

Rabbids CODING!

TEACHER GUIDE 2021



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INTRODUCTION

“Rabbids Coding” is a game created to introduce children to programming and the basics of logic. In each level the player will have to find the best algorithm with the smallest number of code blocks to achieve the goal.

The game has 32 levels + 1 "sandbox" level. Each completed level gives between 1 and 3 stars to the player:

- 3 stars if the player's program has the targeted number of blocks (or less).
- 2 stars if the player uses 1% to 30% of additional blocks regarding the targeted number.
- 1 star if the player uses more than 30% of the targeted number of blocks were used.

Levels have no time limit and may be replayed at any time.

Each player has the ability to save his game state. The game will generate a code that corresponds to its level of progression in the game with the number of stars earned for each level. This code can be loaded during the next visit to resume the backup.

LEVEL THEMES

Levels' difficulty is progressive. Here are the different themes covered by group of levels:

Levels 1-10: Sequential programming.

This group of levels consists for the player to place action blocks (advance / turn / drop...) in the right order to achieve the objective of the game. This is the simplest level of algorithm.

Levels 11-17: Loops.

These levels introduce the "Repeat" (for) loop to repeat a block or group of blocks automatically in order to optimize its program.

The block is divided into two parts:

- "Repeat" to which we add the number of repetitions
- "Do" to which we add the actions that will be repeated

Levels 18-22: Conditions.

These levels introduce the conditional blocks "If / Else" allowing to execute an action or group of actions only if a condition is met. The block is divided into two or three parts:

- "If" to which a condition is added
- "Do" to which are added the actions that will be carried out if the condition is met
- "Otherwise" to which are added the actions that will be carried out if the condition is not met

Levels 23-32: Loops and conditions.

These levels mix the previous notions and allow a better understanding of the different uses of the last blocks used together. In addition, it introduces a two-part conditional repetition block:

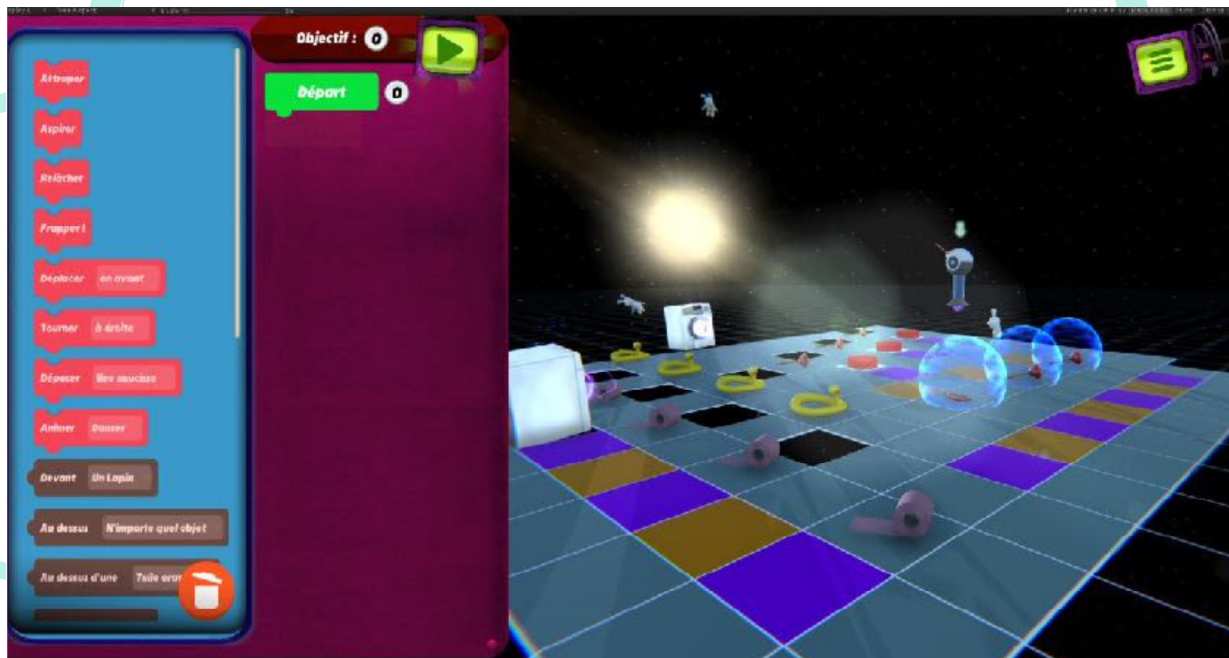
- "Do While" or "Do Until" to which a condition is added
- "Do" to which we add the actions that will be performed as long as the condition is met or until the condition is met

SANDBOX

The sandbox is a special level where all code blocks are unlocked and the player is free to use them without a specific goal.

