Repeat (Repetition)

Description:

Repetition blocks enable you to execute a set of instructions multiple times. You can use blocks to repeat actions for a specific number of times or until a certain condition is met.--A loop that repeats the specified amount of times.- Blocks held inside this block will loop a given amount of times, before allowing the script to continue. -

Clue:

colocar el value desde block

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Example of use

Calculating

Description:

With the block ﷺcalculatingﷺ you can sum up, subtract, multiply, and divide numbers. This block can only be used in conjunction with another block which requires a number as an input parameter. Settings and input values: ﷺ Number ﷺ Mathematical operator, choose one of +, ?, ﷺ, ﷺ, ^ ﷺ Number

Clue:

Return value: Number, result of the calculation.

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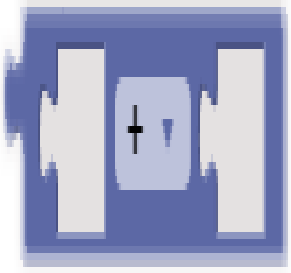
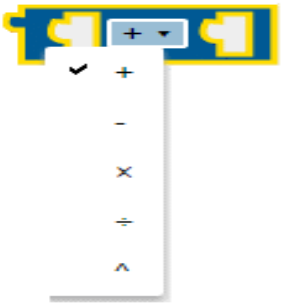




Example of use

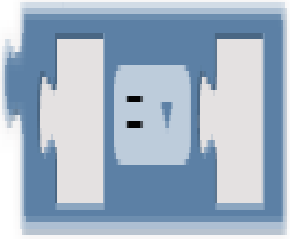
Logical comparison

Description:

=: Returns true if both inputs are equal to each other. ?: Returns true if both inputs are not equal to each other. <: Returns true if the first entry is less than the second entry. ?: Returns true if the first entry is less than or equal to the second entry. >: Returns true if the first entry is greater than the second entry. ?: Returns true if the

Clue:

With the block ﷺcomparisonﷺ you can compare different parameters of the same type (number, color, logical value, text). This block can only be used in conjunction with another block which requires a logical value as an input parameter.



Example of use

Number

Description:

These blocks are used for working with numerical values and controlling the movements of components. You can assign values to variables and perform calculations as needed.

Clue:

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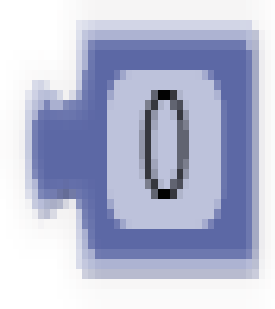

Example of use

Sensor

Description:

Clue:

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Example of use

Sensor

Description:

Clue:

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Example of use

Movement with ?

Description:

Clue:

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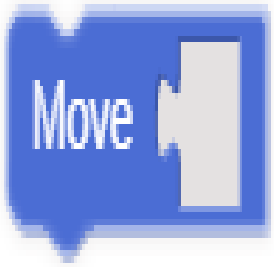

Example of use

steering action

Description:

Clue:

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Example of use

Challenge 1- Advanced

Instructions: or Challenge or Description:

Chuy must carry out his morning routine, which consists of running a certain number of kilometers that varies day by day (between 15 and 45 km). Make Chuy always reach his destination without going over! Clue: look in the \"Sensors\" category if there is something that can help you.

Tip or Clue:

A \"Repeat\" block can be used with the value of a sensor. This allows a code sequence to be repeated the number of times indicated by the sensor

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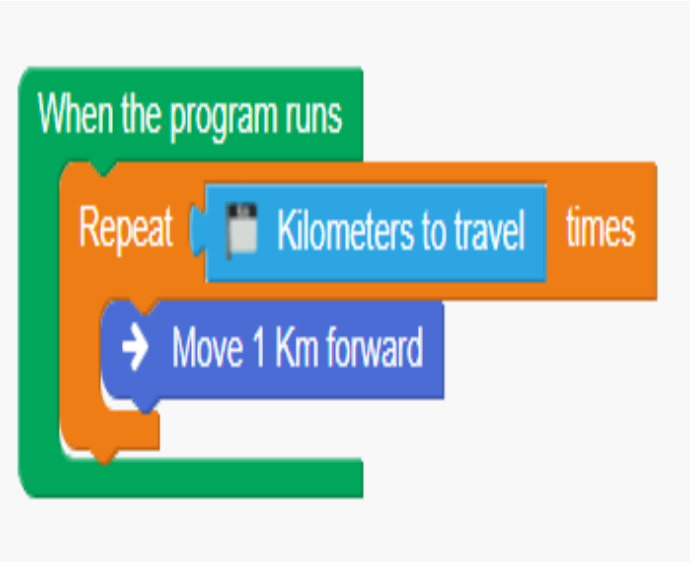
Blocks in procedurals



