

# Software Requirements for Snakes & Ladders

## Snakes & Ladders

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### Overview

This document describes requirements for the software implementation of the classic game of Snakes & Ladders.

This software will allow two players to play this game against each other on the computer. A description of the game plus the requirements of this application are provided below.

### The Game

2 players play on a board with 100 squares numbered from 1 to 100. Each player in turn throws the dice and marches his pawn a number of steps according to the number he received.

If the last step encounters the bottom of a ladder, the player will take his pawn and go up to the top of the ladder and the next turn will continue from there.

If the last move encounters a snake's head, the player will slide the pawn to where the snake's tail is, and on the next turn continue from there.

The winner is the one who brings his pawn to the end point first!

### Software implementation

#### *UI elements*

The software will present the Snakes & Ladders game with the UI elements listed below.

- 10X10 grid with numbered squares with snakes and ladders on it.
- 2 game soldiers standing on the first square, one in red for the 1<sup>st</sup> player and one in blue for the 2<sup>nd</sup> player.
- Row of buttons on top of the screen (like a toolbar) that has:
  - "Start" button

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- "Throw the dice" button
- Label to display Game Status message

## *Game Process and Rules*

- The game starts when the player clicks Start. Until then the pawns on the are ignored and can't be moved, and the game status message is "Click Start to begin Game."
- After Start is clicked: The message "Current Turn: Red pawn – Throw the dice!" is displayed. The 1<sup>st</sup> player takes their turn by clicking on the throw the dice button, the game status message should display the number he got between 1 and 6. The player forwards the red pawn a number of steps according to the number he received, If the last step encounters the bottom of a ladder or the head of a snake the computer will automatically move he's pawn according to the rules.
- After the red soldier reaches the intended slot, the message "Current Turn: Blue pawn – Throw the dice!" is displayed, and so the game will continue until there is a winner.
- The blue soldier will be disabled with no possibility to move it during the red soldier's turn and vice versa.
- The winner is the first to reach the final point, even if he has not yet finished walking all the steps he received.