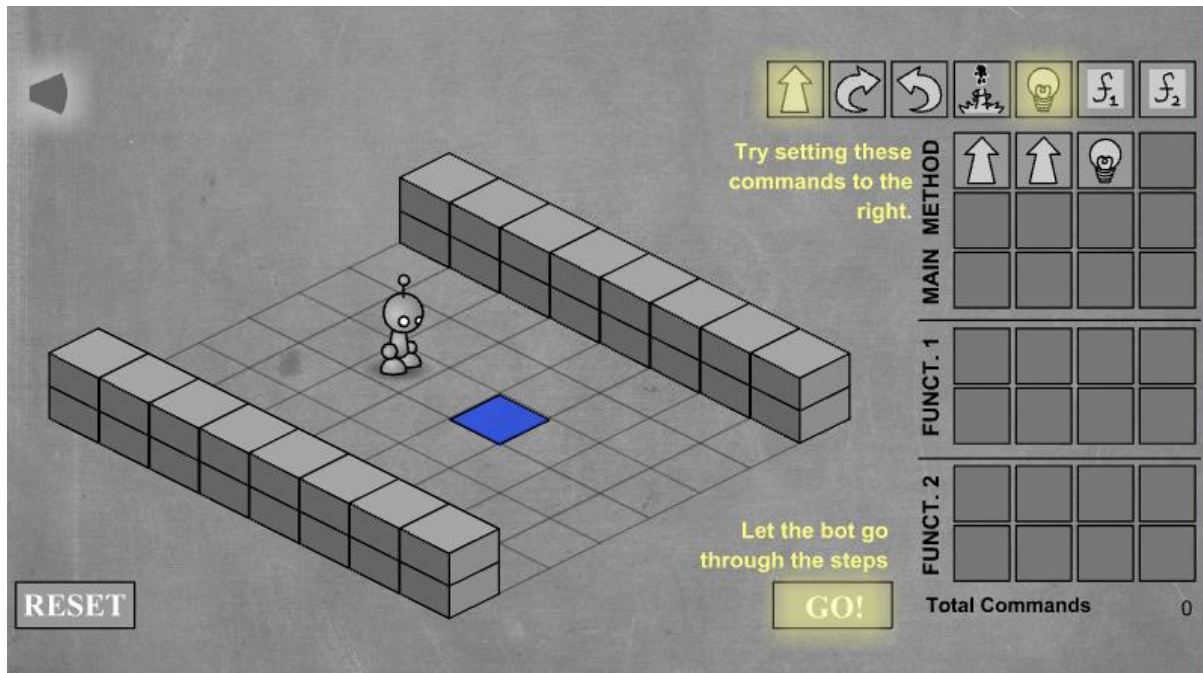


Taller De Videojuegos Nivel I

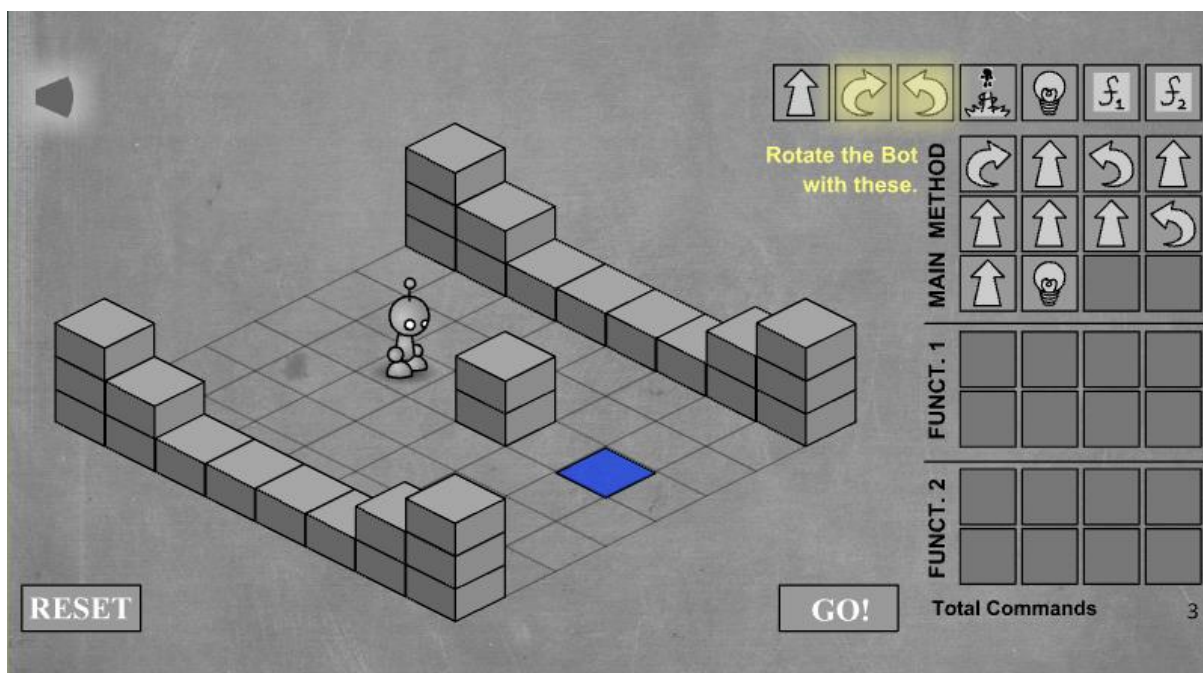
Alumnos: Lucero Valentin, Pignat Ignacio

Actividad 1

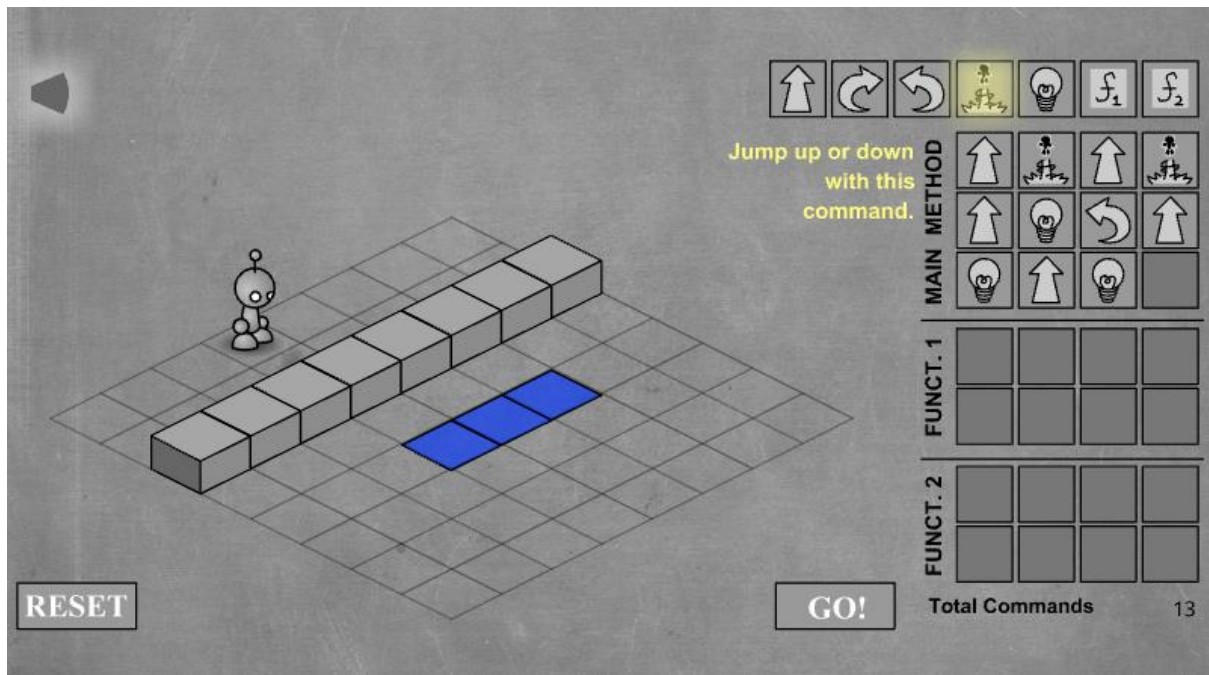
Lightbot nivel 1:



