1) Consider the following JavaScript skeletal program:

```javascript
// The main program
var x;

function sub1() {
    var x;
    function sub2() {
        ...
    }
}

function sub3() {
    ...
}
```

Assume that the execution of this program is in the following unit order:

- main calls sub1
- sub1 calls sub2
- sub2 calls sub3

a) Assuming static scoping, in the following, which declaration of x is the correct one for a reference to x?

1) sub1  
2) sub2  
3) sub3

b) Repeat part a, but assume dynamic scoping.

Ans:

(a) 1) sub1  
2) sub1  
3) main

(b) 1) sub1  
2) sub1  
3) sub1
2)

Assume the following JavaScript program was interpreted using static scoping rules. What value of `x` is displayed in function `sub1`? Under dynamic scoping rules, what value of `x` is displayed in function `sub1`?

```javascript
var x;
function sub1() {
    document.write("x = " + x);
}
function sub2() {
    var x;
    x = 10;
    sub1();
    x = 5;
    sub2();
}

Ans: Static scoping: `x` is 5
    Dynamic scoping: `x` is 10