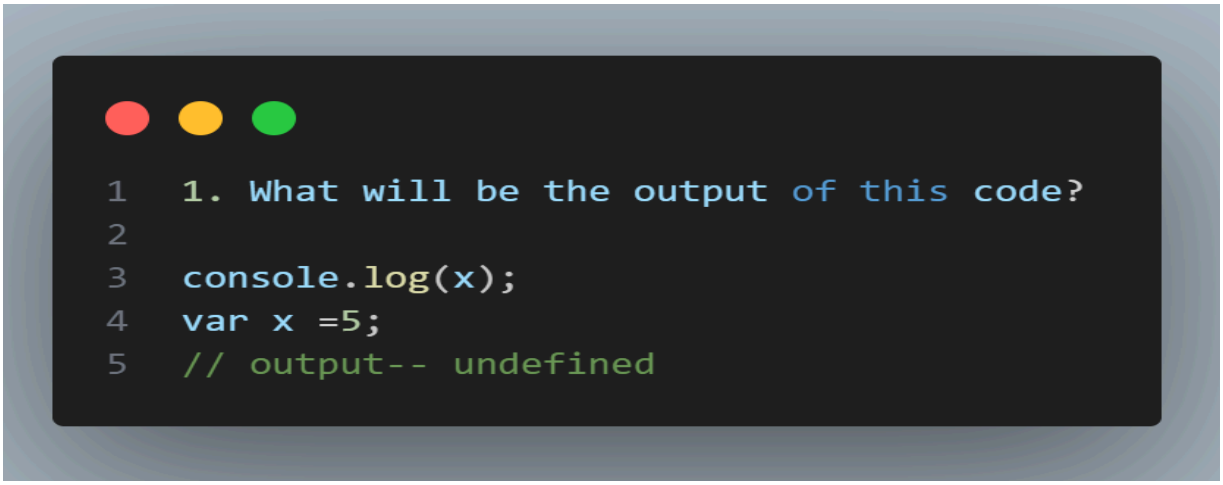
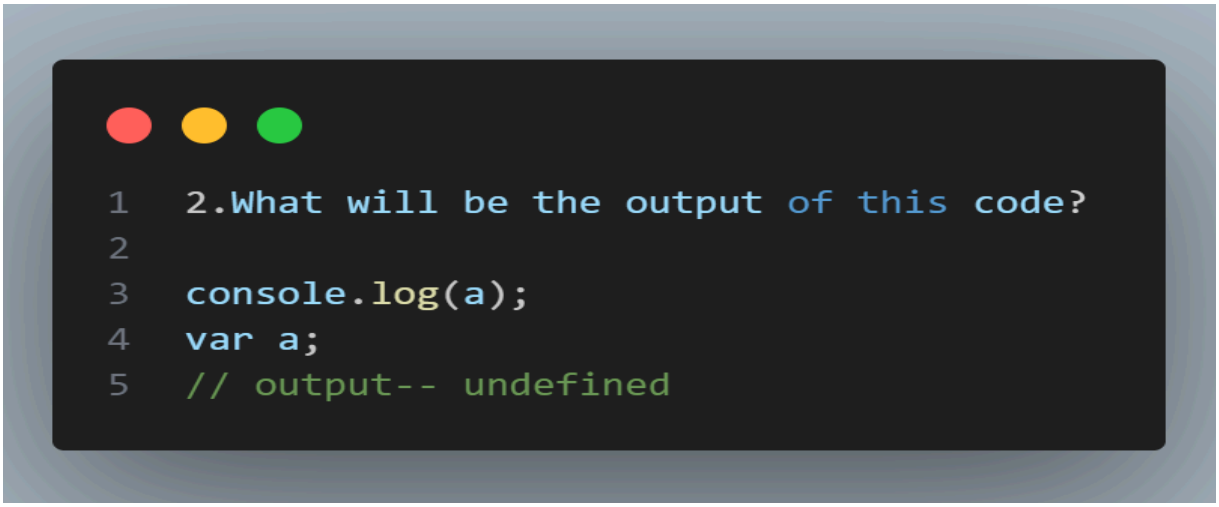


```
1. What will be the output of this code?

console.log(x);
var x =5;
// output-- undefined
```

