Front-end Advanced

Training Assignment

Document Code	**25e-BM/HR/HDCV/FSOFT**
Version	**1.1**
Effective Date	**7/1/2019**

Hanoi, mm/yyyy

RECORD OF CHANGES

No	Effective Date	Change Description	Reason	Reviewer	Approver
1	30/May/2019	Create a new assignment	Create new	DieuNT1	VinhNV
2	07/Jun/2019	Update Fsoft Template	Update	DieuNT1	VinhNV

Contents

CODE:	FEA.M.A502 (ES6 02)
TYPE:	Medium
LOC:	300
DURATION:	180

Day 11-12. Unit 6: ES6 Collections

Objectives:

- Understand the History of JavaScript and ES6 (the most populator JavaScript version)
- Understand ES6 features: Arrow function, Classes, Block scope, Rest/Spread, Destructuring, Template string, Map/Set
- Able to use ES6 features to create more readable and cleaner code

Problem 01

Your task is to use ES6 Generators to implement Object Spread

```
var numbers = {
    // ..
};

// should print 0..100 by step 1
// 0 1 2 … 100
for (let num of numbers) {
    console.log(num);
}

// should print 6..30 by step 4
// 6 10 14 … 30
for (let num of /*..*/) {
    console.log(num);
}
```

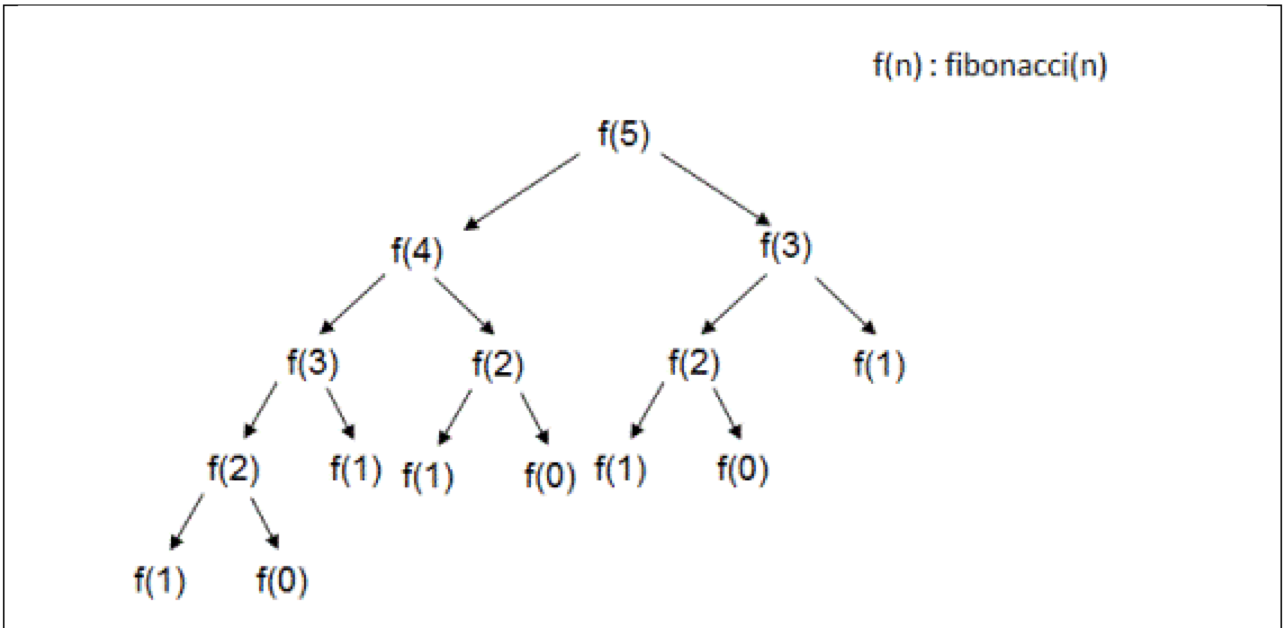
Problem 02

Given the following code which calculate the fibonaci number of n:

```
function fibonaci(n) {
  if (n <= 1) {
    return 1;
  }

  return fibonaci(n - 1) + fibonaci(n - 2);
}
```