Challenge 2- Advanced

Instructions: or Challenge or Description:

Mañic needs to count the celestial bodies again, but now she cannot check whether she reached the end of the column! Is there any sensor to help her?

Tip or Clue:

A sensor will allow us to get information that can change each time you run the program, even during the same run. For example, the length of a column changes depending on the column on which Mañic is standing.

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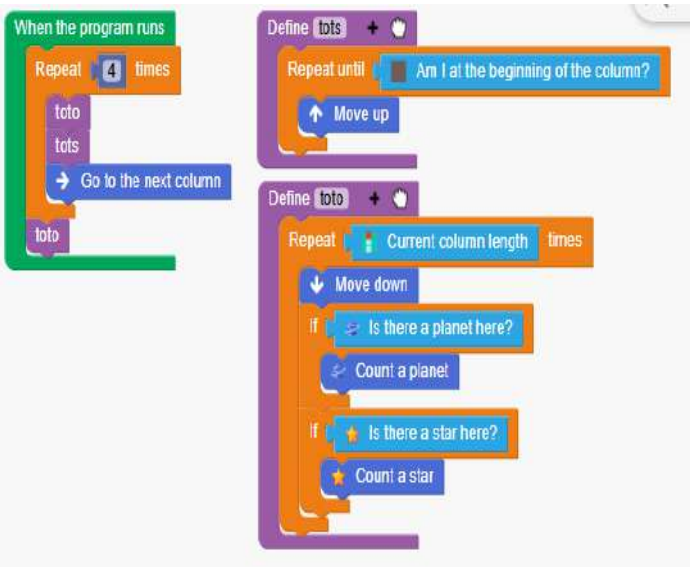
Blocks in procedurals



Challenge 3- Advanced

Instructions: or Challenge or Description:

Help Capy and Guyrá to collect all the cans. Be careful! He cannot come down...\nTake into account that the scenario doesn’t change, and the cans are always in the same boxes!

Tip or Clue:

You can add parameters to the procedures, so that they become more general. For instance, if we create the following procedures: \"Collect 2 cans on the right\ \"Collect 3 cans on the right\ and \"Collect 4 cans on the right\ we can replace these three procedures with one procedure with a parameter stating the number of cans we

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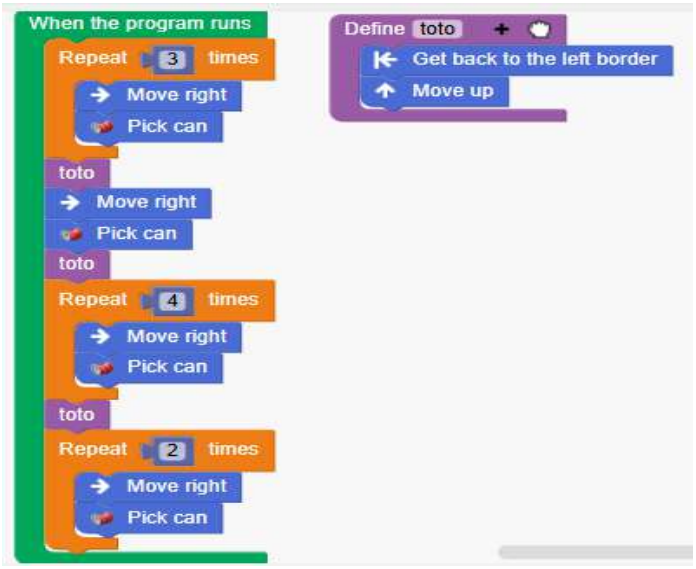
Blocks in procedurals



Challenge 4- Advanced

Instructions: or Challenge or Description:

Draw a square where each side's length is 100.

