Each of the squares will be identified by consecutive numbers, the squares must go in a zig-zag pattern starting with the first square in the lower left part of the board. The number of rows and columns must be assigned by the user. | | |
| Input | **input name** | **datatype** | **Selection or repetition condition** |
| row | int | That the user does not enter a number less than 2 |
|  | Column | int | That the user does not enter a number less than 6 |
| General activities necessary to obtain the results | 1. Prompt the user for the number of rows and columns 2. The system will create the dashboard system: 3. Each box is created with a numerical identifier which will be consecutive. 4. Each box is linked so that it is traversed in the form of a Zig-Zag. | | |
| Result or Postcondition | The board created. | | |
| output | **output name** | **datatype** | **Selection or repetition condition** |
| Message | String | There is something wrong and the board can't be created. |
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| Name or identifier | RF2- Player Registration | | |
| Summary | The system will ask the three players for the identifying name and will ask them to select a game token. At the beginning they will be located in the first square of the board. | | |
| Input | **input name** | **datatype** | **Selection or repetition condition** |
| Yam | String |  |
|  | file | int | Have the user enter a number that is not found |
| General activities necessary to obtain the results | 1. The user must enter their name in the system. 2. The system must display the tab menu for the user to choose one. 3. The player must start on square 1. | | |
| Result or Postcondition | Player registration and player location. | | |
| output | **output name** | **datatype** | **Selection or repetition condition** |
| message | String | There is an error in the tile selection and a symbol cannot be assigned. |

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| Name or identifier | RF3- Create snakes. | | |
| Summary | The system should ask the user for the number of snakes. These are identified with the capital letters of the alphabet starting at A. The position of the snake will be generated randomly taking into account the restrictions that no snake must start on the last square and must not intersect with the stairs. | | |
| inputs | **input name** | **datatype** | **Selection or repetition condition** |
| snakes | int | That the number of snakes must be greater than 0. |
| General activities necessary to obtain the results | 1. The system should ask the user for the number of snakes and the user enters them. 2. The identification of each snake is generated. 3. They are placed randomly on the board. | | |
| Result or Postcondition | The snakes on the board. | | |
| output | **output name** | **datatype** | **Selection or repetition condition** |
| message | String | That the number of snakes must be greater than zero. |

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| Name or identifier | RF4- Create Stairs. | | |
| Summary | The system should ask the user for the number of stairs. These are identified with numbers from 1 to e. Taking into account the following restrictions: no straight starts on square 1 and no straight must intersect with a snake and ladder. | | |
| Input | **input name** | **datatype** | **Selection or repetition condition** |
| Ladder | int | That the number of stairs is less than 0. |
| General activities necessary to obtain the results | 1. The system must ask the user for the number of stairs and the user must enter it. 2. The system will generate the numerical identifier for each stair. 3. They are placed randomly on the board. | | |
| Result or Postcondition | The stairs on the board. | | |
| output | **output name** | **datatype** | **Selection or repetition condition** |
| message | String | That an error has occurred and the stairs cannot be generated. |

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| Name or identifier | RF5-E Define shift system | | |
| Summary | At the beginning of the game, a message will be presented to the players, indicating that the first player to register will be the first to start and so on. | | |
| Input | **input name** | **datatype** | **Selection or repetition condition** |
| Player | Player |  |
| General activities necessary to obtain the results | 1. When the user logs in, they will be assigned turn 1 and so on. | | |
| Result or Postcondition | assigned shifts | | |
| output | **output name** | **datatype** | **Selection or repetition condition** |
| message | String |  |

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| Name or identifier | RF6-show ladders and snakes | | |
| Summary | When the user chooses the option to see ladders and snakes, the board will be shown with the positions of each of these. | | |
| Inputs | **input name** | **datatype** | **Selection or repetition condition** |
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| General activities necessary to obtain the results | 1. That the user has entered the option to see ladders and snakes. 2. Have the system show you the option ladders and snakes. | | |
| Result or Postcondition |  | | |
| outputs | **output name** | **datatype** | **Selection or repetition condition** |
| Board | String |  |

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| Name or identifier | RF7-Roll Dice | | |
| Summary | The player must roll the dice and the system returns a random number between 1 and 6, which will be the number of squares that the player will travel on the board, if it falls into a snake the player returns to a lower square, otherwise if he lands on a ladder he will be advanced to a higher square. | | |
| Inputs | **input name** | **datatype** | **Selection or repetition condition** |
|
| General activities necessary to obtain the results | 1. The system must generate a random number between 1 and 6 for the player to walk on the board. | | |
| Result or Postcondition | The player's position on the squares. | | |
| Outputs | **output name** | **datatype** | **Selection or repetition condition** |
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| Name or identifier | RF8-Calculate Score | | |
| Summary | Each player has a score which is calculated with a formula that is:  Score = (600 - t) / 6  Where t is the time in seconds that elapsed at the start of the game, when one of the players reaches the finish line, time stops elapsed for that player and their score is calculated. | | |
| Inputs | **input name** | **datatype** | **Selection or repetition condition** |
| General activities necessary to obtain the results | 1. The system calculates the score of the player who finishes first with the following formula:   Score = (600 - t) / 6 | | |
| Result or Postcondition | player's score | | |
| outpust | **output name** | **datatype** | **Selection or repetition condition** |
| Score | String |  |

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| Name or identifier | RF9-Show the top of the players. | | |
| Summary | The system should display an ordered list from the highest score to the lowest score. In order for there to be more players in that list, you must play again without closing the program. | | |
| Inputs | **input name** | **datatype** | **Selection or repetition condition** |
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| General activities necessary to obtain the results | 1. When a player reaches the goal, the top is shown to him. | | |
| Result or Postcondition |  | | |
| Outputs | **output name** | **datatype** | **Selection or repetition condition** |
| Top | String |  |