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Session 2 Homework

Code For Everyone JavaScript

Study

1. `let` vs `var` vs `const`
   Learn about `let`, `var` and `const` by
   - Reading these tutorials:
     - var, let and const, what is the difference?
     - var vs let vs const in JavaScript

     Hoặc xem video sau

   - MindX - C4EJS - let vs var vs const

   Then answer the following questions:
   1. What are `var` and `const` in JavaScript?
   2. What are the differences between `let` and `var`?
   3. What are the differences between `let` and `const`?
   4. What to use in what cases?

2. `Boolean`
   Learn about `Boolean` by
   - Reading these tutorials:
     - A Boolean (logical type) and Logical operators
     - JavaScript Boolean explained

     Hoặc xem video sau

   - MindX - C4EJS - Boolean

   Then answer the following questions:
   1. What is `Boolean`?
   2. What results in `Boolean`?

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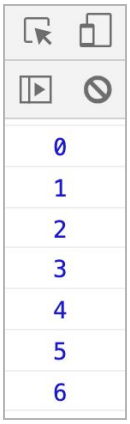
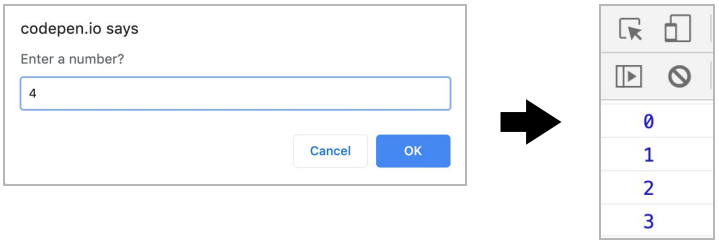
Review

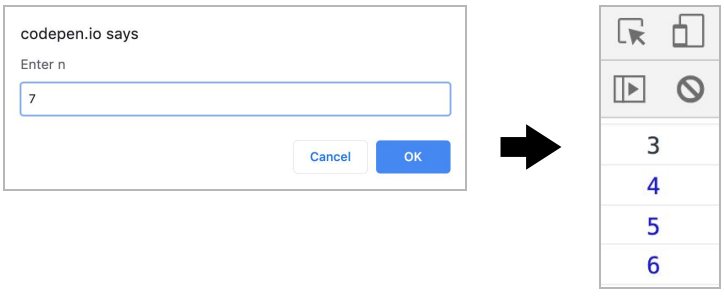
3. Write a program to print out
    a. 6 numbers, starting from 0 (no user input)



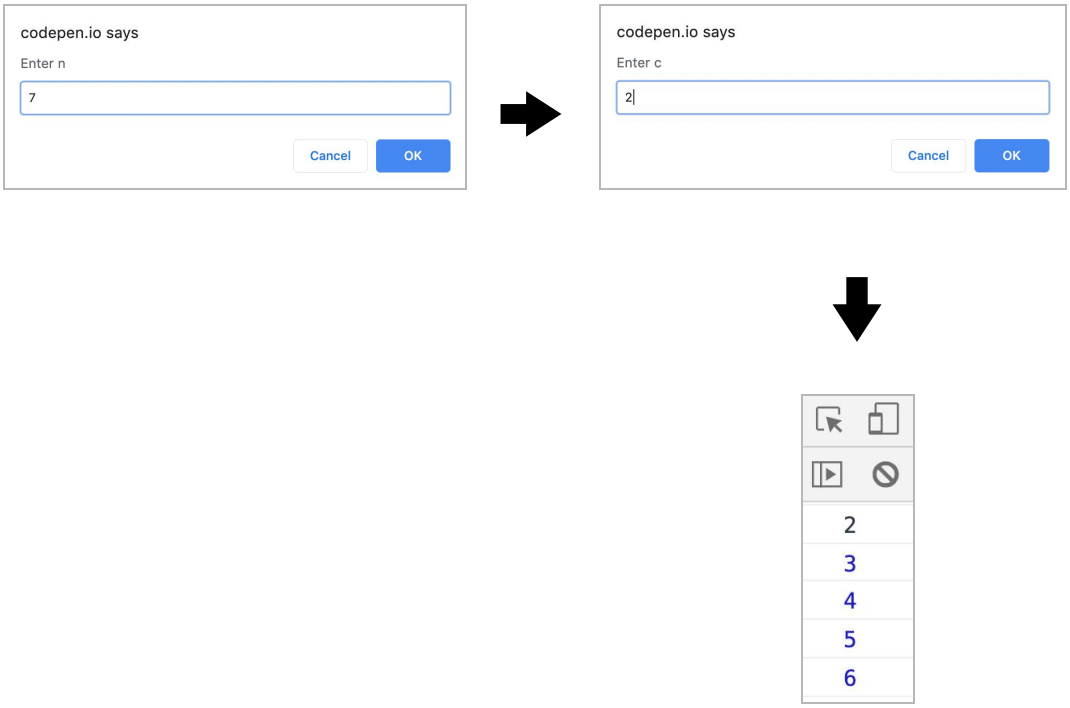
    b. `n` numbers, starting from 0, `n` entered by user



