SERVER SIDE SMALL TEST 1

VERSION A

Your name:

Question 1 [4 poinst]

Encircle the ONE correct statement:

A) A pure function can read a variable from the global scope

B) A pure function can return `null`

C) A pure function can call *unpure* functions

D) A pure function can modify the elements in the provided array argument

Question 2 [15 points]

For each code snippet below, encircle the correct output on the console.

```
console.log(x);
var x = 10;
```

Your Answer:

10 | undefined | An Error

```
console.log(x);
let x = 10;
```

Your Answer:

10 | undefined | An Error

```
const check = true;
if (check) {
    let x = 10;
}
console.log(x);
```

Your Answer:

10 | undefined | An Error

```
for (var i = 0; i < 11; i++) {
    var x = i;
}
console.log(x);
```

Your Answer:

10 | undefined | An Error

```
function setX(value) {
    var x = value;
}
setX(10);
console.log(x);
```

Your Answer:

10 | undefined | An Error

Question 3 [10 points]

Encircle the ***two*** code snippets that would produce an error (if you'd run them).

```
const list = [1, 2, 3];
list.push('hi');
```

```
const list = [1, 2, 3];
list = 10;
```

```
const list = [1, 2, 3];
list[2] = 4;
```

```
const list = [1, 2, 3];
list = [5, 6];
```

```
const list = [1, 2, 3];
console.log(list);
```

Question 4 [40 points]

Given the following code:

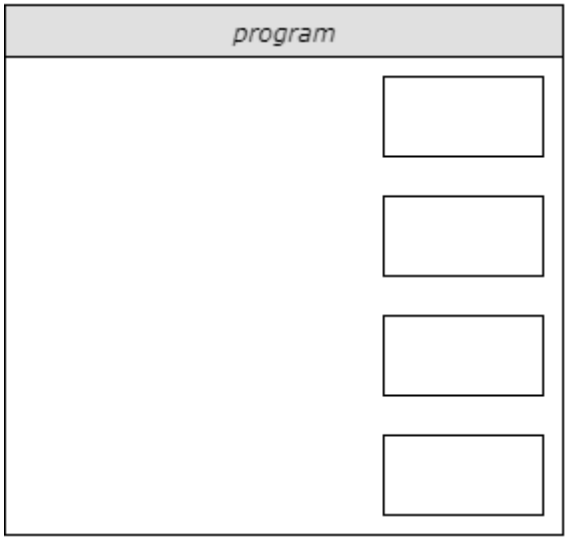
```
01  const execute = (nrTimes, func) => {
02      var person = {
03          name: 'han',
04          number: 21
05      };
06      for (var i = 0; i < nrTimes; i++) {
07          func(person.name);
08      }
09  }
10
11  const n = 2;
12
13  const sayHiTo = (name) => {
14    console.log(`Hi ${name}`);
15  }
16
17  execute(n, sayHiTo);
```

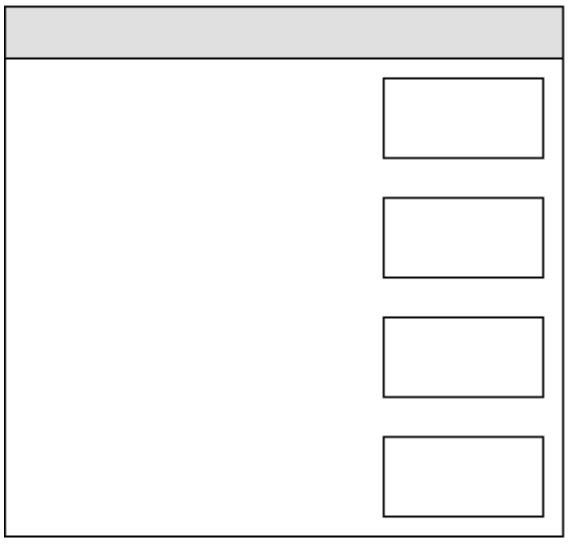
Complete the memory model diagram on the next page when the program is executing the function `execute` on line 17 and inside `execute`, the function `func` on line 7 is currently being executed. The value of `i` is currently equal to 1.