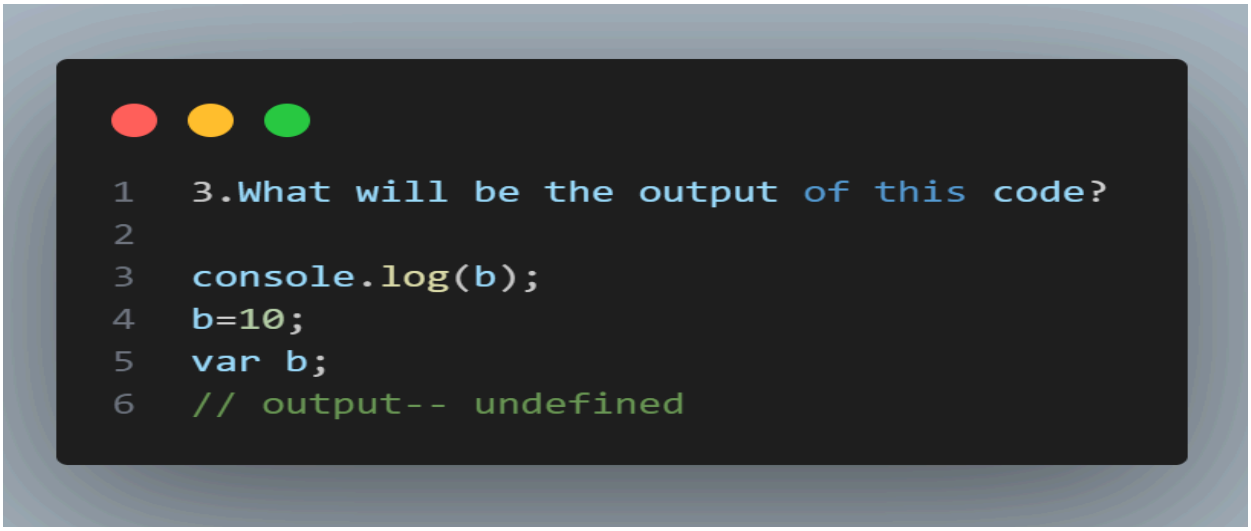
Explanation: We know that In JS when we declare a variable using **var**, that declaration is hoisted to the top of its scope, the declaration may be before or after the **console.log()**. In the above code we see that the **console.log()** is executed first and the variable is declared after the **console.log()** so the variable declared will be hoisted at the top of their scope. The events will be considered as declaration first **"var x;"** and the **"console.log(x);"** next so the output is **"undefined"**.



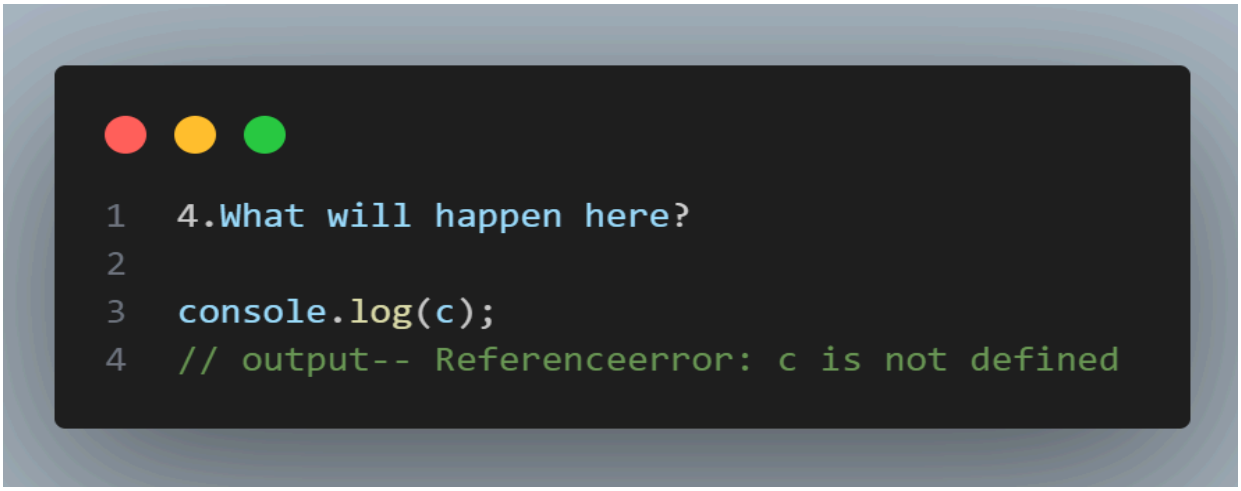
```
2.What will be the output of this code?

console.log(a);
var a;
// output-- undefined
```

