前端笔试题

1. Please explain why the following code is not working as expected? How to fix it?

```
var fnArray = [];
for (var i = 0; i < 3; i++) {
  // we create 3 functions here and store them into array
  fnArray[i] = function() {
    console.log("the value: " + i); // each should log its value.
  };
}
for (var j = 0; j < 3; j++) {
  fnArray[j]();    // and now let's run each one to see
}


// result is
// > the value: 3
// > the value: 3
// > the value: 3
```

2. We could compare two string in JavaScript using the following function.

```
// Compare two string
let compareStr = (strA, strB) => {
    return strA > strB ? 1 : strA < strB ? -1 : 0
}
compareStr('abc', 'abb')  // 1
compareStr('abc', 'abcd')  // -1
compareStr('abc', 'abc')  // 0
```


Please give a character by character compare solution.

```javascript
// Compare two string char by char
function compareStrCharByChar(){

    //your code here

}
// should have same result with the previous function.
```

3. Please give a function to check matching pairs of braces, parenthese and brackets

```javascript
function isMatchingPair(str) {

    // your code here

}
isMatchingPair('(str[x)xx]')  // return false
isMatchingPair('(str[xx}x')  // return false
isMatchingPair('({[str]})')  // return true
```

4. Please give a function which takes an array of asynchronous and run the functions in the array, each one running once the previous function has completed.

```javascript
function asyncOneByOne(arr) {

    // your code here

}
function one(callback) {
    setTimeout(function(){
        console.log('first');
        callback();
    }, 200);
}
function two(callback) {
    setTimeout(function(){
        console.log('second');
        callback();
    }, 0);
```

```
}
asyncOneByOne([one, two])
// will print
// > first
// > second

asyncOneByOne([one, two, two, one])
// will print
// > first
// > second
// > second
// > first
```

5. Nexe (https://github.com/nexe/nexe) is a tool which could compiles your Node.js application into a single executable file. Please read source code of nexe and try to explain how it works.