Customer	**Snakes and Ladders Inc.**
User	Players of the snake and ladders game.
Requerimientos funcionales	RF1-Generate the game board. RF2-Generar las escaleras indicadas. RF3-generar las serpientes indicadas. RF4-Desplegar en pantalla el tablero de juego con la posición de los jugadores. RF5-Desplegar en pantalla las escaleras y las serpientes generadas. RF6-Permitir a los jugadores lanzar el dado. RF7-Mover a los jugadores por el tablero.Y desplazarlos a través de una escalera o una serpiente. RF8-Calcular el puntaje de los jugadores RF9-Mostrar el puntaje de los jugadores de forma ordenada.
Contexto del problema	Develop a program that allows to play simulate the game Ladders and Snakes
Requerimientos no funcionales	

Name or identifier	RF 1 - Generate the game board		
Resume	Generate the game board with the amount of squares that the user wants		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	amountRows	int	It’s the number of rows that the board will have to know its length. This number can’t be more than sixty four.
	amountColumns	int	It’s the number of columns that the board will have to know its length. It will have to be more than two and can’t be more than sixty four.

General activities necessary to obtain the results	The user must enter the size of the board by entering the number of rows and columns, also must enter the number of ladders and snakes in the game.		
Result or postcondition	The board of the game is created		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	none	none	none

Name or identifier	RF 2 - Generate the ladders		
Resume	Generate the amount of ladders that the user wants in the play. It will be identify with a positive number, starting with 1		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	amountLadders	int	It's the number of ladders that user wants in the play
	ladder	Node	It's created as a relationship between two positions on the board (squares) that the ladder is on
General activities necessary to obtain the results	The system randomly creates the amount of ladders that the user entered as a relationship between two squares on the board. If a player falls into the square with the lowest value of the relationship, he will go to the square with the highest value		
Result or Postcondition	The ladders are created		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	none	none	none

Name or identifier	RF 3 - Generate the snakes
Resume	Generate the amount of snakes that the user wants in the play. It will be identify with a alphabet letter, starting with A

Inputs	**Nombre entrada**	**Tipo de dato**	**Selection or repetition condition**
	amountSnakes	int	It's the number of snakes that user wants in the play
	snake	Node	It's created as a relationship between two positions on the board (squares) that the snake is on
General activities necessary to obtain the results	The system randomly creates the amount of snakes that the user entered as a relationship between two squares on the board. If a player falls into the square with the highest value of the relationship, he will go to the square with the lowest value		
Result or Postcondition	The snakes are created		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	none	none	none

Name or identifier	RF 4 - Show the board		
Resume	Display the game board on the screen with the position of the players.		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	none	none	none
General activities necessary to obtain the results	When player indicates that wants to see the board, the system will show a message in the console with the different squares and next to it the player who it's located on it		
Result or Postcondition	The board is printed on the console		
Outputs	**Nombre salida**	**Tipo de dato**	**Selection or repetition condition**
	imgBoard	String	A message that will be displayed on the console showing the board

Name or identifier	RF 5 - Display the snakes and ladders generated.		
Resume	The system will find the snakes and ladders generated before, and will display them per pair based on their position in the board.		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	none	none	none
General activities necessary to obtain the results	The system will find the snakes and ladders created in the bord and will display them.		
Result or Postcondition	A message on the screen with the information of the position of the snakes and ladders on the board.		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	boardSnLdd	String	The snakes and ladders must exist

Name or identifier	RF 6 - Allow the players to roll the dice.		
Resume	The player in their turn will choose the option to roll the dice. Then the system will generate a random number		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	none	none	none
General activities necessary to obtain the results	The system will generate a random number from 1 to 6 that will be used to move the player.		
Result or Postcondition	The result of the dice is obtained and used to determine the player’s journey.		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	diceResult	int	That no one has reached to the final square

Nombre o identificador	RF7-Move the players through the board and the snakes or ladders.		
Resume	Once the player rolls the dice, the system moves the player according to the number indicated by the dice. If the player falls into a snake or a ladder then they will be moved to the end of it.		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	none	none	none
General activities necessary to obtain the results	The system checks the result of the dice and then moves the player the number of boxes obtained by them.Additionally the system checks if the box where the player ended is a snake or a ladder and if the condition is met, move the player to the box where the snake or ladder ends.		
Resultado o Postcondición	The player in a new box according to the condition met.		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	none	none	none

Name or identifier	RF8-Calculate the player's score.		
Resume	When a player comes to the last box, the system will use the following formula to calculate their score: `(600 - t) / 6`, where t is the elapsed time in seconds since the beginning of the game. Note: after ten minutes the score will be negative.		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
	none	none	none
General activities necessary to obtain the results	When a player comes to the final box, the System will use the formula to calculate the score of the player. Additionally, time should be kept from the start of the game.		
Result or Postcondition	The score of the player has been calculated.		
Output	**Output name**	**Datatype**	**Selection or repetition condition**
	playerScore	double	If the player reaches the last box.

Name or identifier	RF9-Display the player's score in an orderly way.		
Resume	The system will save the score of the players in a specific data structure that will order them, then when required the score of all players will be displayed.		
Inputs	**Input name**	**Datatype**	**Selection or repetition condition**
General activities necessary to obtain the results	The system will compare every player's score and will order them in a binary search tree.		
Result or Postcondition	The score of all players ordered in a data structure.		
Outputs	**Output name**	**Datatype**	**Selection or repetition condition**
	tree	BinarySearhTree	The user wants to see the scores of the winners of each game