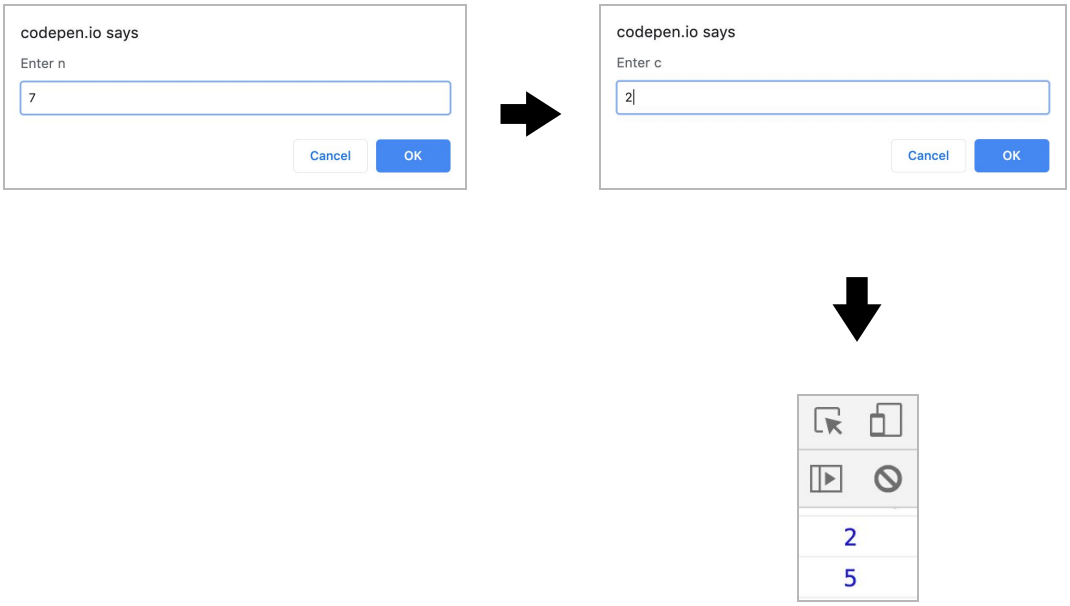
    c. A sequence of numbers, starting from 3, ending before `n`, `n` entered by user



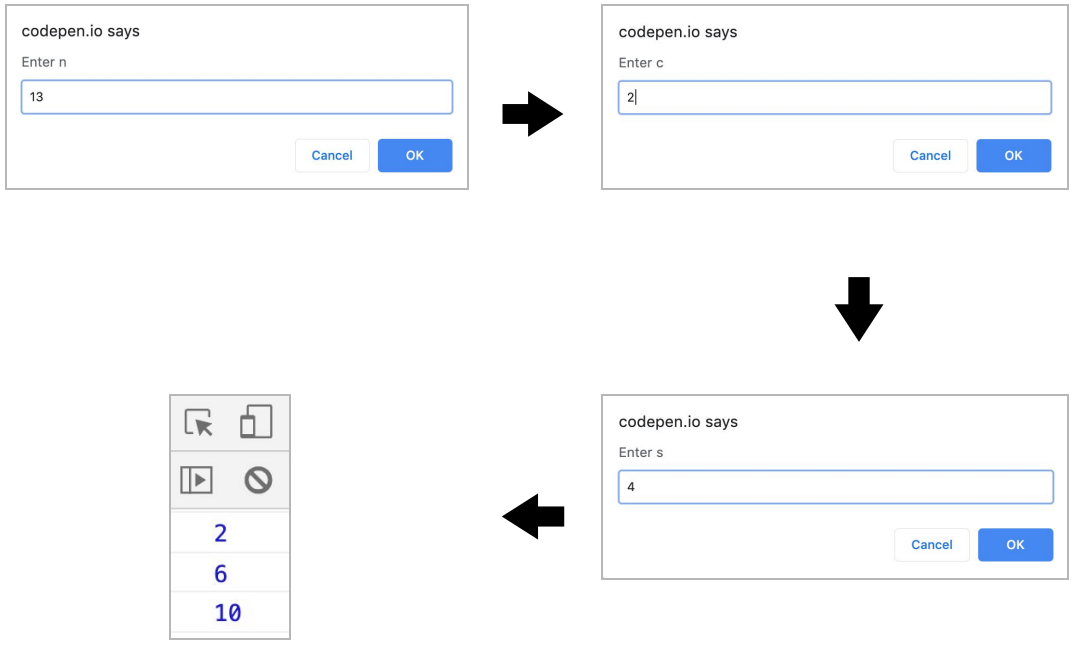
    d. A sequence of numbers, starting from `c`, ending before `n`, `c` and `n` entered by user