Tip or Clue:

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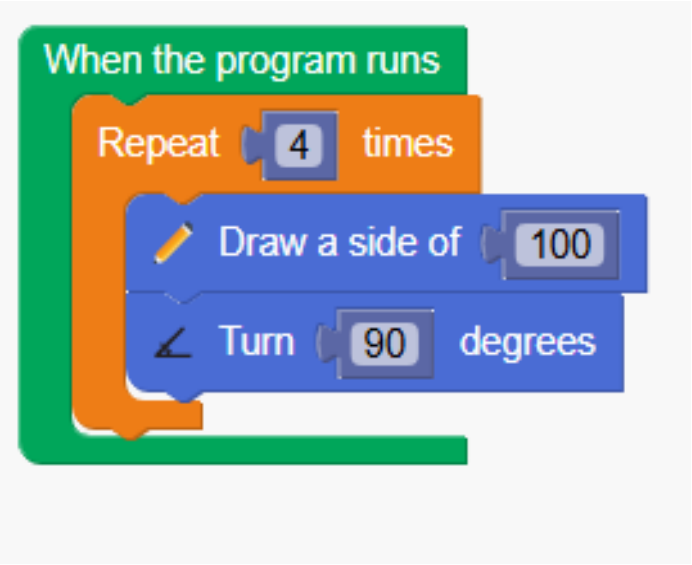
Blocks in procedurals



Challenge 5- Advanced

Instructions: or Challenge or Description:

Draw 5 squares in a row, where each side's length is 50, as shown by the shaded figure below.

Tip or Clue:

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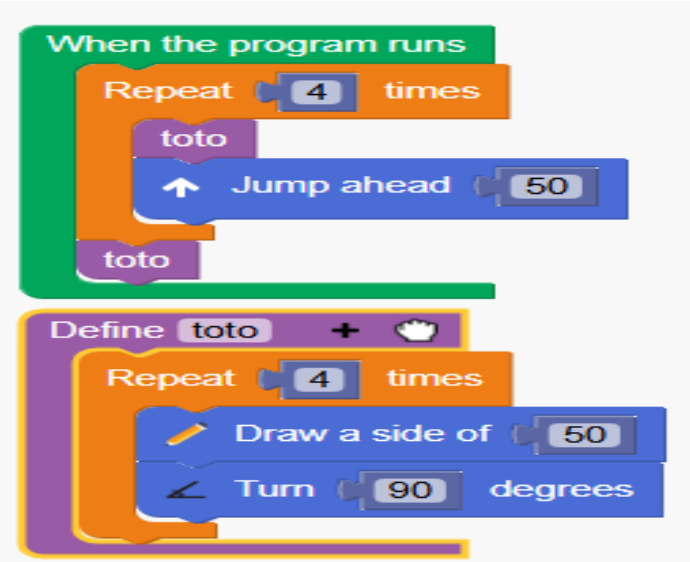
Blocks in procedurals



Challenge 6- Advanced

Instructions: or Challenge or Description:

Draw 5 squares in a diagonal line, where each side's length is 50, as shown by the shaded figure below.

Tip or Clue:

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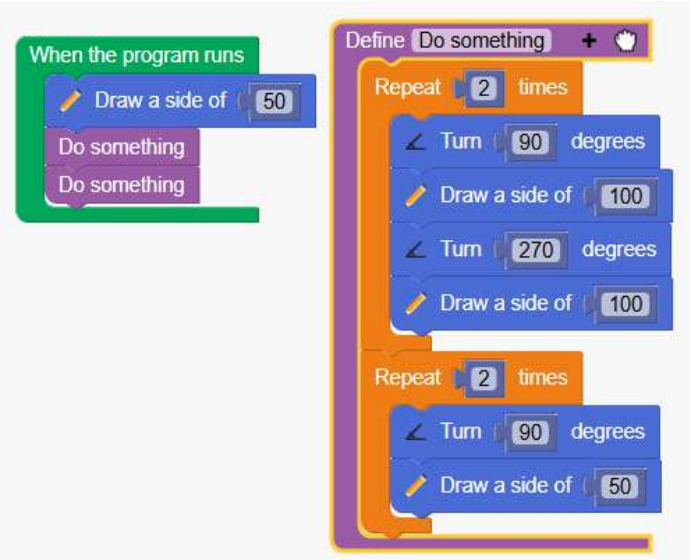
Blocks in procedurals



Challenge 7- Advanced

Instructions: or Challenge or Description:

Draw 4 squares, where each side's length is 50, 100, 150, and 200 respectively, as shown by the shaded figure below. Clue: create a new procedure for drawing different squares with different side's length.

