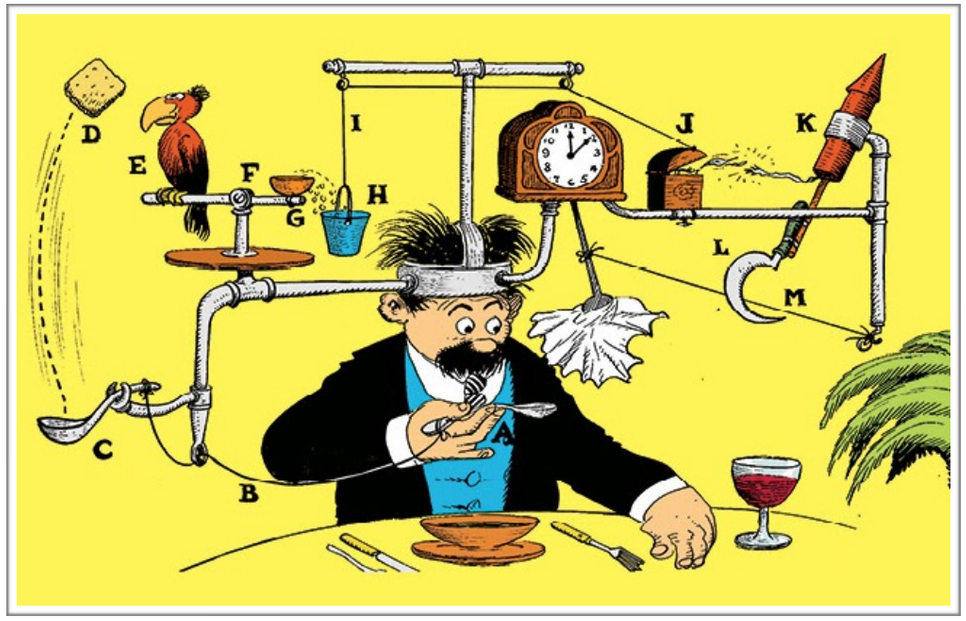
Rev. 08Aug2019

Exercise 29

MORE CREATING HTML ELEMENTS WITH JAVASCRIPT



Recognize this? This is one of the many marvelous convoluted inventions of a cartoonist named Rube Goldberg who was born in 1883 and died in 1970. This particular invention is a self-operating napkin.

We're about to embark on something that some of you might consider its own form of a Rube Goldberg machine. But there's method to my madness that will get to in an exercise you'll tackle shortly.

Here's what we're trying to create:

Round

It's pretty simple. The HTML for it will look like this:

```
<div class="diamond">
  <img src="https://bnsec.bluenile.com/bluenile/is/image/bluenile/
    LD_R0UND_HERO_A_042318?$MODRN_DiaBar_slider_all$&rgn=1600,350,0,1500" />
  <p class="description">Round</p>
</div>
```

If you'd like, you can place that code snippet inside `<div id="diamonds"></div>` and run the repl. The result should exactly mirror the screenshot on the first page of this exercise.

HTML AND THE DOM

I'm simplifying this like crazy! The actual process would do justice to Mr. Goldberg himself...

Have you ever wondered what happens when you type a URL into your browser — something like `http://facebook.com`? Your request, eventually, makes its way to a *web server* under the control of facebook.com. There, an HTML page is built and sent back to your browser.

Once your browser receives the HTML page, it translates all the tags into something very much resembling a JavaScript object. That something is called the DOM — short for *Document Object Model*. In previous exercises in which you've used JavaScript to create an element and programmatically insert it into the — well, what exactly were you inserting it into?

1. The DOM
2. A 17mm web socket made of chrome-molybdenum steel
3. An HTML element called `ElJeffe`
4. A dark, mysterious, nameless corridor lying on the outer regions of The Web

You guessed the DOM? Amazing! You got it right away! You were doing the translating work that the browser does when it encounters HTML.

This question is like the one all high school students ask when learning Algebra: "When will I ever use this?"

The question is why would we want to programmatically insert items into the DOM? The first thing you should know is that you won't do this frequently. The second thing to know is that sometimes it's essential. Since we're in preschool, I'm going to defer the answer to this question for much later. (Sorry)

With that question neatly dodged, let's learn a few discrete things we can do with JavaScript.

You've already used this something similar to this:

```
let divEl = document.createElement('div')
```

And one like this:

```
let divElTextNode = document.createTextNode("I am the text inside divEl")
```

And even this:

```
divEl.appendChild(divElTextNode)
```

And finally like this:

```
document.getElementById('div-container').appendChild(divEl)
```

That's good stuff. But we don't have a way of assigning attributes to elements we programmatically create — attributes like `class` and `id`. So, now for the new stuff:

```
// create a class called product and assign it to divEl
let divElClass = document.createAttribute('class')
divElClass.value = 'product'
divEl.setAttributeNode(divElClass)
```

It's not pretty, but it works. Need an `id` for that?

```
// create an id called phone and assign it to divEl
let divElId = document.createAttribute('id')
divElId.value = 'phone'
divEl.setAttributeNode(divElId)
```

And how about nesting a `<p>` element inside `divEl`?

```
// create a p tag
let pEl = document.createElement('p')

// create a text node and insert it into pEl
let pTextNode = document.createTextNode("I am the text inside pEl")
pEl.appendChild(pTextNode)

// Nest pEl inside divEl
divEl.appendChild(pEl)
```

Convoluted? Oh yeah — that's why I compared it to a Rube Goldberg machine. But (sometimes) necessary.

- Now it's your turn. Write JavaScript to programmatically create the following. Then insert it into the DOM nested in `<div id="diamonds"></div>`

```
<div class="diamond">
  <img src="https://bnsec.bluenile.com/bluenile/is/image/bluenile/
    LD_R0UND_HERO_A_042318?$MODRN_DiaBar_slider_all$&rgn=1600,350,0,1500" />
  <p class="description">Round</p>
</div>
```

Don't forget: if you get really stuck, check out my solution at `answer.js`.