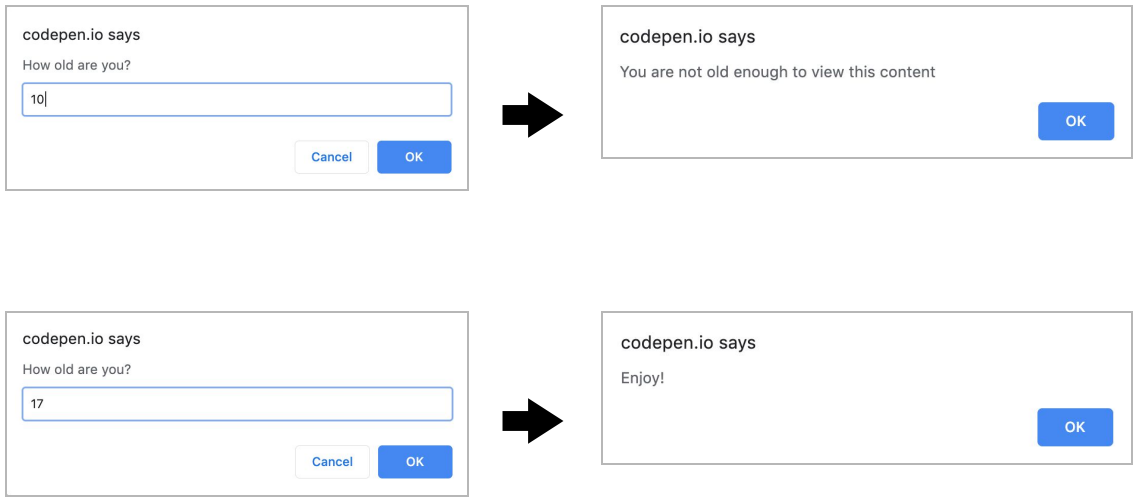
e. A sequence of numbers, starting from `c`, ending before `n`, stepping by 3, `c` and `n` entered by user



f. A sequence of numbers, starting from `c`, ending before `n`, stepping by `s`. `c`, `n` and `s` entered by user



