Front End Developer Exercise - part 1

1. Implement the ensure function so that it throws an error if called without arguments or the argument is undefined. Otherwise it should return the given value.

```
function ensure(value) {

}
```

2. Implement the removeProperty function which takes an object and property name, and does the following:
If the object obj has a property prop, the function removes the property from the object and returns true; in all other cases it returns false.

```
function removeProperty(obj, prop) {
  return null;
}
```

3. Function appendChildren should add a new child div to each existing div.

For example, after appendChildren is executed, the following divs:

```
<div id="a">
  <div id="b">
  </div>
</div>
```

should take the following form:

```
<div id="a">
  <div id="b">
    <div></div>
  </div>
  <div></div>
</div>
```

The code below should do the job, but for some reason it goes into an infinite loop. Fix the bugs.

```
function appendChildren() {
  var allDivs = document.getElementsByTagName("div");
  for (var i = 0; i < allDivs.length; i++) {
    var newDiv = document.createElement("div");
    allDivs[i].appendChild(newDiv);
  }
}
// Example case.
document.body.innerHTML = `
<div id="a">
  <div id="b">
  </div>
</div>`;
appendChildren();
console.log(document.body.innerHTML);
```

4. Fix the bugs in the registerHandlers function. An alert should display anchor's zero-based index within a document instead of following the link.

For example, in the document below, the alert should display "2" when Google anchor is clicked since it is the third anchor element in the document and its zero-based index is 2.

```
<body>
  In my life, I used the following web search engines:<br/>
  <a href="//www.yahoo.com">Yahoo!</a><br/>
  <a href="//www.altavista.com">AltaVista</a><br/>
  <a href="//www.google.com">Google</a><br/>
</body>
```

```
function registerHandlers() {
  var as = document.getElementsByTagName('a');
  for (var i = 0; i < as.length; i++) {
    as[i].onclick = function() {
      alert(i);
      return false;
    }
  }
}
```

5. Fix the bugs in the following HTML code.

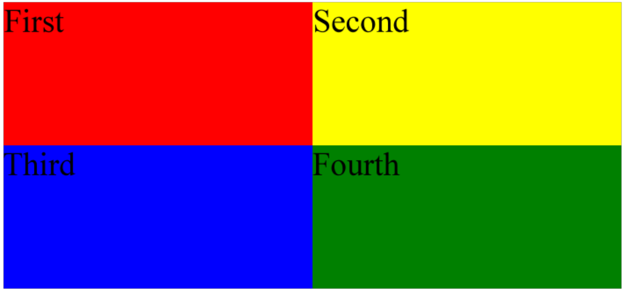
```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Company page</title>
  </head>
  <body>
    <paragraph>Welcome! Here you can find following
things:</paragraph>
    <ol>
      <em><li><a href="#logo">Company's logo</a></li></em>
      <li><a href="#employees">List of employees</a></li>
    </ol>

    <h1>Company's logo
    <paragraph>Company uses following logos:</paragraph>
    <ul>
      <li>New logo:</li><img source="new_logo.gif"/>
      <li>Old logo:</li><img source="old_logo.gif"/>
    </ul>

    <h1>List of employees
    <thead>
      <th>First name</th>
      <th>Last name</th>
    </thead>
    <table>
      <tr>
        <td>Mary</td>
        <td>Williams</td>
      </tr>
      <tr>
        <td>James</td>
        <td>Smith</td>
      </tr>
    </table>
  </body>
</html>
```

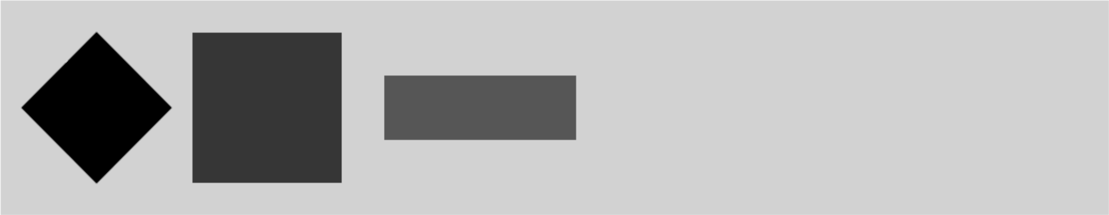
6. Using CSS only (without adding additional HTML attributes), style articles so that they occupy the whole browser window and have the following properties:

ARTICLE	POSITION	BACKGROUND COLOR
First	Upper-left quarter	Red
Second	Upper-right quarter	Yellow
Third	Lower-left quarter	Blue
Fourth	Lower-right quarter	Green



```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8">
  <title>Articles</title>
  <style>
    /* Write your CSS solution here (do not edit the surrounding HTML) */
  </style>
</head>
<body>
  <article>First</article>
  <article>Second</article>
  <article>Third</article>
  <article>Fourth</article>
</body>
</html>
```

7. Using CSS only (without adding additional HTML attributes), style the bar item to be as in the image below. Provide 2 different solution and take in care that the bar height can be change.



Html markup:

```
<div class='bar'>
  <div class='item item-1'></div>
  <div class='item item-2'></div>
  <div class='item item-3'></div>
</div>
```

Css style to start:

```
.bar {
  height:100px;
  width:500px;
  background-color:lightgray;
  padding-left:20px;
}
.item {
  height: 50px;
  width:50px;
  background-color:black;
}
.item-1 {
  transform: rotate(45deg) ;
}
.item-2 {
  background-color:#333;
  height: 70px;
  width:70px;
}
.item-3 {
  background-color:#555;
  height: 30px;
  width:90px;
}
```

Front End Developer Exercise - 2 part

Blur widget

Create a small widget that displays a blurred image with a sharp movable circle over it. Add a button that when clicked generates a png from the blurry image and the sharp circle.