Scope Exercise Solutions

Q1: <u>10 8 8 9 10 1</u>

https://jsfiddle.net/TinaXing/xd3ayr19/

2. What is the difference between a method and function?

Functions and methods both are functions in JavaScript. A method is just a function which is a property of an object.

```
function fun(param1, param2){
    // some code...
}
```
The above code is an example of function.

```
var obj = {
    name : "John snow",
    work : function someFun(paramA, paramB) {
        // some code..
    }
}
```

3. What does 'this' refer to when used in a Java method?
Represent current object

4. What does 'this' refer to when used in a JavaScript method?
Depends how this method is called.
```
var me = {
 first: 'Tina',
 last: 'Xing',
 getFullName: function() {
        return this.first + ' ' + this.last;
 }
};
var you = {
 first: 'Rujuan',
 last: 'Xing'
};
console.log(me.getFullName.apply(you)); // Rujuan Xing
console.log(me.getFullName()); // Tina Xing
```

5. What does 'this' refer to when used in a JavaScript function?
It also decided by how this function is called. But most of the time, it'll be window.
```
function getThis(a, b) {
 return this;
}

console.log(getThis()); // window object
```

```
console.log(getThis.apply({}, [2, 3])); // empty {} object
```

https://jsfiddle.net/TinaXing/yrogodmv/

6. What is a free variable in JavaScript?
free variable: A variable referred to by a function that is not one of its parameters or local variables.
  ➢ bound variable: A free variable that is given a fixed value when "closed over" by a function's environment.

In the example below: name in displayName() is free variable.

```
function makeFunc() {
 var name = "Mozilla"; //local to makeFunc
 function displayName() {
 alert(name);
 }
 return displayName;
}
var myFunc = makeFunc();
myFunc();
```

7. Create an object that has properties with name = "fred" and major="music" and a property that is a function that takes 2 numbers and returns the smallest of the two, or the square of the two if they are equal.

```
var obj = {

  name: "fred",

  major: "music",

  f: function(num1, num2) {

    if (num1 === num2) {

      return Math.sqrt(num1 * num2);

    } else {

      return num1 > num2 ? num2 : num1;

    }

  }

};


var res1 = obj.f(5, 2);

console.log(res1);
```

```
var res2 = obj.f(4, 4);

console.log(res2);
```

https://jsfiddle.net/TinaXing/cv2prtw8/