4. Write a program asking users their age, and then decide if they are old enough to view a 14+ content



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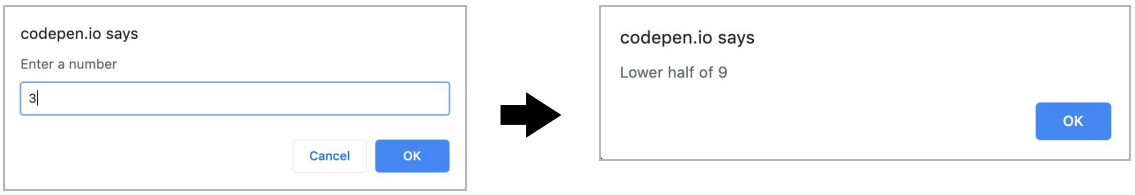
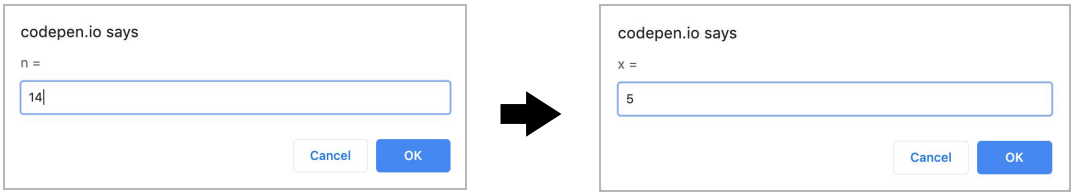
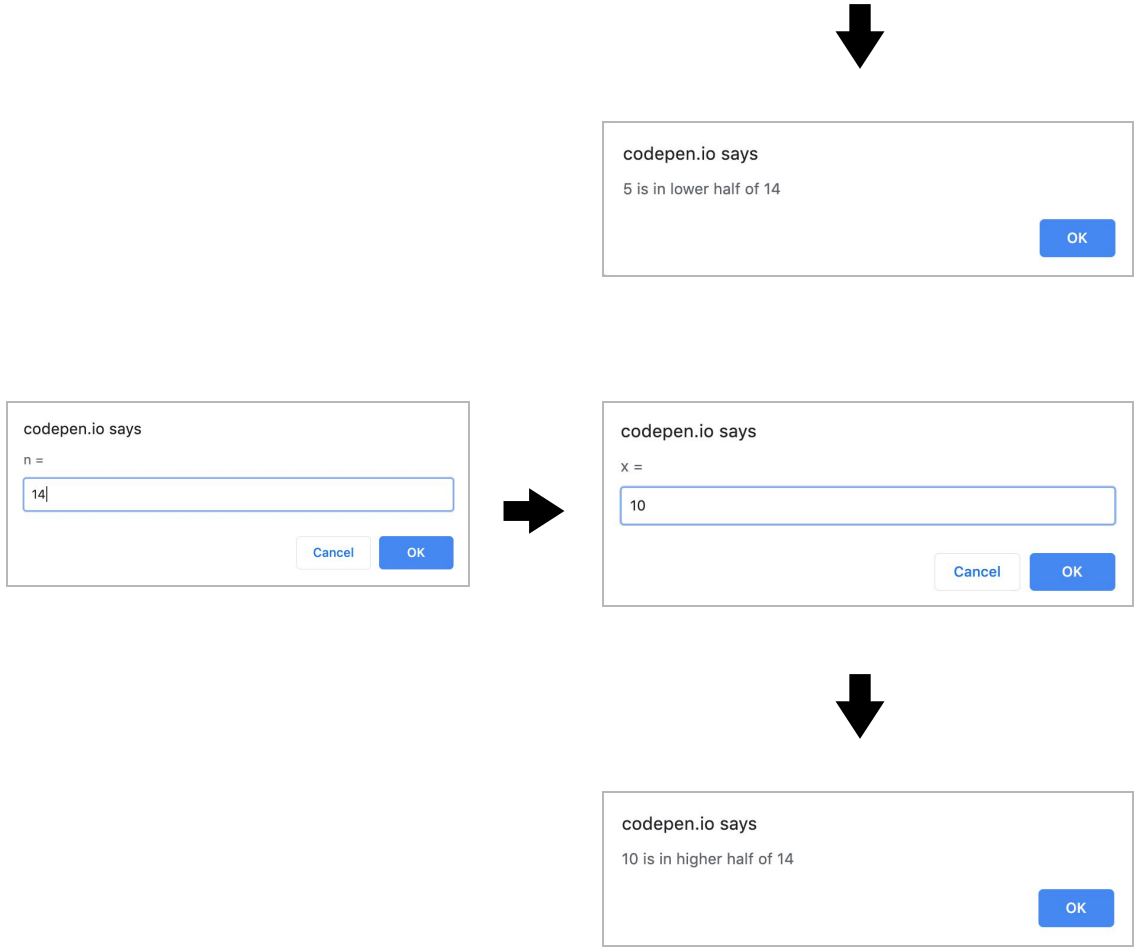
Serious exercices

5. Write a program asking user to enter a number, `x`, then check if `x` is in the lower half or higher half of 0 - 9 range