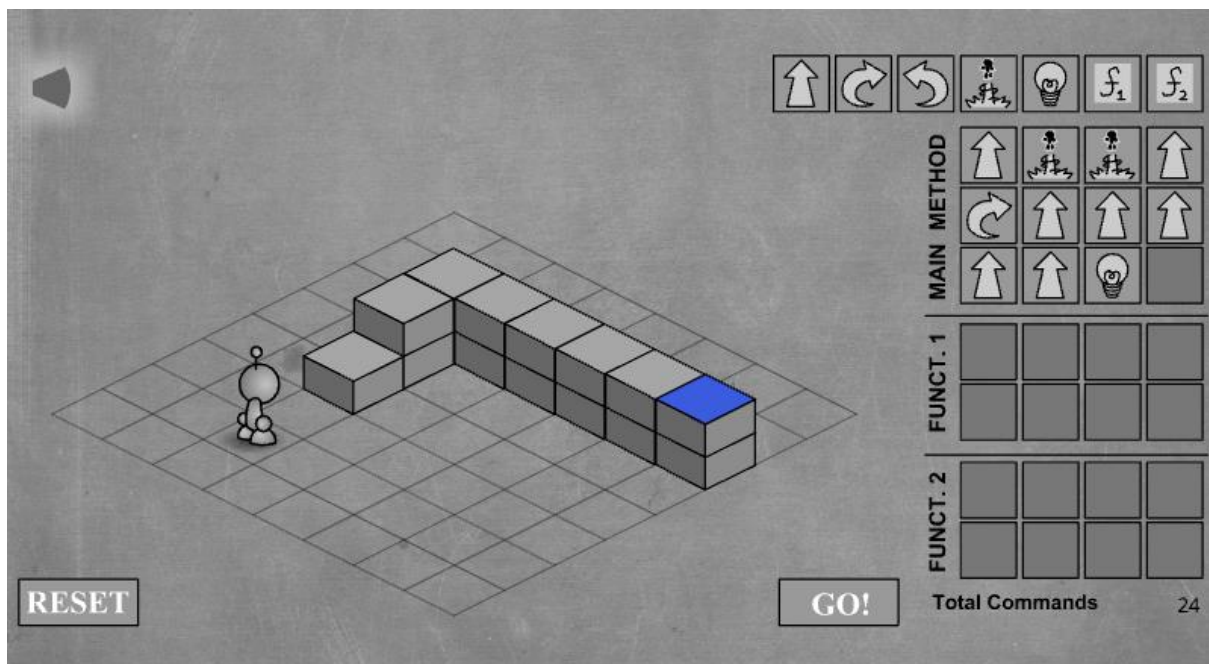
Lightbot nivel 2:



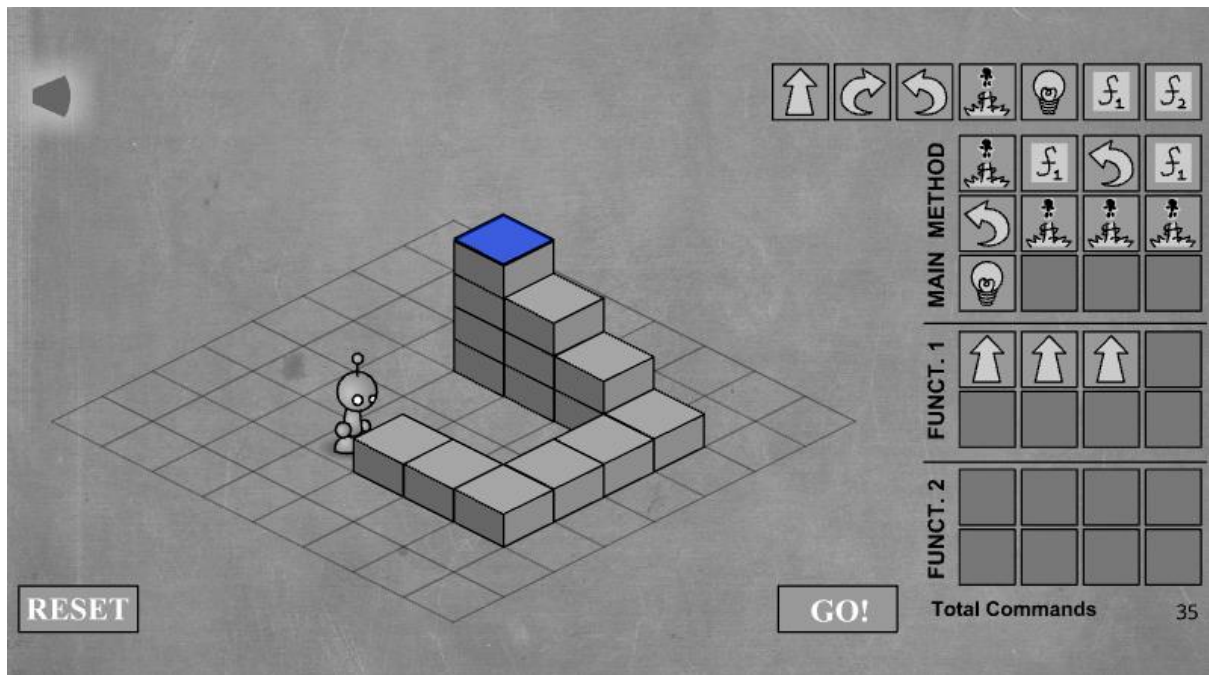
Lightbot nivel 3:



