

Language Fundamentals

The following program is designed to compute “overtime” pay for a worker, but it isn’t working correctly. Fix any syntax, logic or runtime errors so that the code works as expected.

```
var hours = prompt("How many hours did you work? ");
var rate = prompt(parseFloat("What is your hourly rate? "));

if (hours < 40)
    var pay = hours * rate;

if (hours > 40)
    var pay = 40 * rate;
    var overtimePay = (hours-40) * (rate*1.5);

document.write("Your pay this week is: ", pay);
```

Given the following array, write a program that randomly “deals” each card in the deck to the user and displays that card to the screen in some way.

```
var cards = ['ace of spades', 'king of spades', 'queen of spades', 'jack of spades'];
```

Language Fundamentals

The following array contains a listing of different coins (q = quarters, d = dimes, etc).

```
var coins = ['q', 'd', 'd', 'n', 'd', 'n', 'p', 'p', 'p', 'p', 'q'];
```

Write a program that determines the frequency of each type of coin (i.e. 4 quarters, 2 dimes, etc). Your output does not need to be “pretty” – just come up with something that counts how many of each item type is in the array.

You cannot assume that the items listed below are the only items in the array, nor can you assume that the array will be this short (it could be much, much longer).

DOM Queries

Given the following HTML document, write a single line DOM query to isolate the following elements

```
<h1>DOM Queries</h1>
<div id="foo">Foo</div>
<div id="bar">
  <div>Bar</div>
</div>
<div class="hogwarts">Hogwarts 1</div>
<div class="hogwarts">Hogwarts 1</div>
<div class="hogwarts">Hogwarts 1</div>
<ul>
  <li>A</li>
  <li>B</li>
  <li>C</li>
</ul>
```

The <h1> tag

The <div id="foo"> tag

The <div> with the text "Bar" in it

The first "Hogwarts 1" div

The third "Hogwarts 1" div

The first tag

The last tag

Updating DOM Attributes

Given the following HTML document, write a short program to perform the specified actions.

```
<h1>DOM Queries</h1>
<div id="foo">Foo</div>
<div id="bar">
  <div>Bar</div>
</div>
<div class="hogwarts">Hogwarts 1</div>
<div class="hogwarts">Hogwarts 1</div>
<div class="hogwarts">Hogwarts 1</div>
<ul>
  <li>A</li>
  <li>B</li>
  <li>C</li>
</ul>
```

Give the <h1> tag a yellow background

Set up all text on the page to be written using the 'Fantasy' font

Give the second tag a green font color

Give all 'hogwarts' divs a width of 50px, height of 50px and a thick black border.

Events

Given the following HTML document, write a series of short code snippets to solve the problems being asked.

```
<h1>Events</h1>
```

When the user clicks 'button1', the first div should get a yellow background.

```
<div>
  
  
</div>
```

```
<div>
  
  
</div>
```

When the user clicks 'button2', the second div should get a yellow background.

```
<button id="button1">Button 1</button>
<button id="button2">Button 2</button>
```

When the user hovers over any image, that image should get a blue background

When the user stops hovering over an image, that image should no longer have a blue background.

DOM Augmentation

Given the following HTML document, write a series of short code snippets to solve the problems being asked.

```
<h1>DOM Augmentation</h1>
```

```
<button id="button1">Button 1</button>
```

```
<button id="button2">Button 2</button>
```

```
<div id="one">
```

```
</div>
```

```
<div id="two">
```

```
</div>
```

When the user clicks 'button1', the program should create a new image. If there are an even # of images in the 'one' div, then the image source file should be 'images/pikachu.png'. If not, the source file should be 'images/squirtle.png'. Add this newly created image to the 'one' div.

When the user clicks 'button2', the program should take the first image in the 'one' div and move it to the 'two' div.

JavaScript Function Reference

Core language functions & commands	DOM functions & properties
<code>alert</code> <code>console.dir</code> <code>console.log</code> <code>else</code> <code>else if</code> <code>function</code> <code>for</code> <code>if</code> <code>prompt</code> <code>while</code>	<code>addEventListener</code> <code>appendChild</code> <code>createElement</code> <code>children</code> <code>insertBefore</code> <code>getAttribute</code> <code>classList</code> <code>dataset</code> <code>firstElementChild</code> <code>getElementById</code> <code>getElementsByTagName</code> <code>getElementsByClassName</code> <code>lastElementChild</code> <code>nextElementSibling</code> <code>onclick</code> <code>onmouseover</code> <code>onmouseout</code> <code>onkeypress</code> <code>onkeyrelease</code> <code>onkeydown</code> <code>parentElement</code> <code>previousElementSibling</code> <code>querySelector</code> <code>querySelectorAll</code> <code>removeChild</code> <code>setAttribute</code> <code>style</code>