This mode is unlocked automatically after level 32. It is recommended to perform all levels of the game before accessing it because no tutorial is present, and the user may not understand how they work.

This level can also be unlocked with the save code "SANDBOX".



INTERFACE ORGANISATION



1. TOOLBOX

This toolbox is the blue part at the leftmost part of the screen. Each block in this part can be moved into the workspace without limit and in any order to compose the program.

At the bottom of there is a bin to remove blocks from the program being built.

2. WORKSPACE

The red area is the workspace. It's in this part that the player must assemble the code blocks of the toolbox to form his program.

The "Start" block is the only block present at the beginning of a level, the player's blocks must be attached below it. When a player moves a block from the toolbox to the workspace, a visual indicator shows where the block will be attached. The player can rearrange his blocks or delete them at any time.

3. "PLAY" BUTTON

The "PLAY" button starts the program at any time. It turns into a "stop" button when the program runs.

During the execution the character on the screen will perform the actions one by one until the end of the program. The user can either wait for the end or stop the execution at any time to make changes to his program.

The right button "x1" indicates the current speed of the program. The player may decide to switch to x2 or x3 to speed up the program.

4. OBJECTS COUNTER

When the goal of a level includes objects that need to be picked up (Rabbids or objects), a counter indicates in the bottom right corner the type and number of remaining objects.

LEVEL OBJECTIVES



RABBIDS



GRAPPLING ROBOT



ROBOT VACCUM CLEANER

There are different types of objectives:

- Reach the end of the path.
- Collect all Rabbids using the grappling robot and place the rabbits in the washing machine.
- Pick up all objects with the robot vacuum cleaner.
- Place sausages with the robotic vacuum cleaner to draw the rabbits to the washing machines.

These different goals must be accomplished by using as few code blocks as possible.

INTERACTIVE ELEMENTS

The levels introduce new interactive 3D objects and new blocks of code progressively. Here are the main interactive elements:

THE WASHING MACHINES



The washing machine can swallow rabbits. Rabbits can either be placed in front of it by the grapping robot or they can simply pass by if they are attracted by food.

THE CONTROL CONSOLES



The consoles contain a red button accessible only to the rabbit equipped with a headset of mental control that the player controls. These buttons are used to deactivate electrical barriers or protective fields.

THE FLOOR BUTTONS



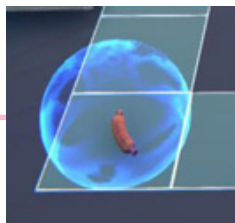
The floor buttons are identical to the consoles, but this is accessible to the robot vacuum cleaner that can activate it by placing a sausage on top. They also disable the electrical barriers and force fields.

THE ELECTRIC BARRIERS



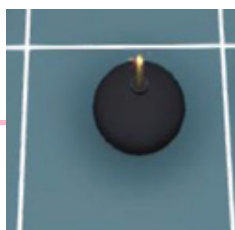
Electric barriers are areas to avoid, rabbits and robots that pass through them will be electrocuted. They serve as obstacles that need to be bypassed or to be disabled.

THE FORCE FIELD



Protection bubbles are force fields. They surround an object and prevent access, or can block the way as a barrier. You must either bypass or disable it.

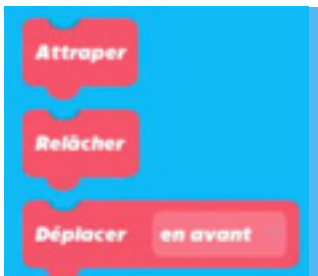
THE BOMBS



The bombs are objects that can be picked up by the vacuum cleaner but these have to be avoided because they explode inside the robot instantly.

CODING BLOCKS

Here are the main types of blocks used in the levels:



THE ACTION BLOCKS

The action blocks are orange. They can contain a parameter or not, like the "move" block, which allows you to choose a direction. They have a socket on their top and a plug at their lower end so they can interlock with other blocks.



THE REPETITION BLOCKS

Repetition blocks or "loops" make it possible to repeat an action or action sequence a defined number of times. The blocks to be repeated must be placed inside it. It is possible to nest loops inside other loops.

Just like the other blocks, at the end of the repetitions, the program will continue to run through the blocks attached below through the socket.



