Guess the number (using the DOM)

Step 1: generate a random number when user clicks on a button

- Create an HTML page.
- In the HTML, create a `<div>` with id `result`.
- Create a button with id `generate`.

Create a function that:

- generates a random number
- sets the value of the `div#result` to the random number generated

Associate this function to the click event on the button. Then, wrap all your code in a `DOMContentLoaded` event wrapper.

Step 2: generate a random number with a defined max value

- In the HTML file, add a new input widget. This is the input element that allows the player to choose the maximum generated number. Don't forget to give it an ID.
- Adjust your code so that the number generated is at most the number typed in the box.
- Check your code is working as expected.
- Add a new button `reset`.
- Adjust your code so that:
  - the first time the "Generate" button is clicked, it locks the maximum number.
  - you can set its `disabled` attribute to true: `elem.setAttribute("disabled", true)`
  - now, once a number has been generated, the user cannot change the value in the input box
  - add code to the `reset` button to unlock the maximum number input (set `disabled` to false)
  - you can make it so that the "Generate" button locks the maximum number every time it runs (it is fine to set an attribute that is already set)

Step 3: add an input box for the user guess, and the output

- In the HTML file, add a new form, containing an input box.
- Outside the form, add a new empty element (section, div, etc).
- Add code so that:
  - submitting the form (typing Enter or clicking the submit button) will prevent the default action from happening
  - but the values of the user guess and the generated number are compared
  - informational output is added to the empty element created before (too big, too small, found the number, not a number, etc)
- make sure you extract the generated number from the DOM - you should try NOT to use any global variables (ie variables defined outside of a function declaration).

Step 4: Go further

- Add an input box for the maximum number of attempts.

- Add a "Start game" button.

- Add a "Reset" button.

- When the player clicks on the "Start" button, the max number and the number of attempts are locked (`disabled`).

- Every time the player makes a guess, increment the number of attempts.

- If the player did not find the number and there are no attempts left, the game is over.

- You can click the "Reset" button at any time (or when the game is over). This unlocks the number of attempts and the maximum range, and allows to restart a new game.