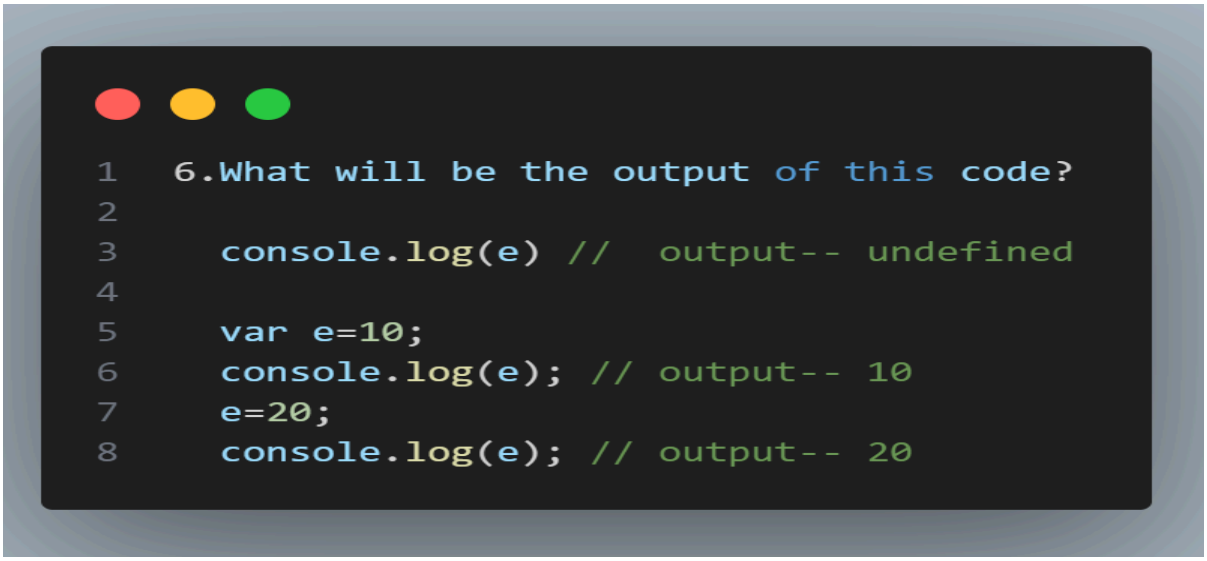
Explanation: We know that In JS when we declare a variable using **var**, that declaration is hoisted to the top of its scope, the declaration may be before or after the **console.log()**. In the above code we see that the **console.log()** is executed first and the variable is declared after the **console.log()** so the variable declared will be hoisted at the top of their scope. The events will be considered as declaration first "**var a**;" and the "**console.log(a);**" next so the output is"**undefined**".



Explanation: Similar to previous question, the variable **b** is declared using **var**. This means that the declaration is hoisted to the top of the scope.so when **JS Engine** compiles the code, it hoists the declaration of **b** so the events will be considered as declaration first "**var b;**" and the "**console.log(b);"** next and it executes as the variable is declared but value is not assigned so the output is "**undefined**".