CONDITION BLOCKS

Condition blocks allow you to execute sub blocks only if a condition is true. They have an extra socket on their right which can only accommodate condition blocks like "can move". If the condition is true, the blocks in front of "do" will be executed, otherwise the program will pass after the code without taking these actions into account.

A variant exists with an "else" to explicitly define blocks executed when the condition is false.



THE REPETITION BLOCKS UNDER CONDITIONS

The "repeat while" loop, takes a condition as parameter, just like the "if / else" block. It allows to repeat an action or a sequence of actions as long as a condition is true.

This block has a parameter to transform it into "repeat until" which allows this time to repeat actions until the condition is true, (so the repetition will be done as long as the condition is false).

SAVE CODES

Trainers have the ability to unlock levels with a special backup code.

In the popup "load", enter the code "UNLOCK" followed by the number of the level to unlock. For example, "UNLOCK32" will unlock all levels up to the 32nd included. If the player has completed certain levels before this one, their scores on these levels will be retained. All subsequent levels until the 32nd will be unlocked with a score of zero stars. The player can go directly to unlocked levels or any of the intermediate levels.

The code "SANDBOX" allows to unlock directly the "sandbox" level. This mode is unlocked automatically after the last level. It is recommended to perform all levels of the game before accessing it because no tutorial is present and the user may not understand how to use the blocks.

LEVEL SOLUTIONS

LEVEL 1



PLEASE NOTE

There are multiple solutions for each level, the user may find different and shorter solutions than the following...

