

Chapter 9: Binding of Global Variables During Subroutine Passing

To determine if JavaScript implements Shallow, Deep, or Ad Hoc Binding, I implemented the JavaScript code on page 418 of my book. With this code the result shows which binding environment JavaScript implements. For shallow binding the output of the program is 4, for deep binding, the output is 1 and for ad hoc binding, the output is 3.

Code:

```
<!DOCTYPE html>
<html>
  <script type = "text/javascript">

    sub1();

    function sub1() {
      var x;

      function sub2() {
        // Creates a dialog box with the value of x
        alert(x);
      };

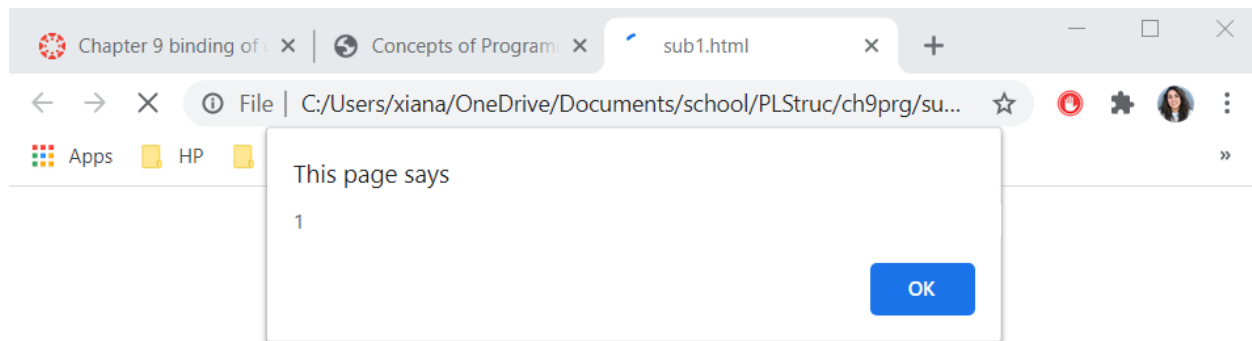
      function sub3() {
        var x;
        x = 3;
        sub4(sub2);
      };

      function sub4(subx) {
        var x;
        x = 4;
        subx();
      };

      x = 1;
      sub3();
    };

  </script>
</html>
```

Output:



Results:

JavaScript uses deep binding, this is shown in how the referencing environment of sub2's execution is that of sub1, so the reference to x in sub2 is bound to the local x in sub1.