

Title:

- Snaket

Group Members:

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Description:

Our project is a simulation of the classic Nokia “Snake” game.

The objective of the game is simple yet engaging: the player controls a green snake that moves around the screen, trying to eat red fruits that appear at random positions. Each time the snake eats a fruit, it grows longer, and the player’s score increases.

The snake can be controlled using either the arrow keys or the W, A, S, D keys for movement. The game continues as long as the snake avoids collisions. If the snake’s head hits the border of the screen or its own body, the game ends with a Game Over screen displaying the player’s final score.

After losing, the player can choose to restart the game directly from the Game Over screen, allowing for repeated attempts and score improvement.

List of resources:

1. Built in functions and data types
2. 2htdp/image for the graphics
3. 2htdp/universe for the game physics

Data types:

- Snake: a list of positions (each position is a pair of grid coordinates) representing the body of the snake, with the first element being the head.
- Direction: the current movement direction of the snake, stored as a symbol ('up', 'down', 'left', or 'right').
- Food: the position (x, y) of the red fruit currently visible on the screen.
- Score: a number that increases every time the snake eats food.
- Record: the highest score achieved during the session.

- Position: represented as a (make-posn x y) pair from the 2htdp/image library, used for coordinates on the grid.
- List of Positions: used to represent the snake's body segments.
- Numbers: used for grid dimensions, scoring, and coordinates.
- Symbols: used for direction values ('up', 'down', 'left', 'right').
- Booleans: used to indicate conditions such as “game over” or “has the snake eaten food?”.