Explanation: In the above output we see **"ReferenceError: c is not defined"** this is because until variables are declared with var, let, const. which are hoisted and initialised to **undefined** but variables declared with let, const will be hoisted but not initialised. This executing them before their declaration results in **"ReferenceError"** When the JS engine executing **console.log(c);**, it looks for the declaration of **c**. Since there is no declaration of **c** anywhere in the scope and it wasn't been defined with **var**, **let**, or **const**, the engine gives **ReferenceError** and give the statement as **"c is not defined"**



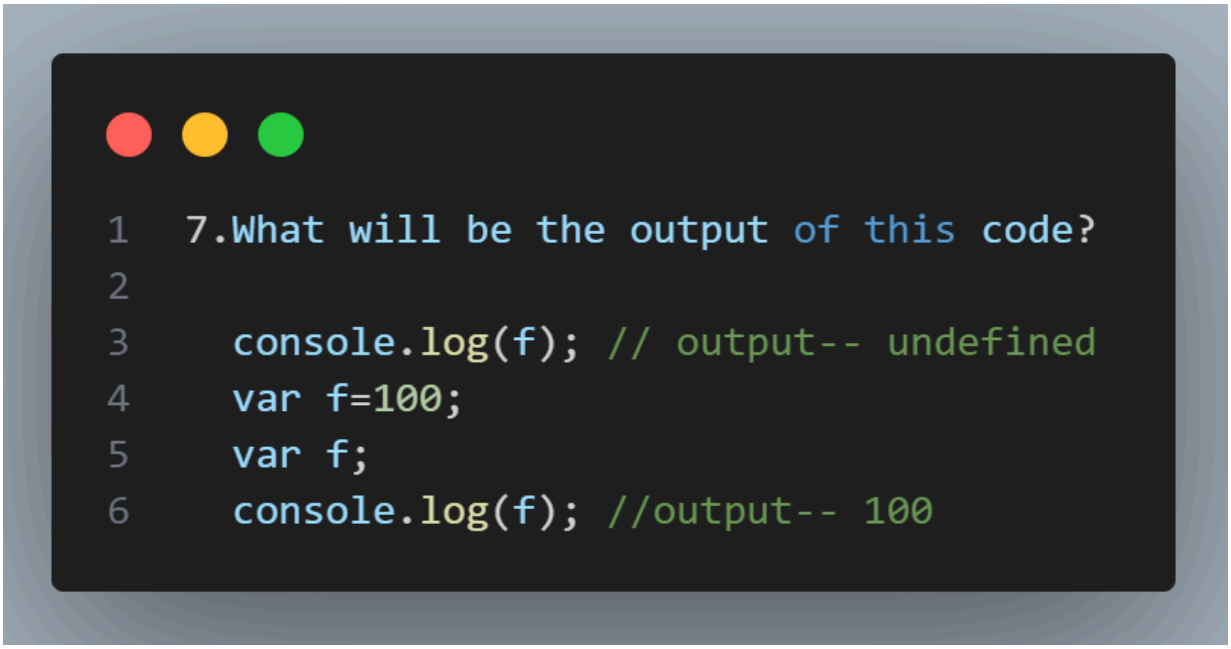
```
6.What will be the output of this code?

    console.log(e) //  output-- undefined

    var e=10;
    console.log(e); // output-- 10
    e=20;
    console.log(e); // output-- 20
```

Explanation:

- Here the **console.log(e)** given above the e declaration and the variable `e` is declared with `var`, so the declaration is hoisted to the top of the scope. so it hasn't been assigned any value to the declaration , so the output is `undefined` here.
- Now in the next line value is assigned to `e` and the output for **console.log(e);** here is `10`.
- Now the value is updated here as **e=20**; so the output for **console.log(e);** here is `20`.



