

Karel Project #14

COUNTING UP

Some mazes are easier to solve with the use of **variables**.

Click on **File** and save the worksheet in the folder **course-karel-projects** under the new name, **counting-up**.

Click on  and select  to remove the example maze.

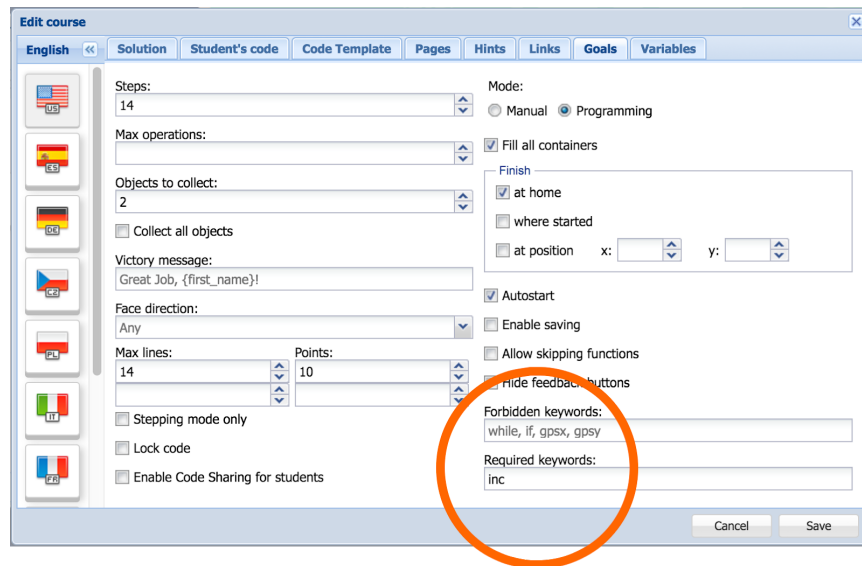
Goal: Create a

To create a maze that is **solvable with variables**, you will:

1. **Require** the `inc()` command in your maze.
2. Design a maze with an **ascending pattern**.
3. Use **Student's code** to guide the player.
4. **Test** your new maze.

Step 1: Require the `inc()` Command in Your Maze

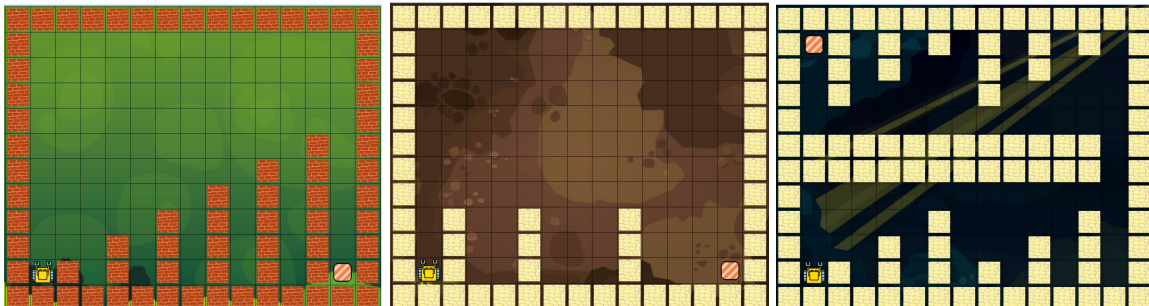
In your new maze, **convert your worksheet** to a game. Then open the **Goals menu**. Include the `inc()` command in your required keywords and set the **Mode** to **Programming**, then exit the **Goals menu**.



Step 2: Design a Maze With an **Ascending Pattern**

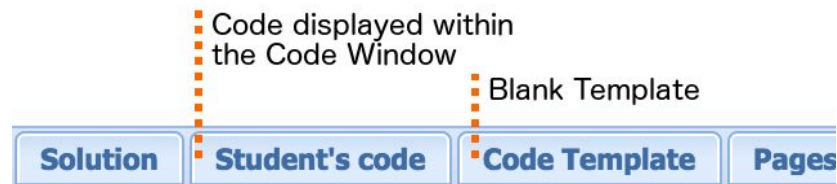
The `inc()` command **increases a variable by 1**. The solution of your maze needs to make use of this command.

Take a look at the mazes below. They all feature rows or columns of walls with an **ascending pattern**. Consider how `inc()` could be used to solve these mazes before building your own maze.



Step 3: Use Student's Code to Guide the Player

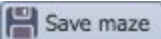
Select [Edit game](#) in the [Designer](#). There are a few tabs other than [Goals](#) that we can use.



You will be using [Student's code](#) to give the player some [guidance](#) for programming challenges.

In the Student's code tab, select [Student's Code](#) from the [Edit game](#) menu. You will see a [Code Window](#).

```
1 # By using the hashtag (#) symbol I can comment the code.
2
3 # I can also supply variables or provide other hints.
4
5 start_count = 0
6
7 def new_function
8 | # Use an ascending pattern|
```

Click [Save](#). Next, select  [Save maze](#) and [Play game](#). The text you supplied in the [Student's code](#) tab will appear in the [Code Window](#)!

Step 4: Test Your Maze

As always, useful [feedback](#) for your maze will come from others. Use the [Summary](#) text for your maze to [hint at the solution](#) if you notice players getting frustrated. Refine your maze and [keep track of how others approach a solution](#) to your maze.



Project Checklist

This project will be finished when:

1. You have required the `inc()` command in the **Goals menu**.
2. You have made **a maze with an ascending pattern**.
3. Your maze is solvable.