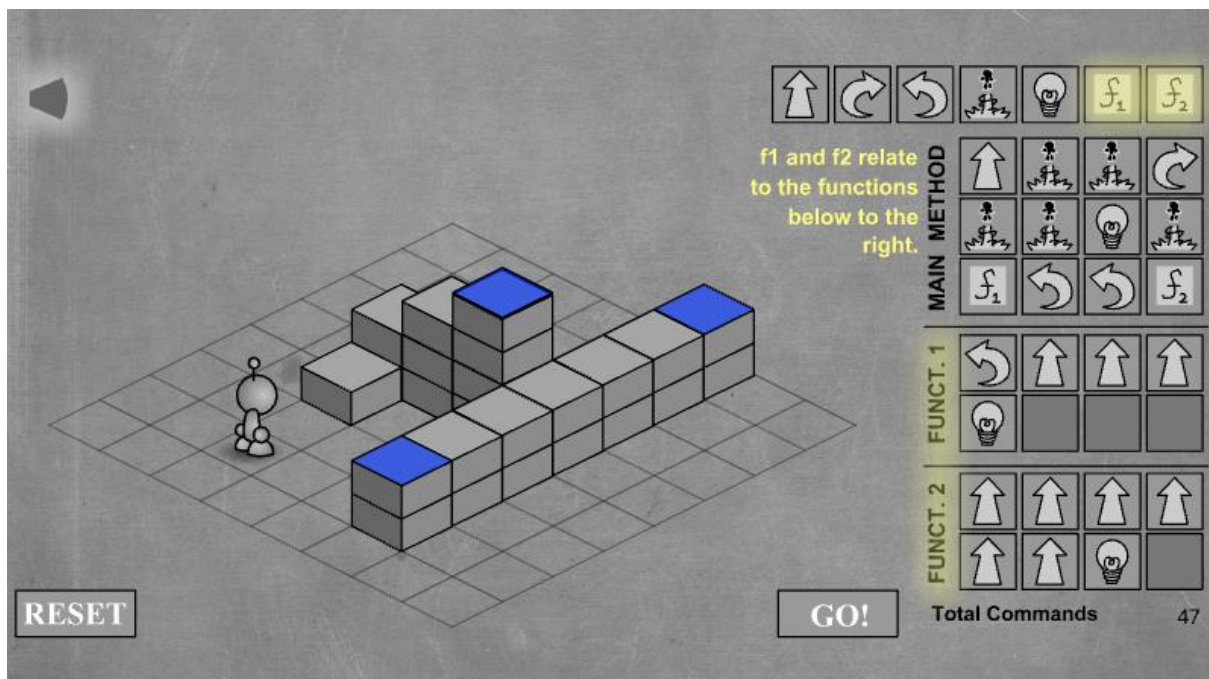
Lightbot nivel 4:



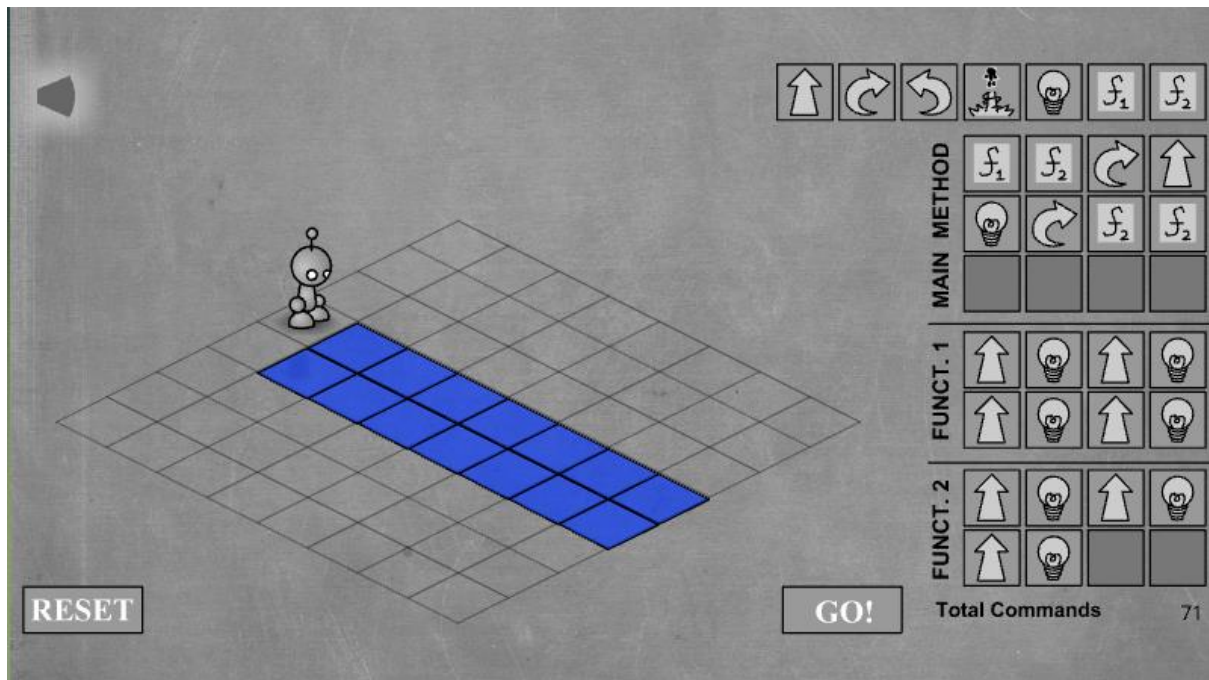
Lightbot nivel 5:



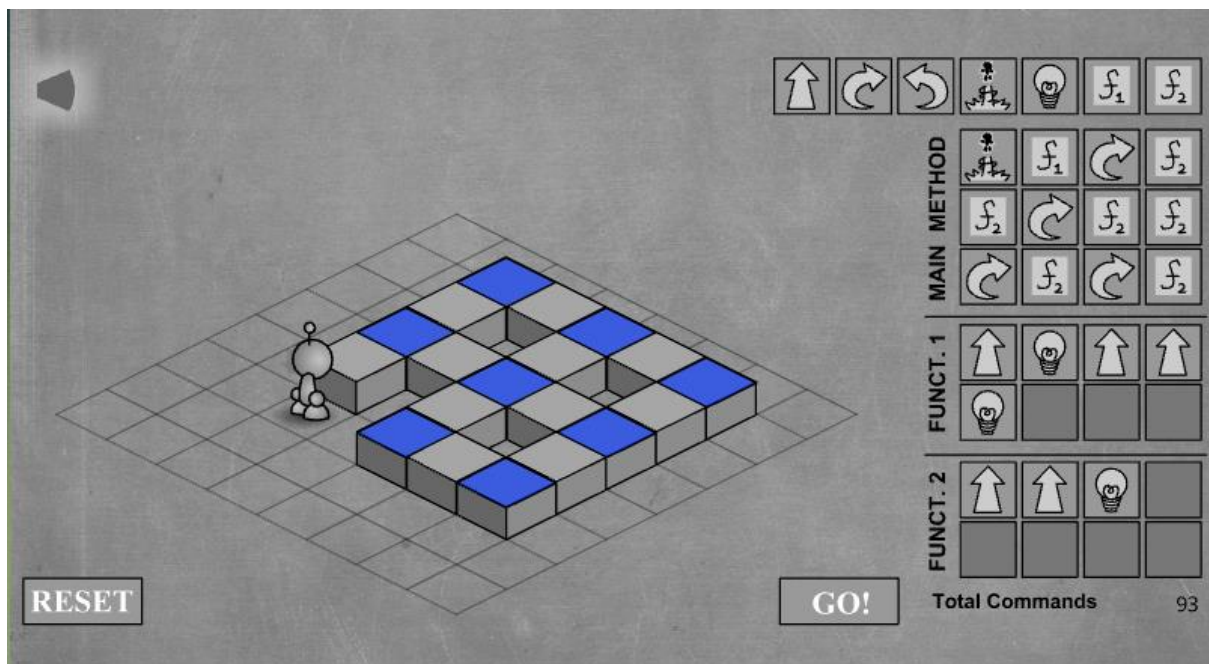
Lightbot nivel 6:



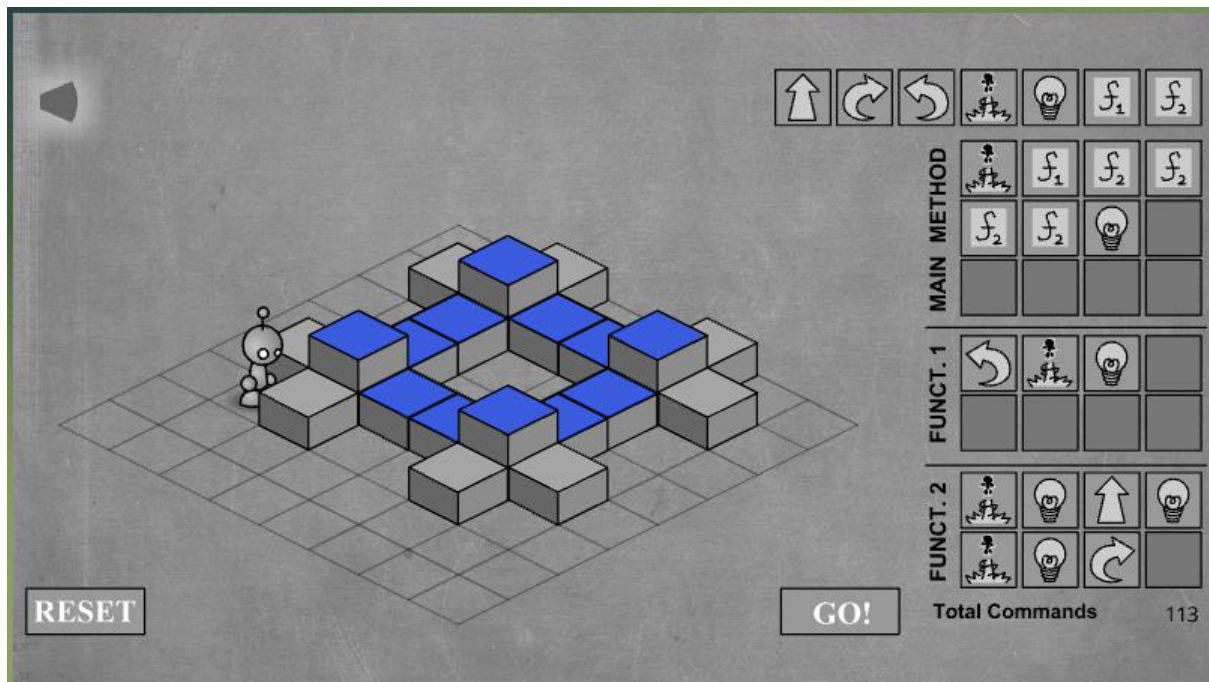
Lightbot nivel 7:



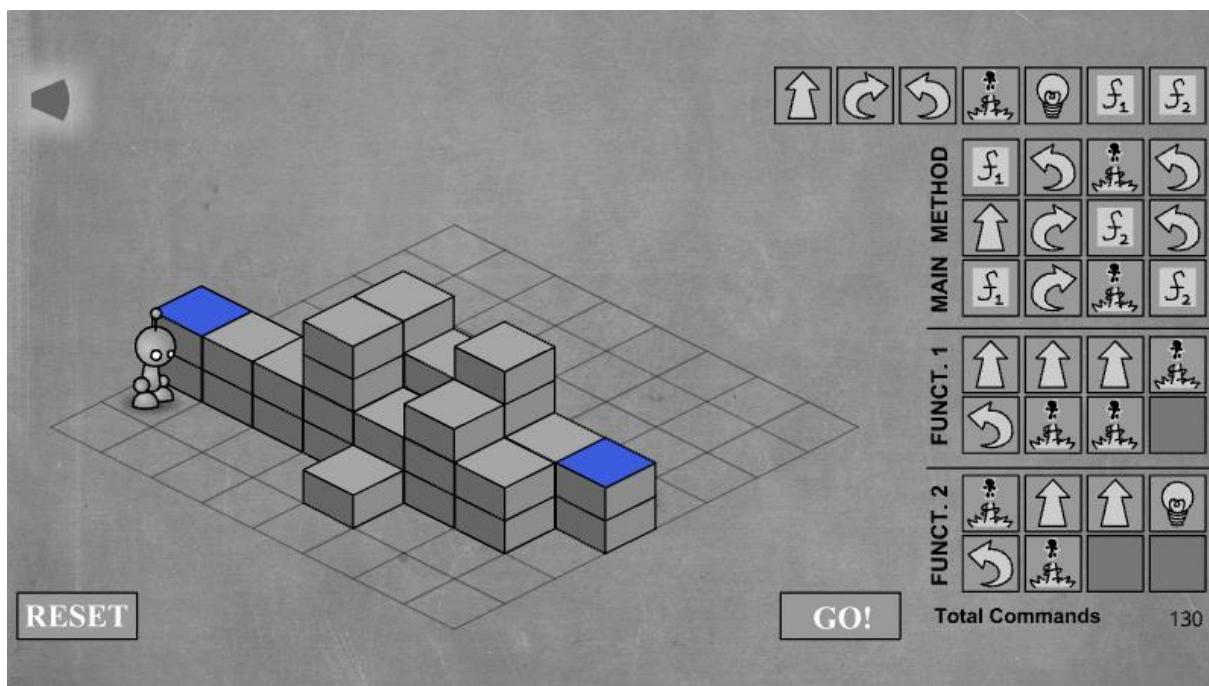
Lightbot nivel 8:



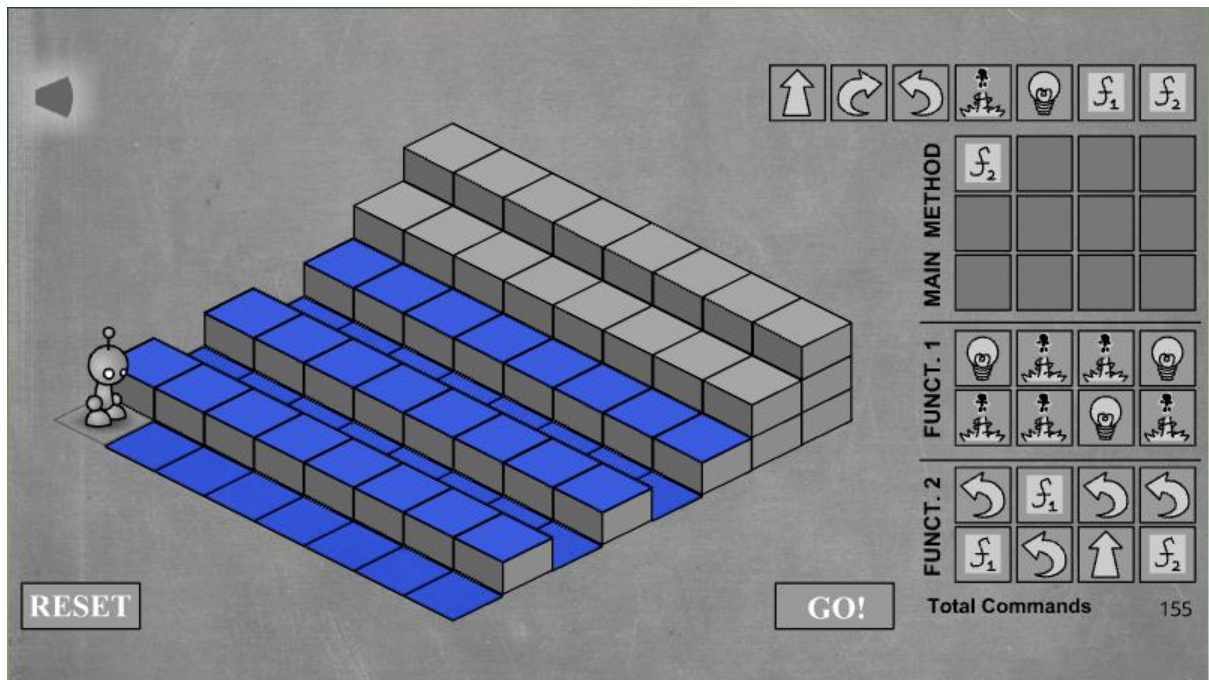
Lightbot nivel 9:



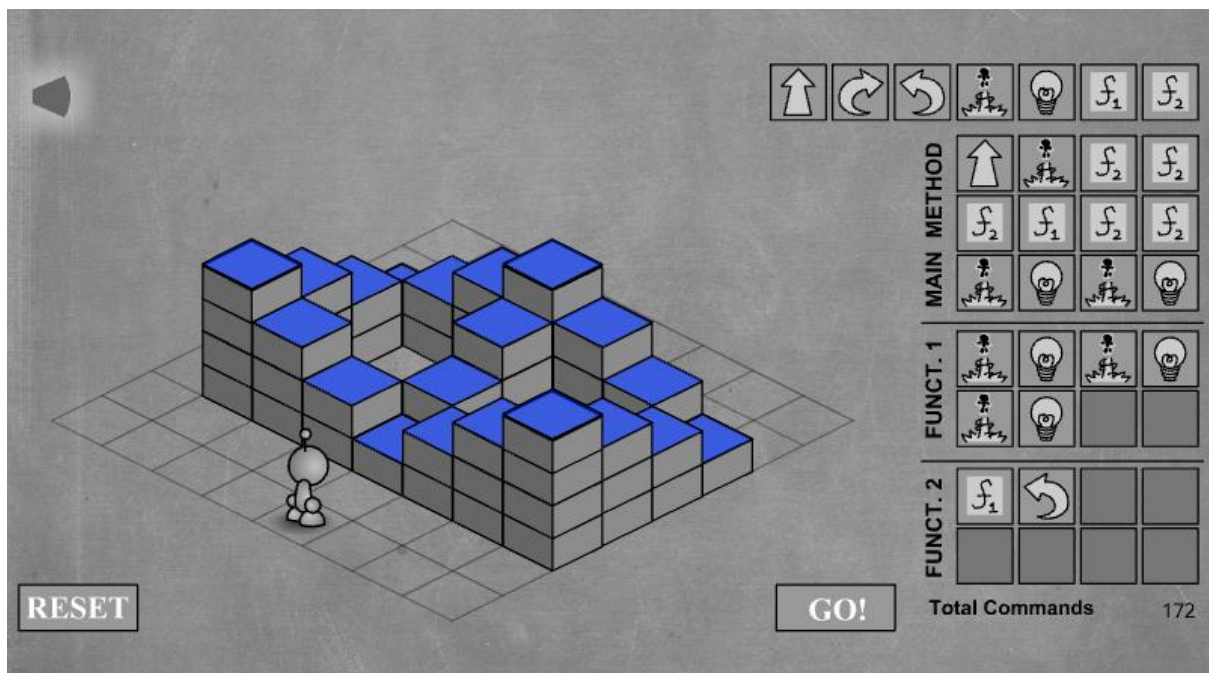
Lightbot nivel 10:



Lightbot nivel 11:

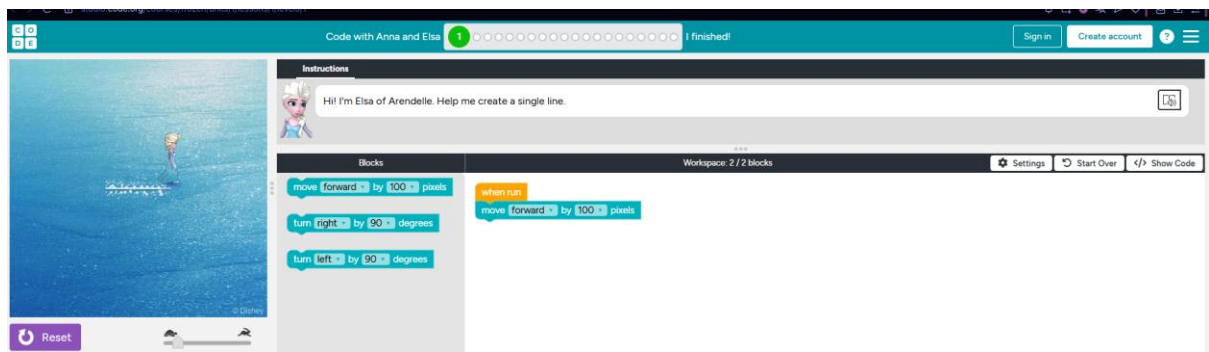


Lightbot nivel 12:

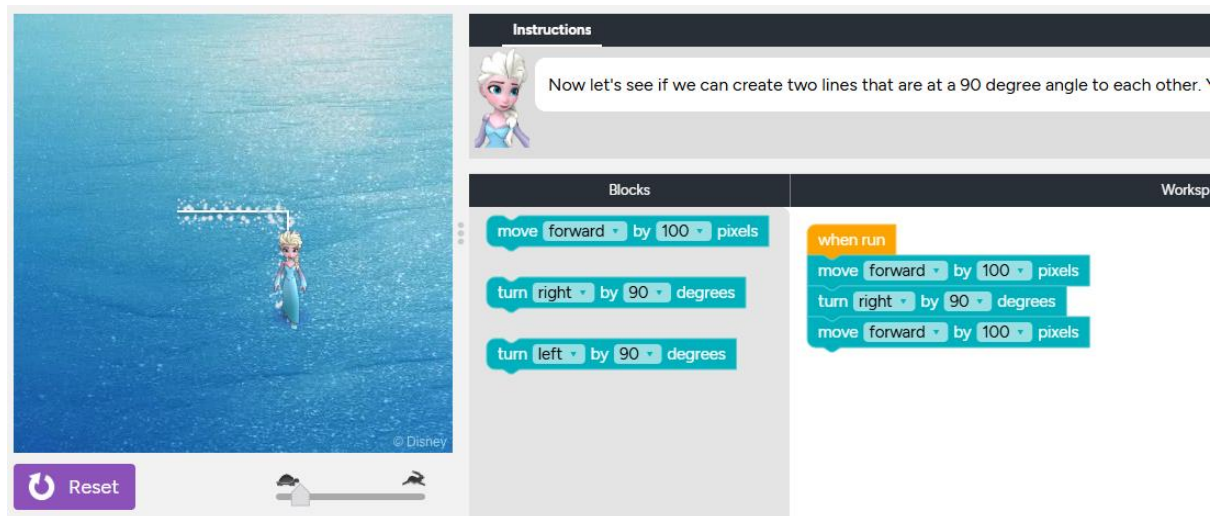


Actividad 2

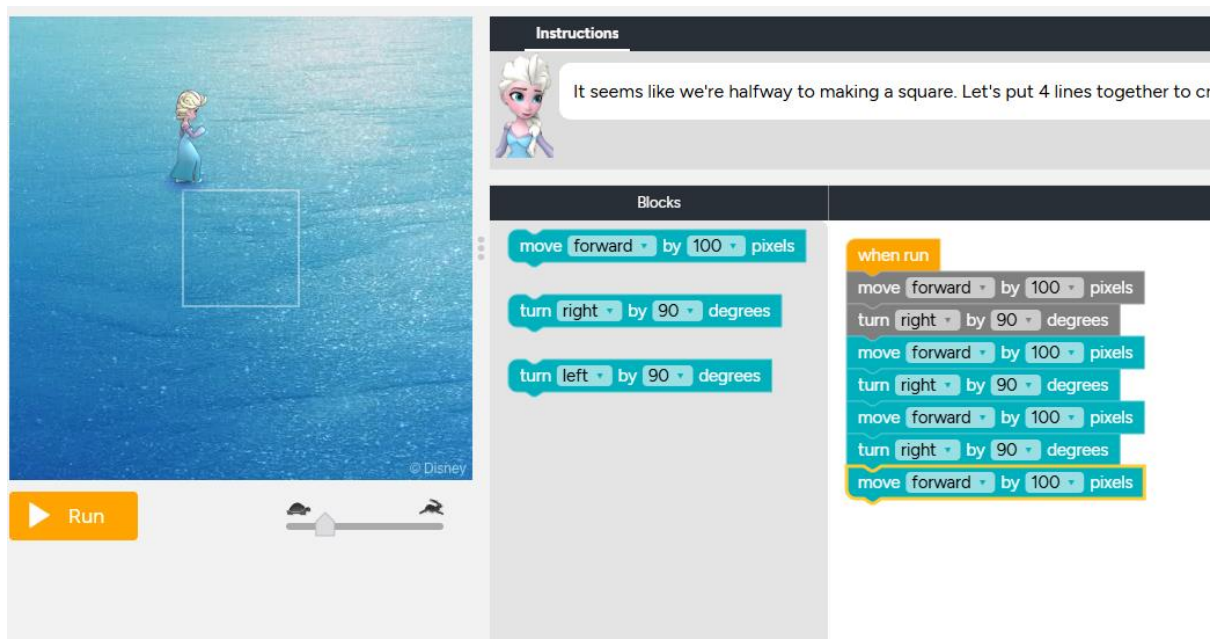
Frozen nivel 1:




Frozen nivel 2:



Frozen nivel 3:



Frozen nivel 4:




Instructions

Hi, I'm Anna of Arendelle! Let's make a square?

```

when run
  repeat 4 times
    do
      move forward by 100 pixels
      turn right by 90 degrees
          
```

Frozen nivel 5:



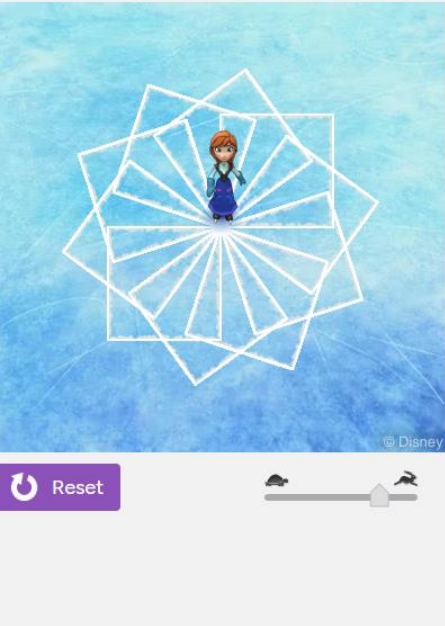
Instructions

Let's create three squares, turning after ea

```

when run
  repeat 3 times
    do
      repeat 4 times
        do
          move forward by 100 pixels
          turn right by 90 degrees
        end
      end
      turn right by 120 degrees
          
```

Frozen nivel 6:



Instructions

Can you create a snowflake using the "Repeat" block to make a square 10 times, and

Blocks

```

repeat ??? times
do
  move forward by 100 pixels
  turn right by ??? degrees

```

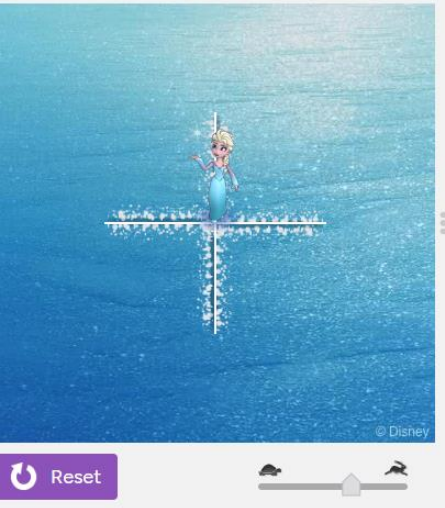
Workspace

```

when run
  repeat 10 times
  do
    repeat 4 times
    do
      move forward by 100 pixels
      turn right by 90 degrees
    turn right by 36 degrees

```

Frozen nivel 7:



Instructions

Wrap a "Repeat" block around these commands to create a plus sign. Did you notice E

Blocks

```

move forward by 100 pixels
move backward by 100 pixels
turn right by 90 degrees
turn left by 90 degrees

```


Workspace

```

when run
  repeat 4 times
  do
    move forward by 100 pixels
    move backward by 100 pixels
    turn right by 90 degrees

```

Frozen nivel 8:



Instructions

Now try repeating it 10 times. How many degrees do you need to turn between each

Blocks

```

move forward by 100 pixels
move backward by 100 pixels
turn right by 36 degrees
turn right by 36 degrees
repeat 10 times
do

```


Workspace

```

when run
repeat 10 times
do
move forward by 100 pixels
move backward by 100 pixels
turn right by 36 degrees

```

Frozen nivel 9:



Instructions

Let's repeat it 90 times! How many times does 90 go into 360? Hint: It's a really small number.