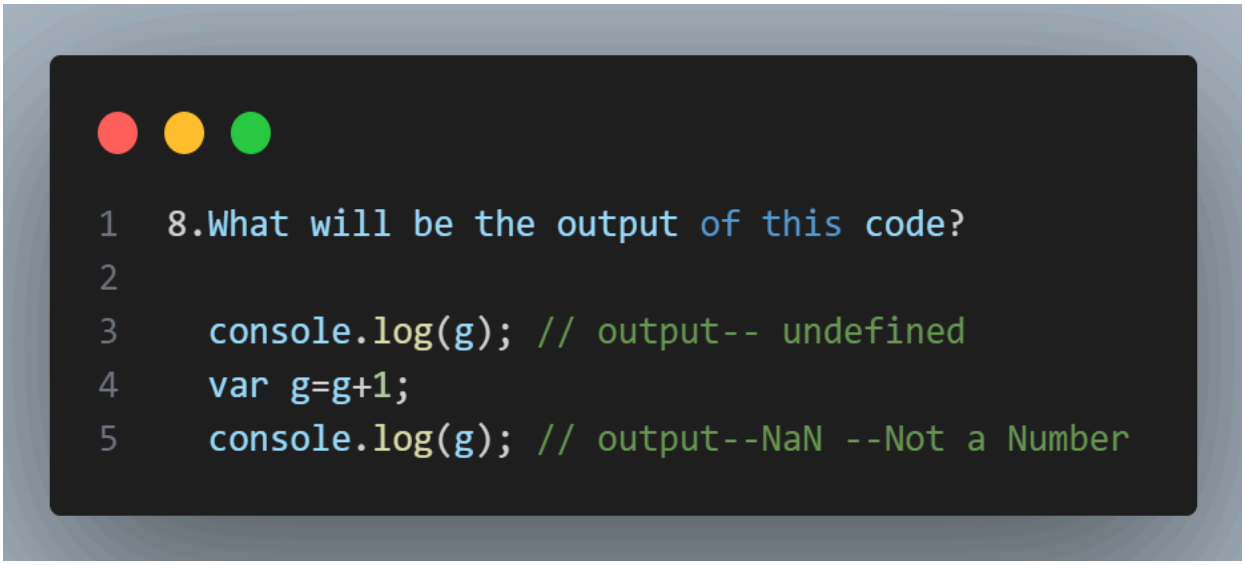
```
7.What will be the output of this code?

    console.log(f); // output-- undefined
    var f=100;
    var f;
    console.log(f); //output-- 100
```

Explanation:

- Here the **console.log(f)** given above the `f` declaration and the variable `f` is declared with `var`, so the declaration is hoisted to the top of the scope. And no value is assigned to the declaration , so the output is `undefined` here.
- Here, `f` is assigned with value `100`.

- And in next line we have declared **f,** but the **f** is already declared by this there gonna be nothing change
- Then in next line **console.log(f);** will be executed and we get the output as **100** from the f declaration with var



Explanation:

console.log(g):

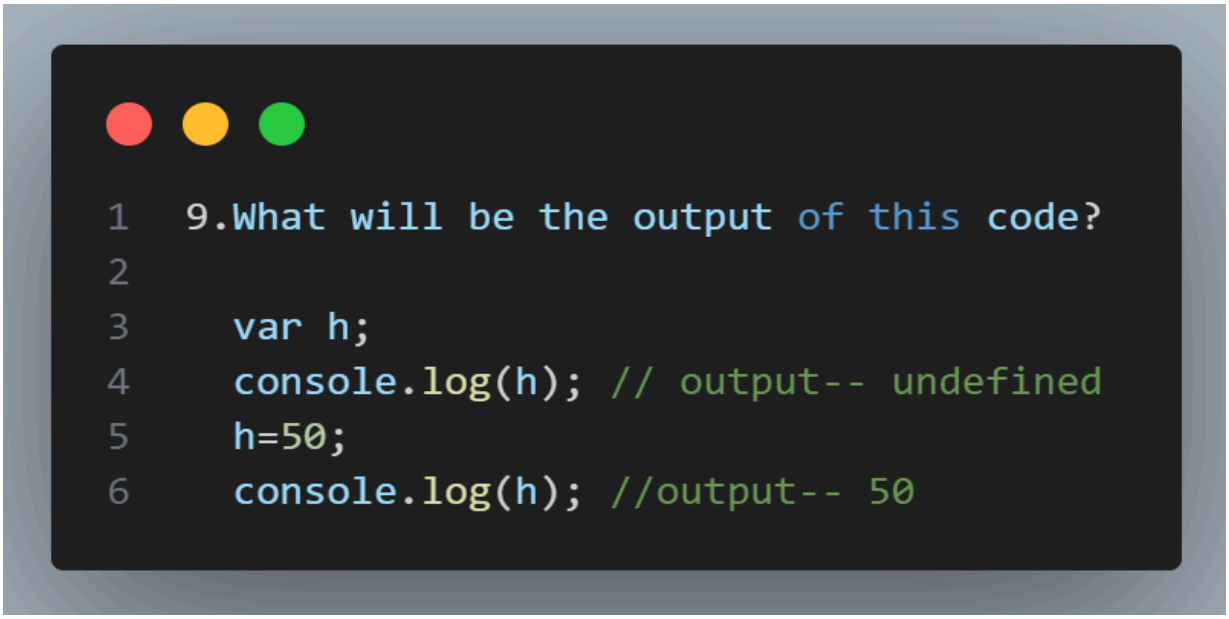
- When this line executes, the variable **g** is declared due to hoisting but not yet assigned a value. So **console.log(g);** will prints output as **undefined.**