Tip or Clue:

Including parameters in the procedures will allow you to generalize a concept. For example, the side's length of a square.

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Blocks in procedurals

Challenge 8- Advanced

Instructions: or Challenge or Description:

Draw 5 squares. 4 of them where each side's length is 50, and 1 of them where each side's length is 100, as shown by the shaded figure below.

Tip or Clue:

When creating a procedure with parameters, their values are not defined (for example: \"side's length\"). When you use the procedures, you have to set a particular value for such parameters (50, 100, etc.).

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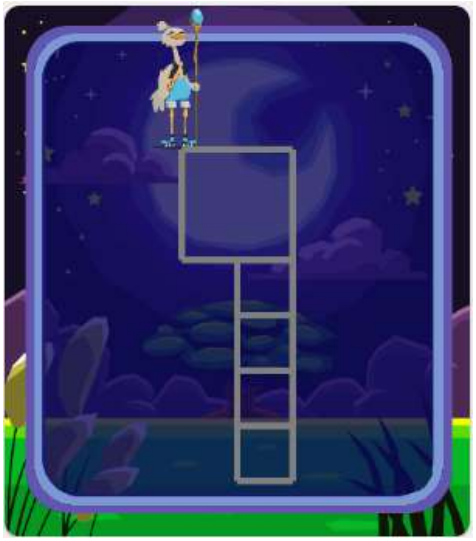
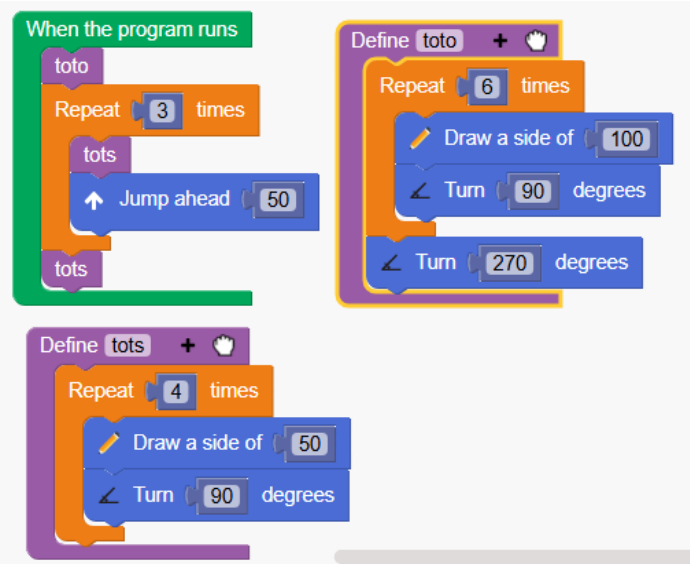


Blocks in procedurals



Challenge 9- Advanced

Instructions: or Challenge or Description:

Draw a hexagon, where each side's length is 100, as shown by the shaded figure below. Clue: think how many degrees the robot needs to rotate considering the interior angles of the hexagon.

Tip or Clue:

In polygons, the exterior angle value is equal to 180 degrees, less the interior angle value.

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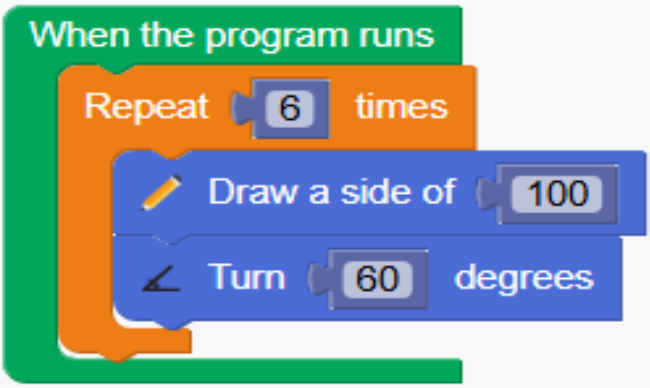
Blocks in procedurals



Challenge 10- Advanced

Instructions: or Challenge or Description:

Draw an equilateral triangle, where each side's length is 100, as shown by the shaded figure below. Clue: check if there exists a relationship between the different angles and the number of sides.