Blocks

```

move forward by 100 pixels
move backward by 100 pixels
turn right by 4 degrees
turn left by 4 degrees
repeat 90 times
do
set color random color

```


Workspace

```

when run
repeat 90 times
do
set color random color
move forward by 100 pixels
move backward by 100 pixels
turn right by 4 degrees

```

Frozen nivel 10:



© Disney

Reset

Instructions

Use a repeat around these blocks to create a parallelogram. It's just like a rectangle but angles.

Blocks

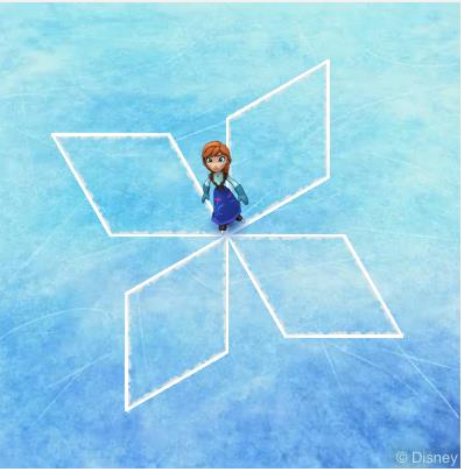
- move forward by 100 pixels
- turn right by 60 degrees
- turn right by 120 degrees
- repeat 2 times
 - do
- set color
- set color random color

Workspace

```

when run
  repeat 2 times
    do
      move forward by 100 pixels
      turn right by 60 degrees
      move forward by 100 pixels
      turn right by 120 degrees
          
```

Frozen nivel 11:



© Disney

Reset

Instructions

Did you know every snowflake is a different shape? Let's create a new snowflake with 90 degrees between each parallelogram.

Blocks


- set color
- set color random color
- repeat ??? times
 - do

Workspace

```

when run
  repeat 4 times
    do
      repeat 2 times
        do
          move forward by 100 pixels
          turn right by 60 degrees
          move forward by 100 pixels
          turn right by 120 degrees
        turn right by 90 degrees
          
```

Frozen nivel 12:



© Disney

Reset

Instructions

Now, let's create a new snowflake by using the repeat block to repeat a parallelogram 10 times

Blocks

Workspace: 8 / 10 b


```

move forward by 100 pixels
turn right by 36 degrees
turn left by 36 degrees
repeat 10 times
do
set color
set color random color
  
```

```

when run
repeat 10 times
do
repeat 2 times
do
move forward by 100 pixels
turn right by 60 degrees
move forward by 100 pixels
turn right by 120 degrees
turn right by 36 degrees
  
```

Frozen nivel 13:



© Disney

Reset

Instructions

A circle is a special shape. Can you figure out what number to replace the

Blocks

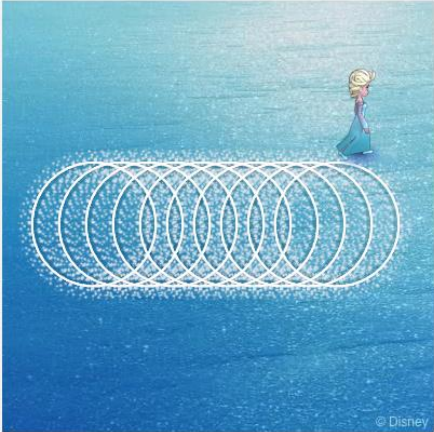
```

set color
set color random color
  
```

```

when run
repeat 360 times
do
move forward by 1 pixels
turn right by 1 degrees
  
```

Frozen nivel 14:



© Disney

Reset

Need help? See these videos and hints

Instructions

Use the new "Create a circle" block to create 10 overlapping circles. Don't forget to jump

Blocks

move forward by 100 pixels

jump forward by 25 pixels

turn right by 90 degrees

turn left by 90 degrees

repeat 10 times

do

create a circle

Workspace

when run


repeat 10 times

do

create a circle

jump forward by 25 pixels

Frozen nivel 15:



© Disney

Reset

Instructions

Now let's create 20 overlapping circles, turning 18 degrees between each circle.

Blocks

move forward by 100 pixels

jump forward by 50 pixels

turn right by 18 degrees

turn left by 18 degrees

repeat 20 times

do

create a circle

Workspace

when run

repeat 20 times

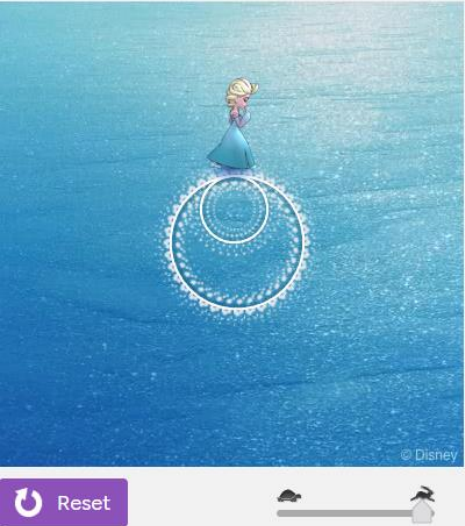
do

create a circle

jump forward by 50 pixels

turn right by 18 degrees

Frozen nivel 16:



Instructions

Here's a "Create circle" block that can make circles of different sizes. Can

Blocks

move forward by 100 pixels

turn right by 90 degrees

turn left by 90 degrees

jump forward by 100 pixels

create a circle

when run

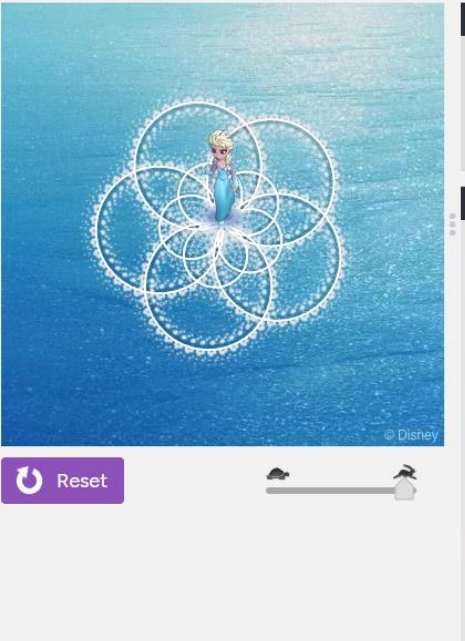
create a circle

size: 10

create a circle

size: 5

Frozen nivel 17:



Instructions

Intricate snow patterns can be created with very simple shapes. Can you make a

Blocks

move forward by 100 pixels

turn right by 72 degrees

turn right by 72 degrees

repeat 5 times

do

create a circle

size: 5

set color

when run

repeat 5 times

do

create a circle

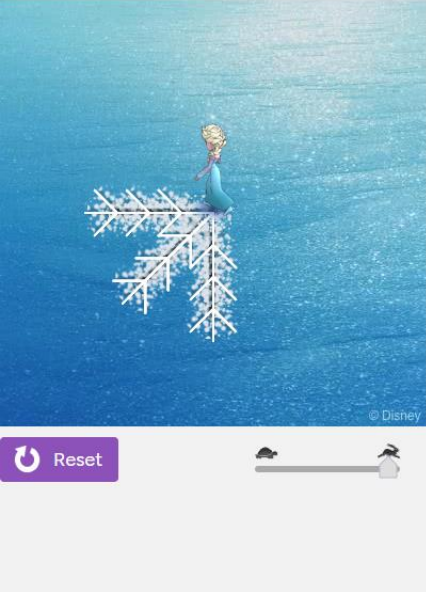
size: 5

create a circle

size: 10

turn right by 72 degrees

Frozen nivel 18:



