LilyPad

# Frogger

Game Manual

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**LilyPad**

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# Introduction

Welcome to this special edition of **Frogger**, where your task is to navigate the frog through a challenging course of obstacles.

Originally developed by **Konami**, **Frogger** challenges players to guide a frog across busy roads and rivers. In this version, you'll dodge cars and jump on logs to reach the top of the screen, requiring quick reflexes and strategic thinking. Each successful crossing advances you to new levels, enhancing the excitement of this classic adventure.

Developed by students at **ALGOSUP**, this FPGA-integrated version introduces a fresh take on the classic game while staying true to its original spirit. The game comes with a **custom-built console**, designed for ease of use and modification. The code is simple to alter, allowing you to add your own features and personalize the gameplay experience.

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# Objective

Your mission is to skillfully **guide your frog** across a bustling **road** filled with fast-moving cars. You will need to **time your jumps** to avoid being **crushed** by cars. Successfully making it to the top of the screen will allow you to complete the level and progress to even greater challenges ahead.

As you advance, the **difficulty** will **increase**, introducing **faster traffic**. You'll need to stay alert and think strategically to navigate each level. With each successful crossing, you'll gain a sense of accomplishment and excitement, making your journey even more rewarding as you strive to reach new heights in this classic adventure.

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# Gameplay Controls

## Movements

| Button | Action |
|--------|--------|
| 🔴 Red | Move Forward |
| 🟢 Green | Move to the Right |
| 🟡 Yellow | Move Backward |
| 🔵 Blue | Move to the Left |

## Miscellaneous

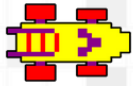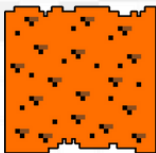| Buttons | Action |
|---------|--------|
| 🔴 + 🟢 + 🟡 + 🔵 | Press all buttons to start or restart the game. |
| 🔵 + 🟢 | Press both buttons to display remaining lives. |

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# Game Elements

**The Frog:** The character you control, **guiding** it across various obstacles.

**Cars:** Your **enemies** on the road. **Avoid** getting hit by them to stay alive.

**Grass:** Safe areas where your frog is **protected** from danger.

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# Game Elements

The screen is composed from the top to the the bottom:
- 1 row of grass
- 6 rows of road
- 2 rows of grass
- 5 rows of road
- 1 rows of grass



There is 1 car on the line above the frog, 1 car on the line where the frog is and 1 car on the line below the frog.

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# Scoring

In this version of Frogger, there are **no points** awarded **during** the **course** of each round. **Instead**, your score is based on **completing levels**. Each time you successfully guide your frog to the top of the screen, you **earn 1 point**. This marks the completion of the current level and automatically advances you to the next.

Your **current level**, and thus your progress in the game, is **displayed** clearly **on** the **7-segment** display of the console. This provides a quick and easy way to track how far you've made it in your journey, offering a sense of achievement as you climb through the levels.

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# Credits

Originally developed by **Konami** in **1981**, this version of **Frogger** has been integrated using **FPGA** technology by **ALGOSUP**. The project was created by **Group 6** from the first project of the **2024-2025** cohort, composed of **Enzo G, Evan U, Elone D, Maxime C, Pierre G, and Axel D.**

Ready to experience the game for yourself? **Download it now** and build your own custom **LilyPad** console by scanning the QR code below!



https://github.com/algosup/2024-2025-project-1-fpga-team-6

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