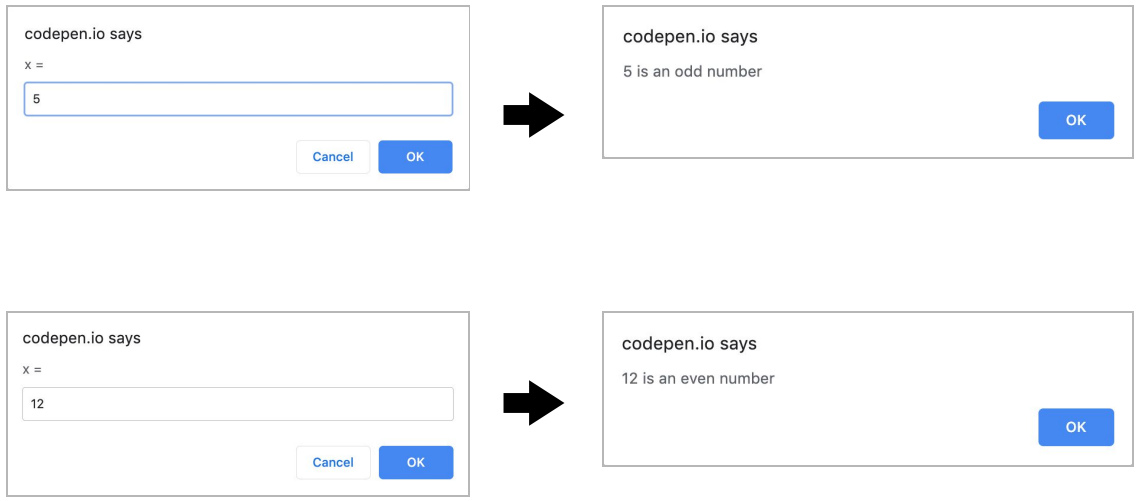


6. Write a program asking user to enter two numbers, `x` and `n`, then check if `x` is in lower half or higher half of `n`





7. Write a script to check if a number is even (divisible by 2) or odd number



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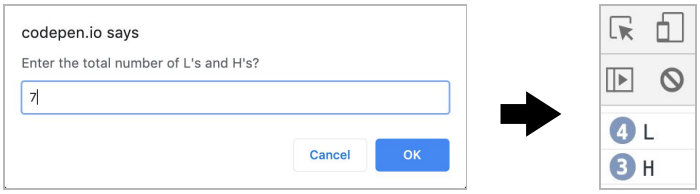
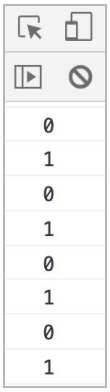
8. Write a program to print out
    a. 6 L's and H's, half L's, half H's *(L means low, H means high)*

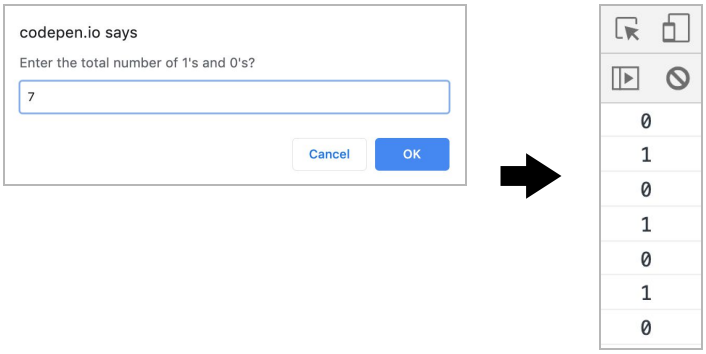
    b. `n` L's and H's in total, n entered by user



    c. 8 1's and 0's in total, consecutively



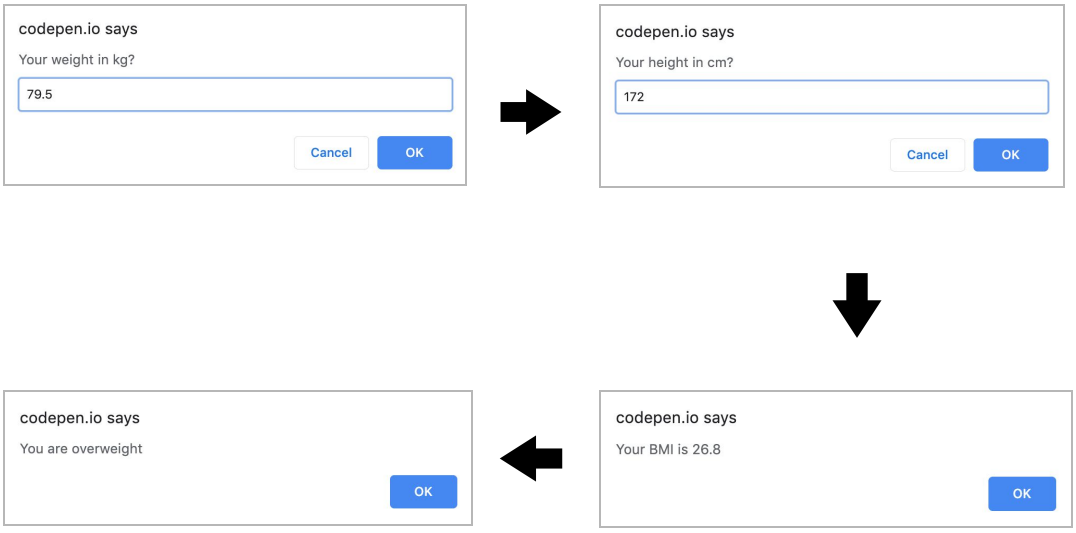
    d. `n` 1's and 0's in total, consecutively, `n` entered by user