Instructions

Try using the "Create a snowflake branch" block to create three branches, which starts to I

Blocks

move forward by 100 pixels

turn right by 45 degrees

turn left by 45 degrees

repeat 3 times

do

create a snowflake branch

set color

Workspace: 6

when run

repeat 3 times

do

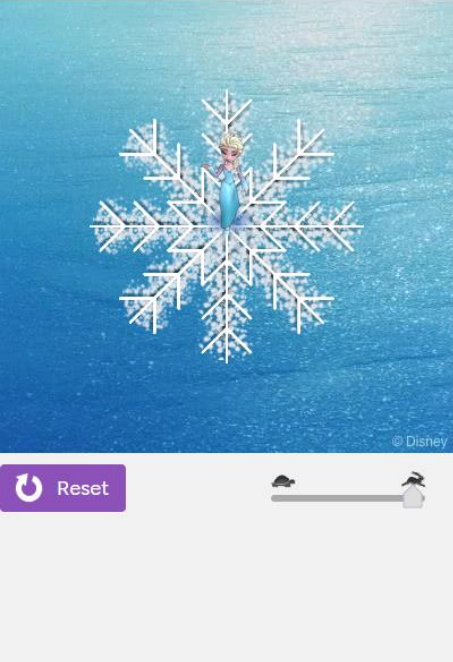
create a snowflake branch

move forward by 100 pixels

move backward by 100 pixels

turn right by 45 degrees

Frozen nivel 19:



Instructions

Now let's repeat it 8 times to make a beautiful snowflake!

Blocks

move forward by 100 pixels

turn right by 45 degrees

turn left by 45 degrees

repeat 8 times

do

create a snowflake branch

set color

set color random color

Workspace: 6

when run

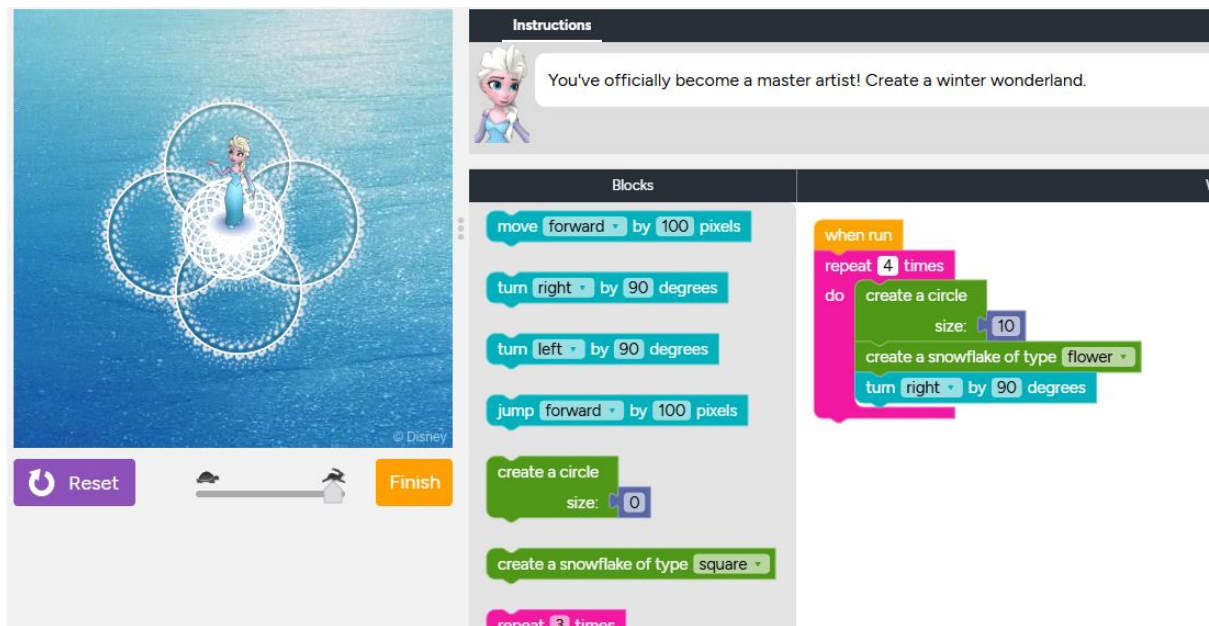
repeat 8 times

do

turn right by 45 degrees

create a snowflake branch

Frozen nivel 20:



Actividad 3

Juego del gato y la pulga:

Las principales estrategias utilizadas en el juego de la pulga fueron el hecho de utilizar los colores para que detecte las colisiones y de esta manera que gire y avance dependiendo si toca un color o no. En cuanto al juego del gato lo principal fue ajustar las animaciones a los controles y hacer que detecte las colisiones en base a los colores, ya sea para perder vidas o teletransportarse.

Juego Pulga: <https://scratch.mit.edu/projects/1208349114>

Juego Gato: <https://scratch.mit.edu/projects/1208330661>

Actividad 4

Preguntas:

1. ¿Qué aprendiste jugando con Lightbot y Frozen?
2. ¿Qué ventaja tiene el uso de funciones?
3. ¿Cuándo conviene usar un ciclo for y cuándo uno while? Podés dar ejemplos.
4. ¿Qué nos permite hacer un condicional?
5. ¿Para qué te sirvió la herramienta “Variables” en Scratch?

Respuestas:

1. Mediante los juegos Lightbot y Frozen, desarrollamos una mejor comprensión de algoritmos y pensamiento lógico mediante el apartado visual y los bloques de código para después relacionarlo e implementarlo en el Scratch.
2. El uso de funciones nos permite optimizar el trabajo/código/bloques de código para un funcionamiento eficaz, sencillo y fácil de comprender de manera muy versátil y útil.
3. Se usa un ciclo for cuando sabes la cantidad exacta de veces que quieres que se repita el código, como al recorrer una lista o para un número fijo de iteraciones. En cambio, un ciclo while se usa cuando el número de repeticiones es desconocido y depende de que una condición sea verdadera, terminando cuando la condición se vuelve falsa. Un for por ejemplo se puede utilizar para dibujar patrones como en Frozen, mientras que un while para hacer acciones hasta que se determine un fin de esta, por ejemplo, con el juego de la cucaracha que el while sería el rebotar con las paredes y esquivarlas, y terminaría este while cuando toque la cucha.
4. Un condicional nos permite que el programa tome decisiones.
En vez de ejecutar siempre la misma secuencia de instrucciones, con un condicional podemos decir:

Si pasa tal cosa, entonces hacer esto; de lo contrario, hacer otra cosa (o no hagas nada)
5. El uso de crear variables en Scratch me sirvió mucho para lograr ciertas condiciones ya sean un puntaje o la cantidad de vidas que le puedo dar al jugador y representarlas en la pantalla.