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| **Customer** | Company Snakes and ladders Inc |
| **User** | Players |
| **Functional requirements** | 1. Display menu with 2 options, play and exit. 2. Ask the players the number of rows and columns on the game board. 3. Ask the players the numbers of stairs and snakes. 4. Let player throw dice or show stairs and snakes. 5. Display a grid made up of square brackets, with the cells numbered correctly and with the location of the ladders and snakes. 6. Give final score to the player once he reaches the end. 7. Display a list ordered from the highest score to the lowest score. 8. When user fall on a ladder, can only climb up. When falling into a slide, can only go down. |
| **Context of the problem** | The Company Snakes and Ladders Inc., has contracted for the development of a program that allows playing and also simulating the famous game Ladders and Snakes. |
| **Non-functional requirements** | 1. Created in Java 2. Use linked lists. 3. Use recursion. |

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| Summary | **R1**. Display menu with 2 options, play and exit. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| opt | Int | Can´t be null |
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| General activities required to achieve results | 1. Enter the system. 2. Choose one option. 3. Input data | | |
| Result or postcondition | The game will start with the 3 players, or the user will exit | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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| Summary | R2: Ask the players the number of rows and columns on the game board | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| Rows | Int | >0 |
| columns | int | >0 |
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| General activities required to achieve results | Input data | | |
| Result or postcondition | The system Will put randomly the rows and columns on the game board | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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| Summary | **R3.** Ask the players the numbers of stairs and snakes | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| stairs | Int | Can´t be null, must be less than the rows and columns. |
| snakes | Int | Can´t be null, must be less than the rows and columns. |
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| General activities required to achieve results | 1. Enter de system. 2. Choose one option. 3. Inputs data | | |
| Result or postcondition | the game will randomly position the information entered by the user | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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| Summary | R4 Let player throw dice or show stairs and snakes | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| opt | Int | Cant be null |
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| General activities required to achieve results | Choose the option Trow Dice | | |
| Result or postcondition | The console Will show a random number | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| diceresult | int |  |
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| Summary | **R5**. Display a grid made up of square brackets, with the cells numbered correctly and with the location of the ladders and snakes. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| Opt | Int | Can´t be null, must be valid. |
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| General activities required to achieve results | 1. Choose the option display stairs and snakes | | |
| Result or postcondition | the player will be able to see the ladders and snakes on the board. | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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| Summary | R6 Give final score to the player once he reaches the end. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| score | Int | One player must reach the end |
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| General activities required to achieve results | One of the 3 players must reach the last spot of the board | | |
| Result or postcondition | The system Will show the score of the player that reached the end | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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| Summary | **R7.** Display a list ordered from the highest score to the lowest score. | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
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| General activities required to achieve results | The game must be played and over | | |
| Result or postcondition | the player will be able to see the top of highest score to the lowest. | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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| Summary | R8 When user fall on a ladder, can only climb up. When falling into a slide, can only go down | | |
| Tickets | Entry name | Data type | Selection or repetition condition |
| Node | Node |  |
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| General activities required to achieve results | The player must be in the start of a ladder or a slide | | |
| Result or postcondition | The player Will climb or fall | | |
| Outputs | Entry name | Data type | Selection or repetition condition |
| msg | String |  |
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