9. Write a script to calculate the BMI (Body Mass Index) of a person, the formula is as follows

   BMI (Body Mass Index):
   BMI = mass (kg) / (height(m) x height(m))
   Note: you must do the conversion from cm to m before calculation

   And then based on the calculated BMI, tell them that they are:
   - Severely underweight if BMI < 16
   - Underweight if BMI is between 16 and 18.5
   - Normal if BMI is between 18.5 and 25
   - Overweight if BMI is between 25 and 30
   - Obese if BMI is more than 30



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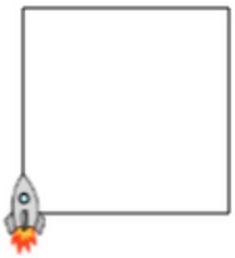
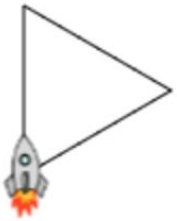
Turtle exercices

10. Use JS Turtle, to draw the following shapes

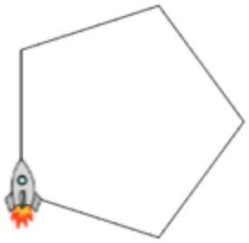
a. A square



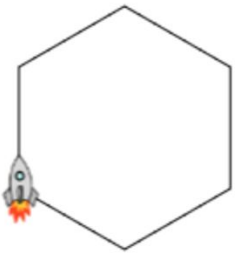
b. A triangle



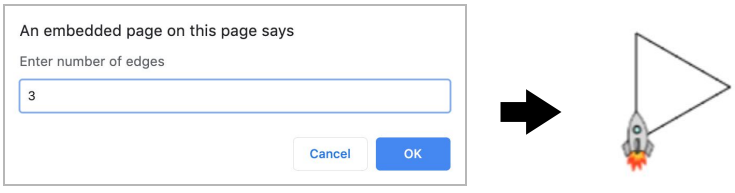
c. A pentagon

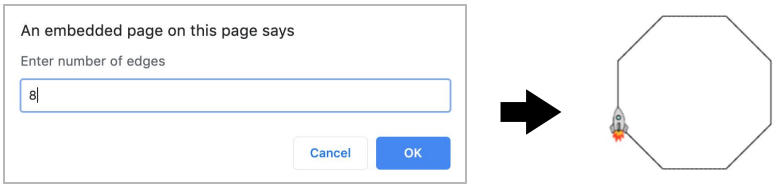


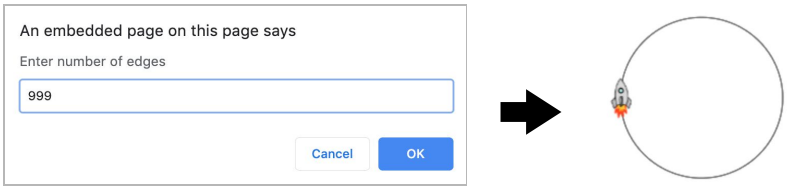
d. A hexagon



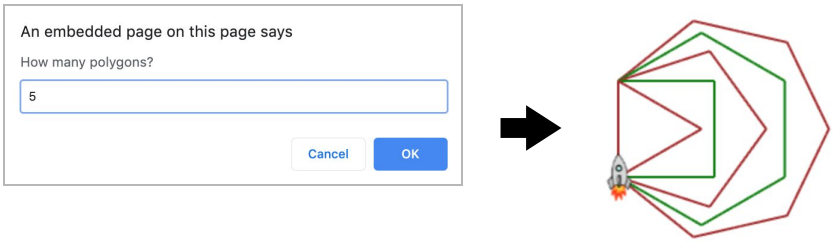
11. Use JS Turtle to draw a polygon, the number of polygon's edges entered by users







12. (Optional) Use JS Turtle to draw `n` polygons, `n` entered by users



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Tools

13. Watch and practice along this tutorial, create a github.com repository with a naming convention mentioned in the tutorial. After completing your homework, commit and push it with this folder structure, then send the link to your mentor