Tip or Clue:

In polygons, the sum of all exterior angles is equal to 360

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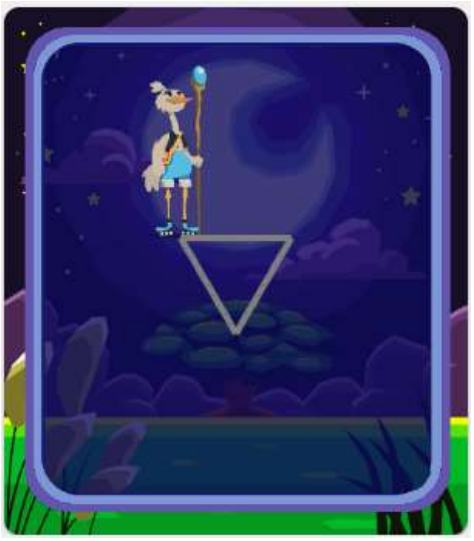
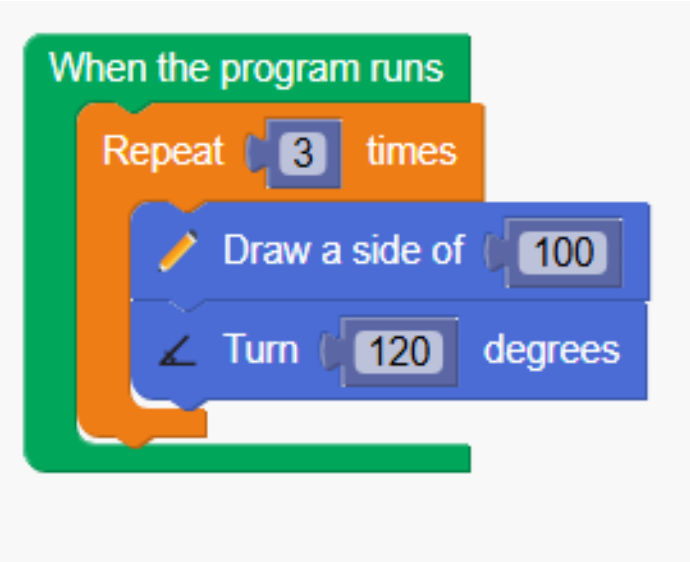


Blocks in procedurals



Challenge 11- Advanced

Instructions: or Challenge or Description:

Draw a triangle, a square, and a pentagon, where each side's length is 100, as shown by the shaded figure below.
Clue: create a procedure with a parameter for the number of sides.

Tip or Clue:

Now we have the Operators: these blocks will allow us to do the numbers automatically, like a calculator!... How many degrees is a full circle rotation? What number should we divide this by?

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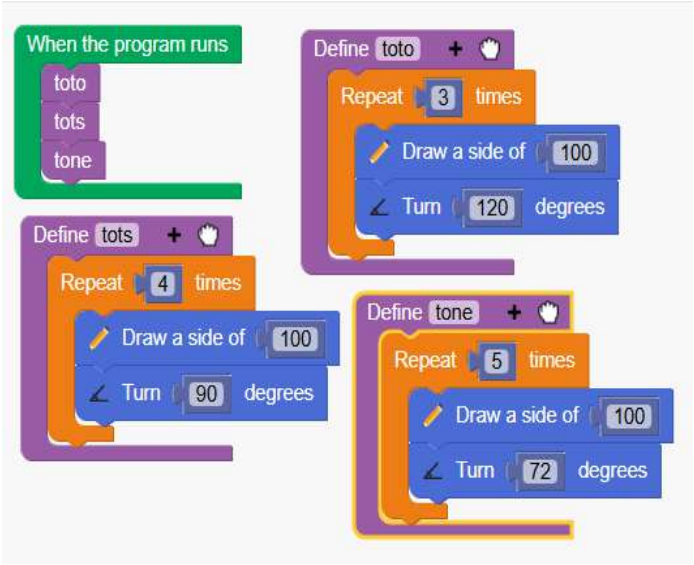
Blocks in procedurals



Challenge 12- Advanced

Instructions: or Challenge or Description:

Draw 3 triangles, where each side's length is 40, 60, and 100 respectively, and a square where each side's length is 200, as shown by the shaded figure below. Clue: create a procedure with 2 parameters, one for the number of sides and the other for their length.

