

20 points total

1 (6 pts.). Given a string `str`, we wish to locate substrings of the following form: one or more digits followed immediately by one or more lowercase letters. When such a substring is found, the digits and letters are swapped. This is done for every substring in `str` that fits this pattern, and the result is assigned to `str1`. Fill in the blanks (labeled with Greek letters for reference) in the following as required.

```
str1 = str.replace( α , β );
```

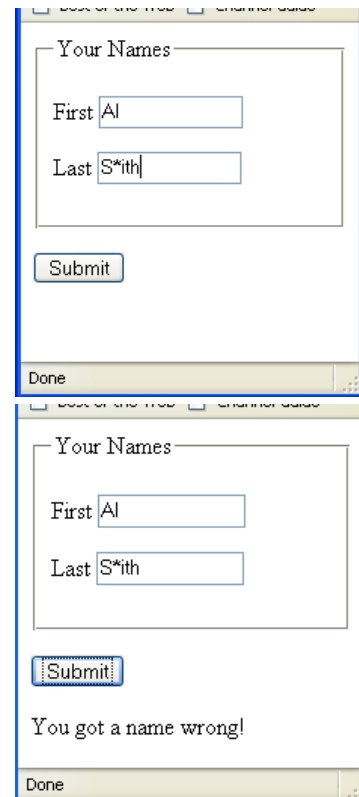
For example, if `str` is "X123abc456defY", then `str1` will be "Xabc123def456Y".

Answer:

```
str1 = str.replace( /(\d+)([a-z]+)/g, "$2$1" );
```

2 (14 points) The following is a listing of an HTML document with gaps. The desired effect is not achieved when it is loaded with IE; assume we're using Firefox/Mozilla. The screen shot at right shows the rendering after names have been entered into the two text boxes; note that 'Smith' has been misspelled, with a '*' in place of the 'm', giving something that could not be a name. The text boxes are within a field-set and each is twelve characters wide. The name of the first text box is 'first' and that of the second is 'last'. When the page is loaded, function `start()` is invoked. This function sets global variable `fm` to a reference to the object corresponding to the form element and makes function `checkIt()` a handler for submit events for the form. Function `checkIt()` initializes the variable `namePattern` to a regular expression that matches names (first or last); we assume that a name begins with an uppercase letter, which is followed with one or more lowercase letters, and contains no other characters. It also initializes variable `first` to the value in the first text box and `last` to the value in the second. It then checks whether either name does not fit the pattern. If so, then it suppresses the submission and adds a paragraph with content "You got a name wrong!" after the form. The result is shown at right.

The gaps are labeled with Greek letters. After the listing, these letters are repeated along with descriptions of the gaps they label. You there supply the missing code. Note that some gaps cover multiple lines and the lines are not indicated other than by whitespace.



```

<html>
  <head>
    <title>Quiz 3, Problem 2</title>
    <script type="text/javascript">
      var fm;

      function start()
      {

        α

      }

      function checkIt( event )
      {
        var namePattern = β _____,
            firstName = γ _____,
            lastName = δ _____;

        if ( ε _____
            _____ ) {

          ζ

        }
      }
    </script>
  </head>
  <body onload="start()">
    <form action="q3prob2.php" method="post">
      <fieldset>
        η _____
        <p>
          First
          θ _____
        </p>
        <p>
          Last
          ι _____
        </p>
      </fieldset>
      <p><input type='submit' value='Submit'></p>
    </form>
  </body>
</html>

```

α (multiple lines, 2.5 pts.): Set global variable `fm` to a reference to the object corresponding to the form element and make function `checkIt()` a handler for `submit` events for the form.

Answer:

```
fm = document.forms[0];
fm.addEventListener( "submit", checkIt, false );
```

β (1 pt.): A regular expression that matches a string that consists of nothing more (**hint**: use anchors) than an uppercase letter followed with one or more lowercase letters.

Answer:

```
/^[A-Z][a-z]+$/
```

γ (1 pt.): The value in the first text box

Answer:

```
fm.first.value
```

δ (0.5 pt.): The value in the second text box

Answer:

```
fm.last.value
```

ϵ (2 lines in the listing, 1.5 pts.): An expression that is true if either name does not fit the pattern

Answer:

```
! firstName.match( namePattern ) ||
! lastName.match( namePattern )
```

ζ (multiple lines, 5 pts.): Suppresses the submission and add a paragraph with content “You got a name wrong!” after the form. (Hint: Assign to the `innerHTML` property of an object.)

Answer:

```
event.preventDefault();
var pNode = document.createElement( "p" );
pNode.innerHTML = 'You got a name wrong!';
document.body.appendChild( pNode );
```

η (1 pt.): Add the “caption” for the field-set.

Answer:

```
<legend>Your Names</legend>
```

θ (1 pt.): A text box named ‘first’ that is 12 characters wide

Answer:

```
<input type='text' name='first' size='12'>
```

ι (0.5 pt.): A text box named ‘last’ that is 12 characters wide

Answer:

```
<input type='text' name='last' size='12'>
```