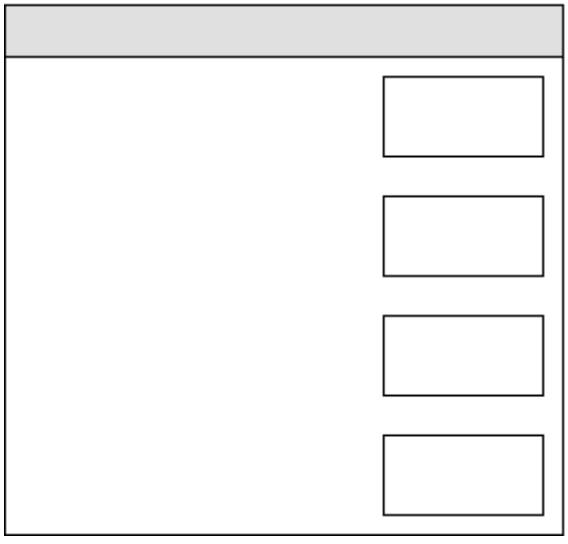
Remarks

- You don't have to give the stack frames and heap objects a name. This means that you can leave the gray area of all containers in the diagram empty.
- You can leave boxes you don't need empty.

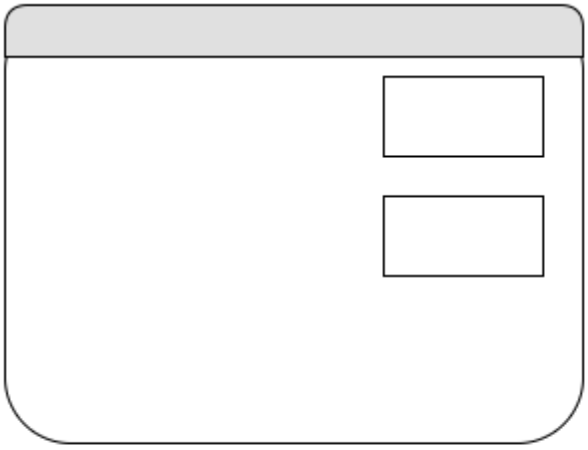
STACK

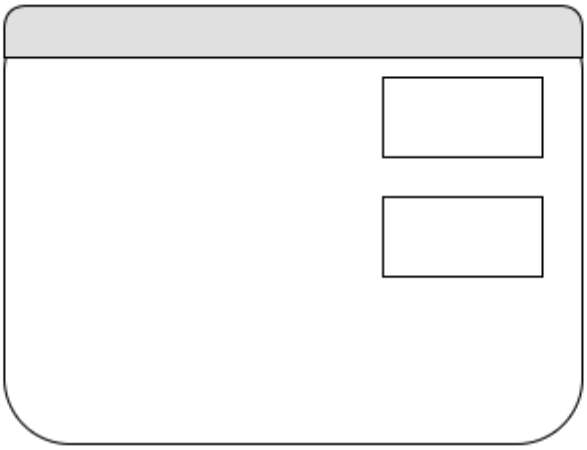


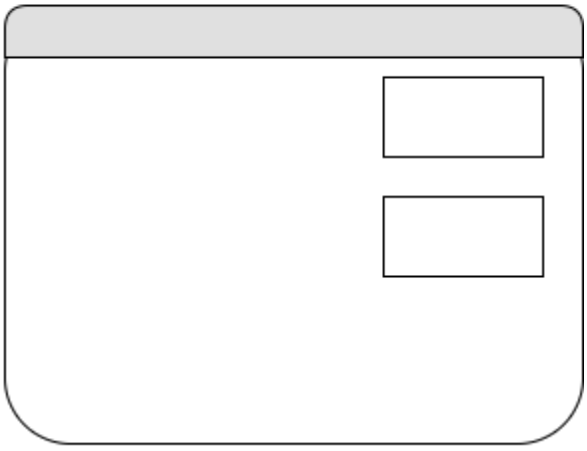




HEAP







Question 5 [10 points]

Given the following code:

```
const getValidNumber = (number) => {
    if (number === null) {
        throw new Error('Not Valid');
    }

    return number;
}

const printNumbers = (list) => {
    for (let i = 0; i < list.length; i++) {
        console.log(getValidNumber(list[i]));
    }
}

try {
    printNumbers([25.5, null, 10]);
} catch (err) {
    console.log(err.message);
}
```

Write down the console output when program is run.

Your Answer:

Question 6 [18 points]

Consider these two lines of code.

```
let list = ['hoi', 23, 39.5];
const x = 1;
```

For each expression below, encircle the answer that the expression produces.

```
list[list['length']]
```

Your Answer:

39.5 | undefined | An Error

```
list.length
```

Your Answer:

3 | undefined | An Error

```
list.0
```

Your Answer:

hoi | undefined | An Error

```
list[1]
```

Your Answer:

23 | undefined | An Error

```
list[x]
```

Your Answer:

23 | undefined | An Error

```
list.x
```

Your Answer:

23 | undefined | An Error

Question 7 [3 points]

Consider this code fragment

```
let animal = {
    sound: 'woof'
};

let otherAnimal = animal;
otherAnimal.sound = 'meow';

console.log(animal.sound);
```

What is the output of `console.log(animal.sound);`?

Your Answer:

woof	meow	An Error