Tip or Clue:

In order to use the parameters in a new procedure, you have to right click on the block that defines such procedure.

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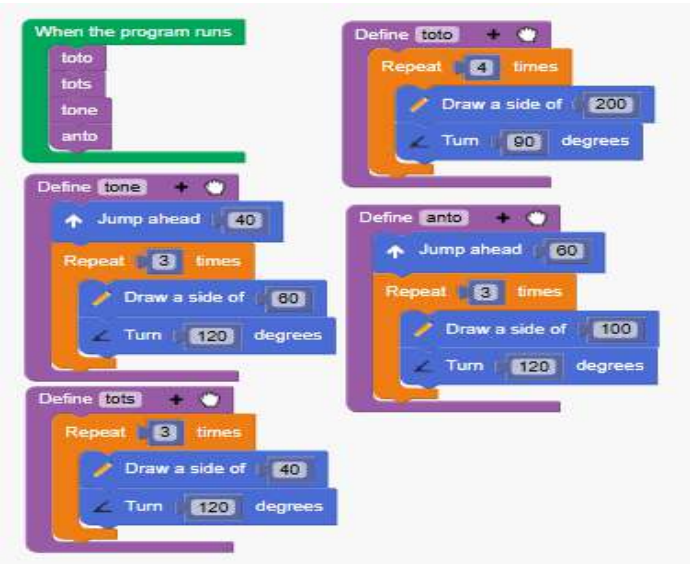
Blocks in procedurals



Challenge 13- Advanced

Instructions: or Challenge or Description:

In order for Mañic to invite his friends to observe the stars, she has to arrange the three telescopes by moving them a certain number of times until they are positioned correctly.

Tip or Clue:

Guide yourself by the shadows of the telescopes to know how far to move them

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Blocks in procedurals

Challenge 14- Advanced

Instructions: or Challenge or Description:

Help Capy and Guyrá throw a paper in the trash bin at the end of each row. Please take into account that the scenario doesn't change each time you run the program! Clue: if you have to choose a parameter for your procedure... Which one would you choose? What's the variation from row to row?

Tip or Clue:

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Blocks in procedurals

Challenge 15- Advanced

Instructions: or Challenge or Description:

Just like before, we need to power all computers on. But this time you have to define a unique procedure to power them on, whichever side they are.

Tip or Clue:

The parameters can be directions; they don't always need to be numbers. For example, a parameter could be the direction in which the robot should move.

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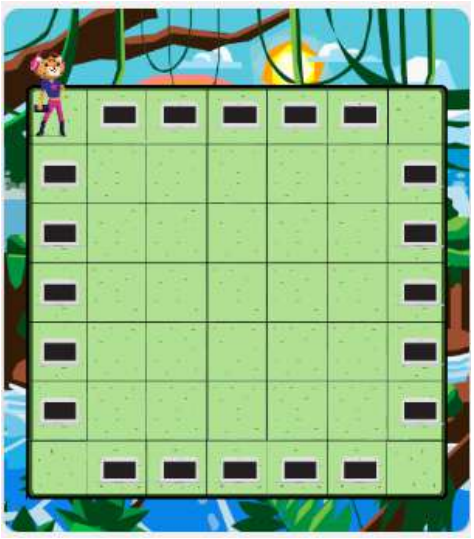
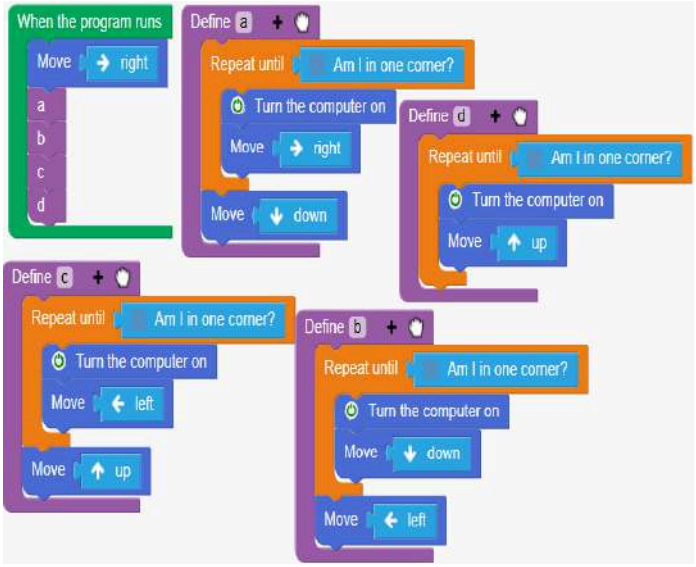


Blocks in procedurals



Challenge 16- Advanced

Instructions: or Challenge or Description:

Yvoty should watch on all butterflies in the square, but they are distributed in a different way each time you run the program. Take into account that the butterflies are never in the boxes in the corner, and that the size of the square doesn't change each time you run the program.