LEVEL SOLUTIONS

LEVEL 2



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LEVEL SOLUTIONS

LEVEL 3



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LEVEL SOLUTIONS

LEVEL 4



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LEVEL SOLUTIONS

LEVEL 5



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LEVEL SOLUTIONS

LEVEL 6



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LEVEL SOLUTIONS

LEVEL 7



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LEVEL SOLUTIONS

LEVEL 8

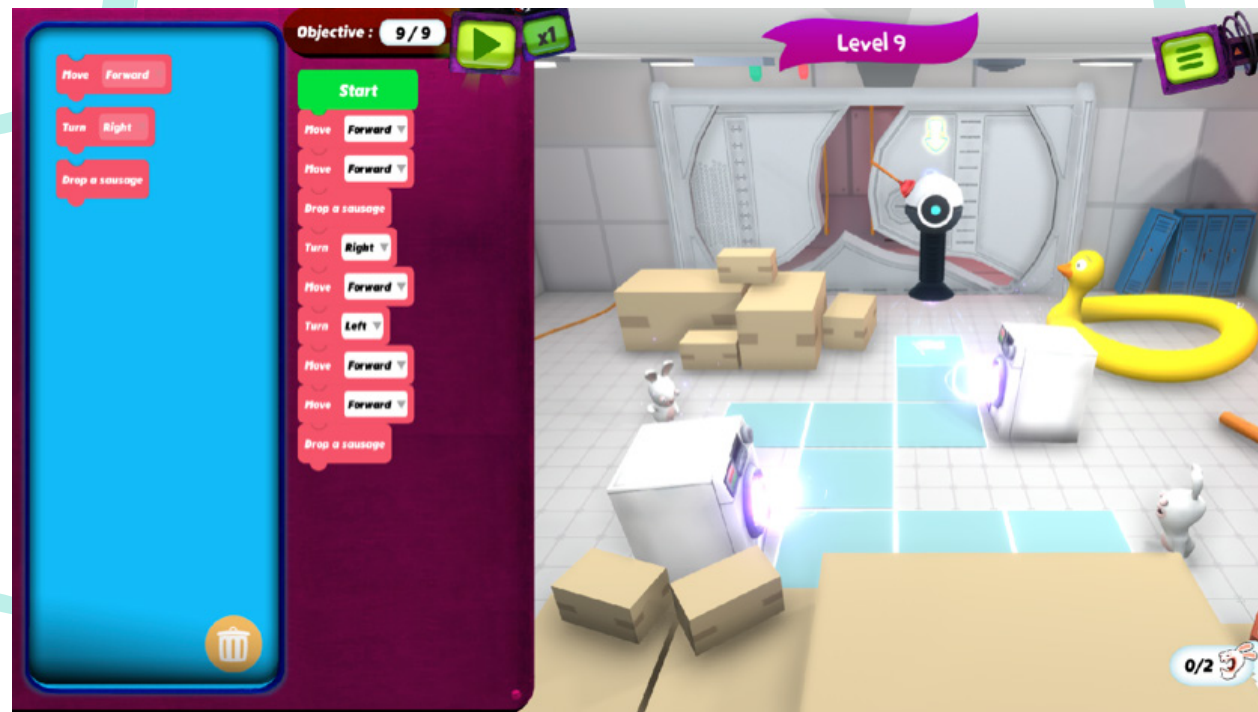


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LEVEL SOLUTIONS