var g=g+1; :

- Here, we declared a variable g with var and assigned a value g. Then at this point the value is undefined and then adding we are adding +1 to g meaning undefined+1 gives output as NaN (Not a Number) because undefined is not a number so while adding string with a number gives NaN as output.

console.log(g);:

- When **console.log(g);** is executed again, it prints **NaN**, which is the current value of **g.**



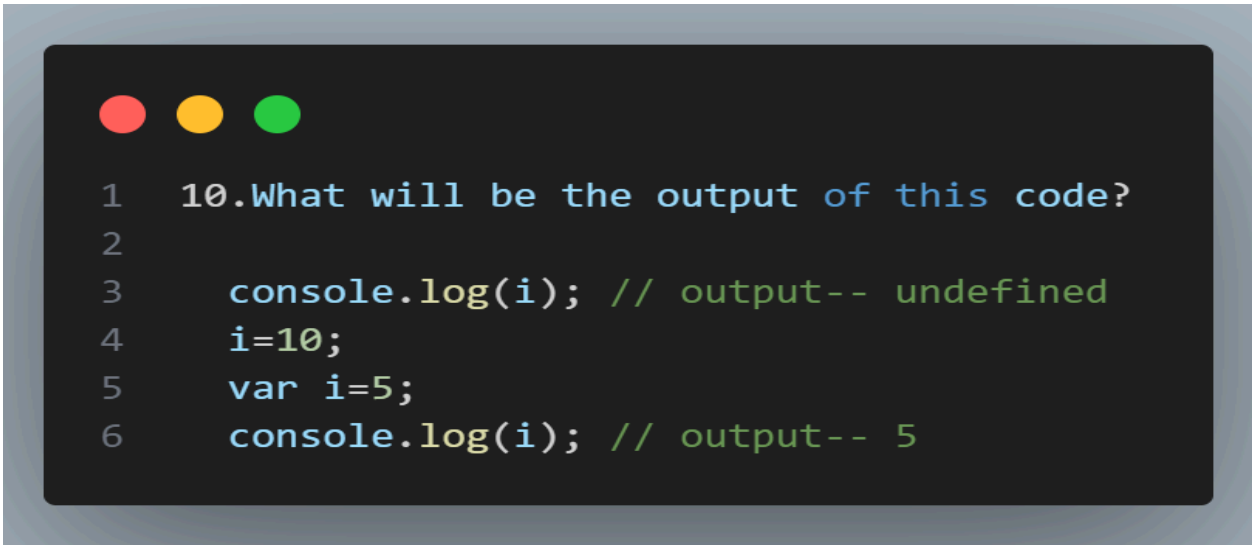
Explanation:

var h; :

- Here the line **`var h;`** declares a variable **h**. At this point, **h** is created but not initialized with any value.

console.log(h); :

- When this line executes, h has been declared but not assigned any value.Therefore, **console.log(h);** will prints the output as **undefined.**



Explanation:

console.log(i);:

- Here when this line executes, the variable `i` has been declared (due to hoisting) but not yet initialized with a value.And therefore, **console.log(i);** will prints output as **undefined**.

`i = 10;`:

- This line will assign the value **`10`** to **`i`**.

var i = 5;:

- Here the line `var i = 5;` occurs after the assigned value of `i` to `10` it looks like reassigning the value of **i**.

console.log(i);:

- Here when `console.log(i);` is executed , it prints the output as `5`, which is the value that `i` was lastly assigned.