Tip or Clue:

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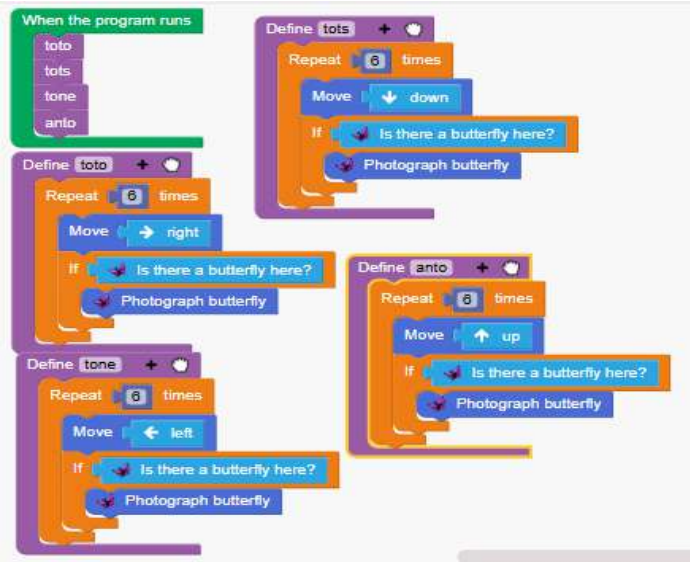
Blocks in procedurals



Challenge 17- Advanced

Instructions: or Challenge or Description:

La colección de trofeos de Chuy crece día a día. Acompañale a recogerlos. Tené en cuenta que la posición de los mismos no cambia y que tanto las direcciones como la cantidad de trofeos podrían ser parámetros...

Tip or Clue:

Una característica muy útil es que podés combinar parámetros numéricos (cantidades, medidas) con parámetros de texto (direcciones, nombres). ¡Aprovechala!

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Blocks in procedurals

Challenge 18- Advanced

Instructions: or Challenge or Description:

In this case we must bounce all the ping pong balls in the square with the paddle, but in each execution they are distributed in a different way. Take into account that the boxes in the corner will never have a ping pong ball, and that the size of the square doesn´t change each time you run the program.

Tip or Clue:

If you don´t have a procedure with parameters to move in any direction... You can create it!

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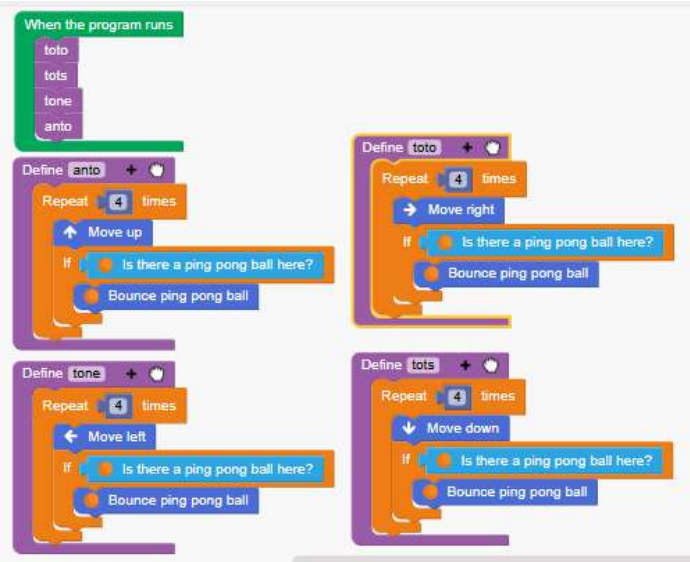
Blocks in procedurals



Challenge 19- Advanced

Instructions: or Challenge or Description:

In this activity you'll be able to draw whatever you like.

Tip or Clue:

We've included all blocks possible, so that you can unleash your creativity.

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Blocks in procedurals