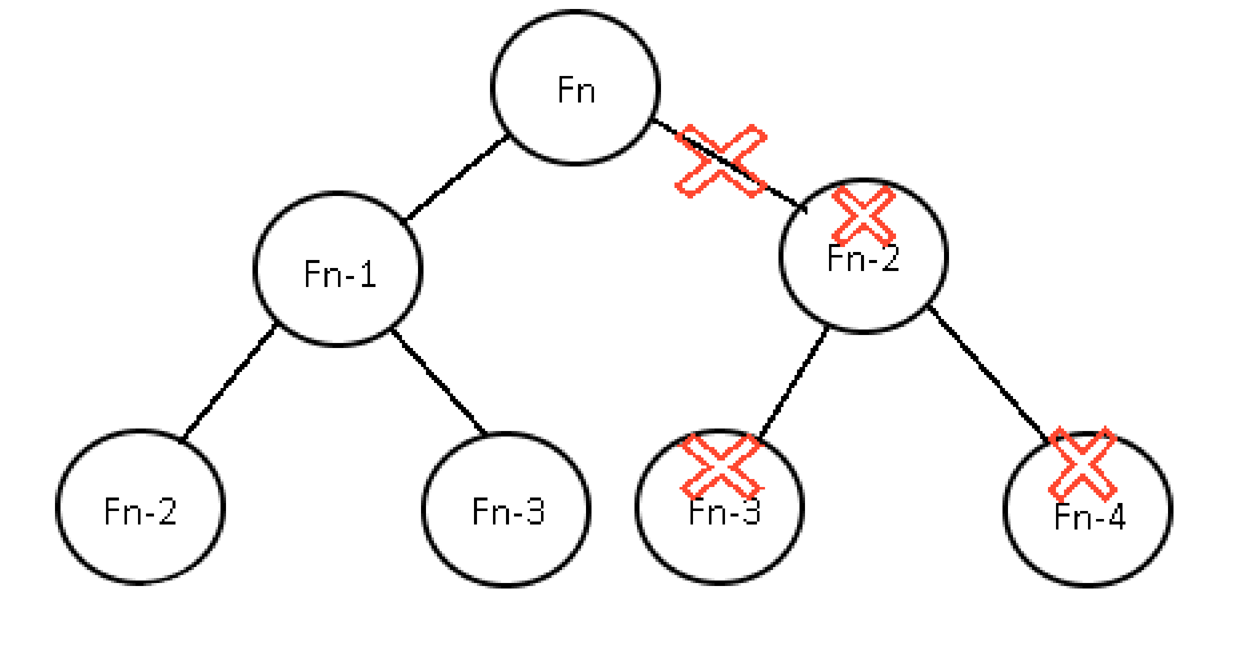
The problem with this code is we make too many duplicate computation:



Recursion tree generated for computing 5th number of fibonacci sequence

In the figure above, we can see that f(2) is computed 3 times, f(3) is computed 2 times

Your task is to use Map to memorize the Fibonacci of lower value so we don't have to recompute it again.



For example: if we have computed Fibonacci for n – 2 and n – 3 (left branch) then we don't need to compute anymore for the right branch.

Problem 03

You are given a list of object represent a Person.

Each person have following properties: **id**, **name**, **age**.

Your task is to remove duplicates from that lists. We define that a person is duplicate of another person if they have the same **id** and we will keep the previous Person.

Example:

```
[
  {
    id: 1,
    name: 'Dung',
    age: 20
  },
  {
    id: 2,
    name: 'Diu',
    age: 20
  },
  {
    id: 3,
    name: 'Ky',
    age: 20
  },
  {
    id: 1,
    name: 'Hai',
    age: 22
  }
]
```

In the above example, id = 1 is duplicated, and we will keep the person with id = 1 and name = ‘Dung’

Expected Output:

```
[
  {
    id: 1,
    name: 'Dung',
    age: 20
  },
  {
    id: 2,
    name: 'Diu',
    age: 20
  },
  {
    id: 3,
    name: 'Ky',
    age: 20
  }
]
```