LEVEL 9



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LEVEL SOLUTIONS

LEVEL 10



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LEVEL SOLUTIONS

LEVEL 11



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LEVEL SOLUTIONS

LEVEL 12

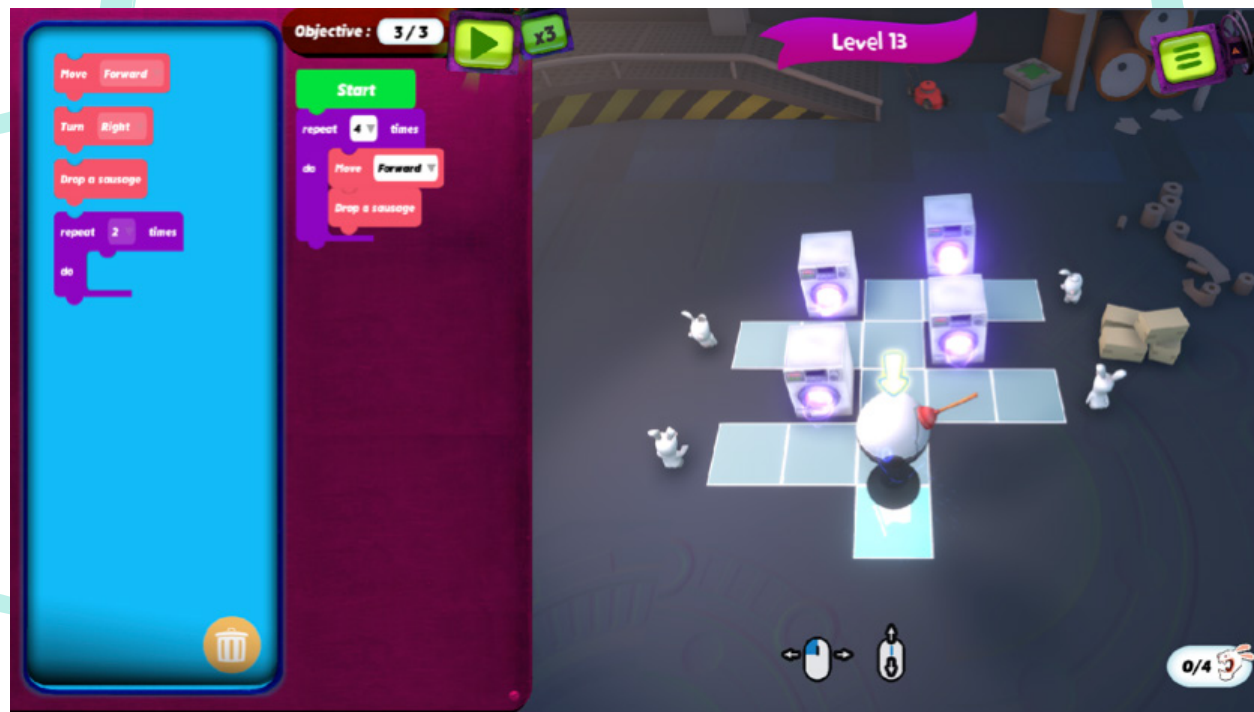


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LEVEL SOLUTIONS

LEVEL 13

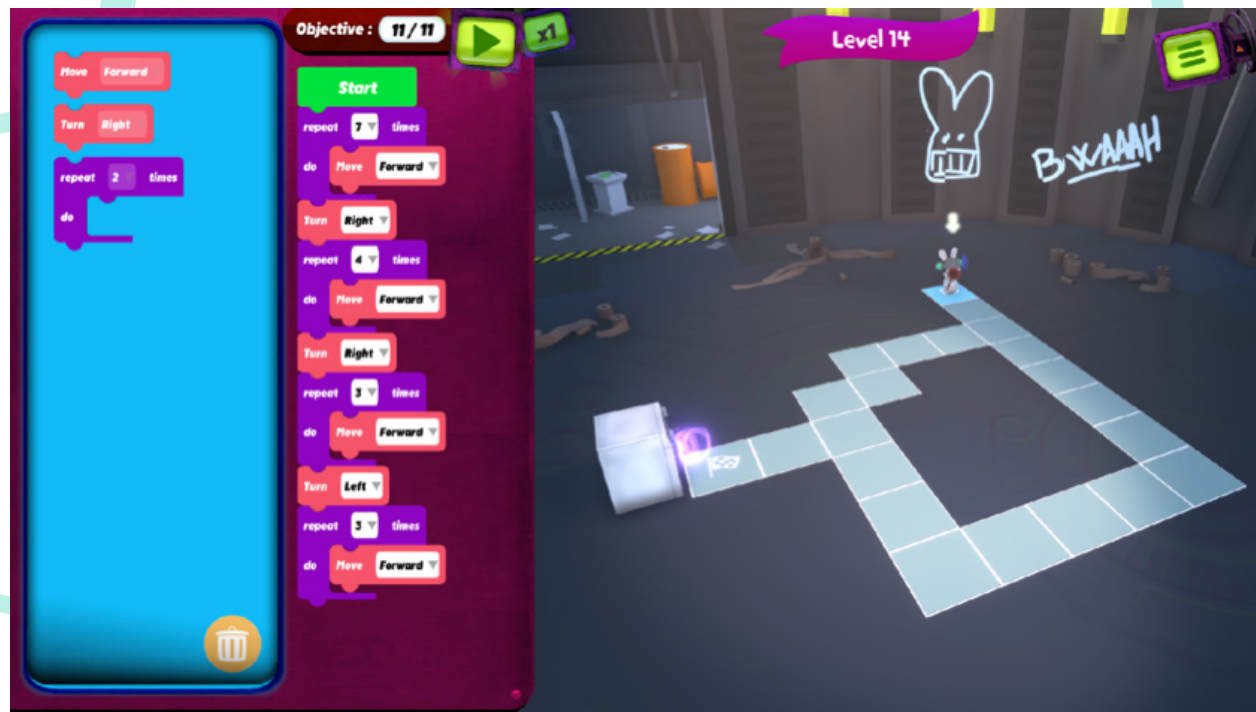


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LEVEL SOLUTIONS

LEVEL 14



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LEVEL SOLUTIONS

LEVEL 15



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LEVEL SOLUTIONS

LEVEL 16



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LEVEL SOLUTIONS

LEVEL 17



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LEVEL SOLUTIONS

LEVEL 18



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LEVEL SOLUTIONS

LEVEL 19



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LEVEL SOLUTIONS

LEVEL 20



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LEVEL SOLUTIONS

LEVEL 21



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LEVEL SOLUTIONS

LEVEL 22



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LEVEL SOLUTIONS

LEVEL 23



PLEASE NOTE

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LEVEL SOLUTIONS

LEVEL 24

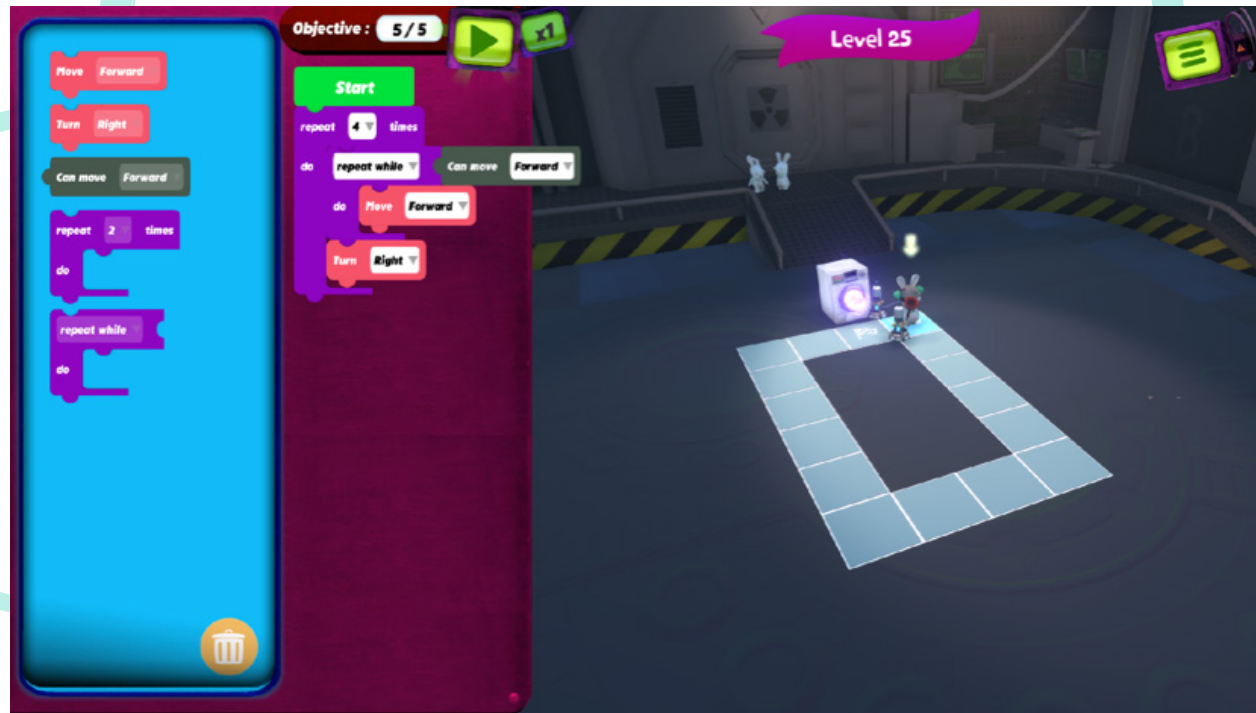


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LEVEL SOLUTIONS

LEVEL 25

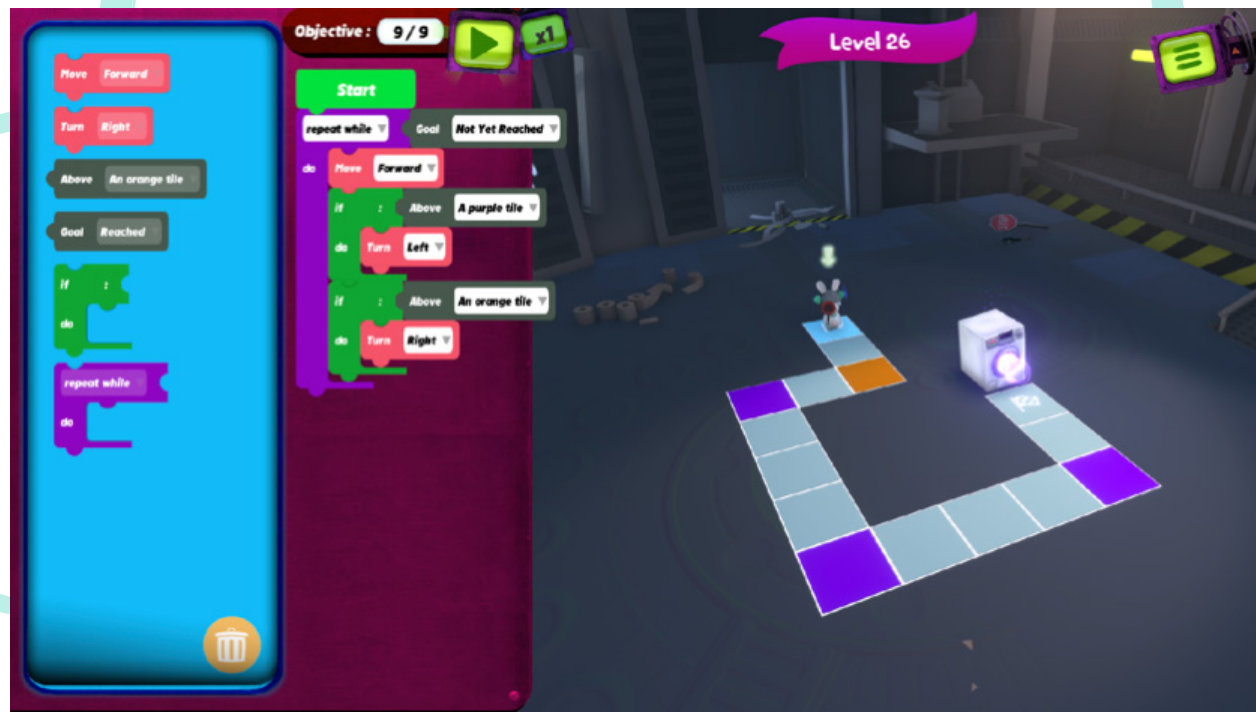


PLEASE NOTE

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LEVEL SOLUTIONS

LEVEL 26

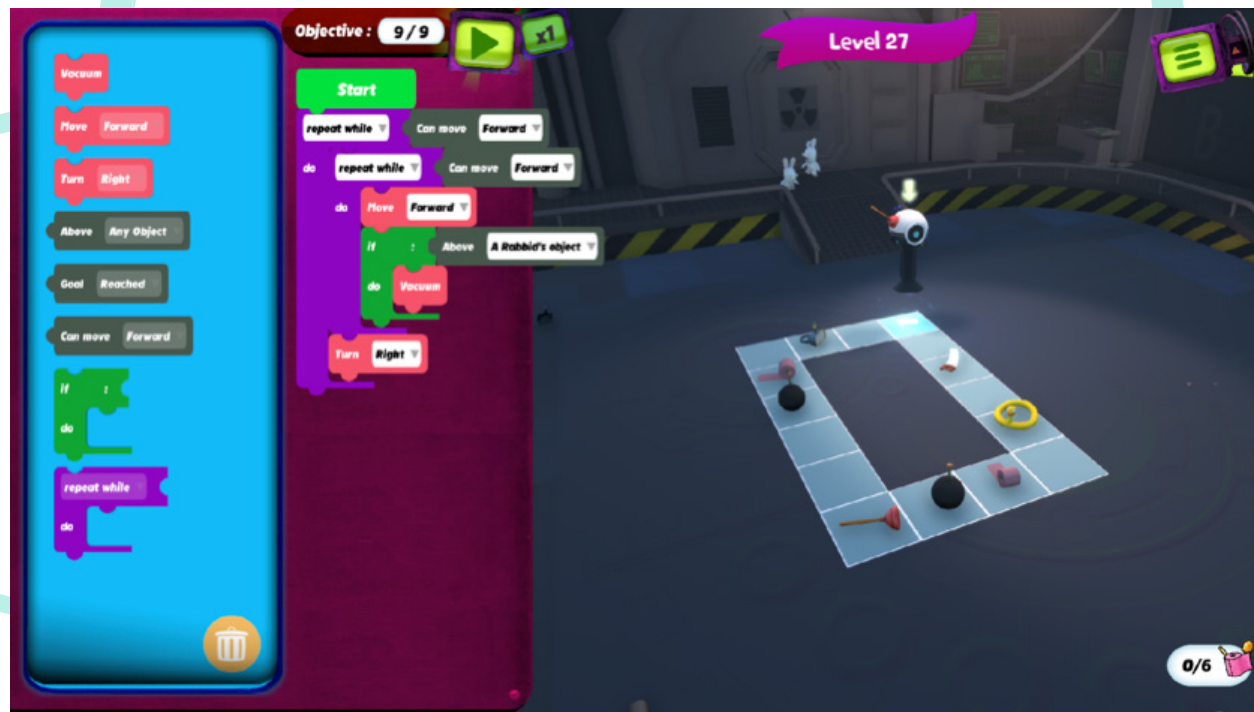


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LEVEL SOLUTIONS

LEVEL 27



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LEVEL SOLUTIONS

LEVEL 28



PLEASE NOTE

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LEVEL SOLUTIONS

LEVEL 29



PLEASE NOTE

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LEVEL SOLUTIONS

LEVEL 30

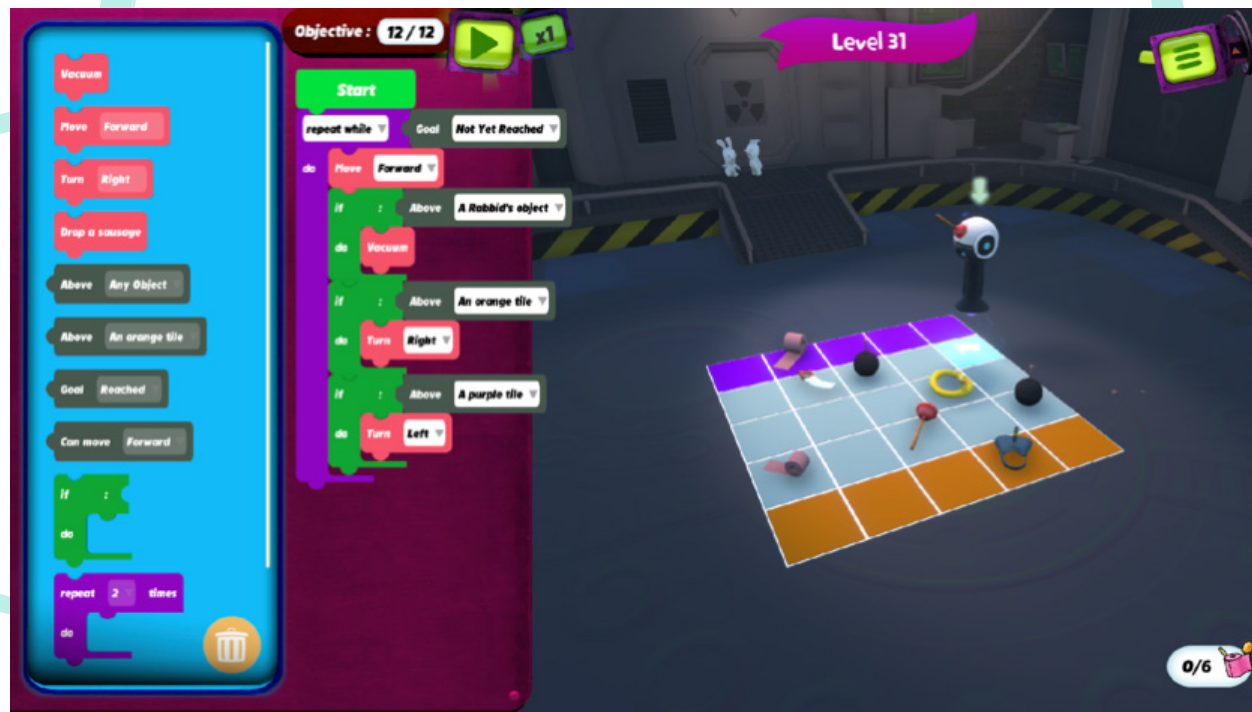


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LEVEL SOLUTIONS

LEVEL 31



PLEASE NOTE

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LEVEL SOLUTIONS

LEVEL 32

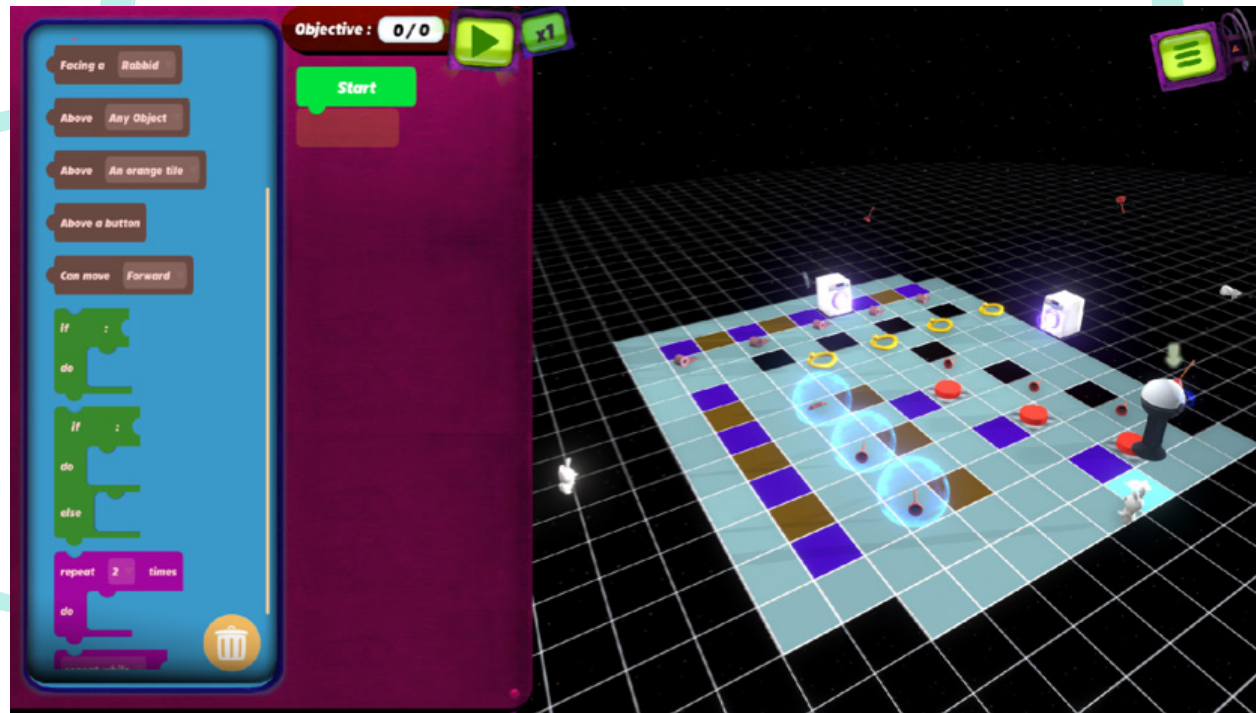


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LEVEL SOLUTIONS

LEVEL 33



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