

## GUVI: Zen Class — Part 1: Find the culprits and nail them — debugging JavaScript

Once you are familiar with basic syntax you can reinforce your understanding by solving these simple snippets

### 1. Find the culprit

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script>
  alert( "I'm JavaScript!");
</script>
Whats the error in this ?
</body>
</html>
```

### Solution:

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script>
  alert( "I'm JavaScript!");
</script>
Whats the error in this ?
</body>
</html>
```

-----

### 2. Find the culprit and invoke the alert

fix.html

```
<!DOCTYPE html>
<html>
<body>
```

```
<script src="script.js"></script>
</body>
</html>
```

## scripts.js

```
alert("I'm invoked!");
```

## Solution:

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="scripts.js"></script>
</body>
</html>
```

## scripts.js

```
alert("I'm invoked!");
```

---

## 3. Explain the below how it works

### explain.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

## script.js

```
alert("I'm JavaScript!");
alert('Hello') // this line is not having semicolon
alert(`Wor
ld`)
alert(3 +
```

```
1
+ 2); // this is multiple line code and its working
```

### **Solution:**

Yes, this code is working.

Even without the semicolon also the `alert('Hello')` is working.

The `alert(`Wor  
ld`)`  
print 'Wor' in 1<sup>st</sup> line, in below it 'ld' prints.

The `alert(3 +  
1  
+ 2);`

The multiple line code its working, it print 6 as the output.

-----

#### 4. Fix the below to alert Guvi geek

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

script.js

```
let admin=9, fname=10.5;
fname = "Guvi";
lname = "geek"
admin = fname+lname;alert( admin ); // "Guvi geek"
```

### **Solution:**

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

### script.js

```
let admin=9, fname=10.5;
fname = "Guvi";
lname = "geek"
admin = fname+" "+ lname;alert( admin ); // "Guvi geek"
```

-----

## 5. Fix the below to alert hello Guvi geek

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

### script.js

```
let fname=10.5;
fname = "Guvi";
lname = "geek"let name = fname+lname;alert( 'hello ${name}' );
```

### **Solution:**

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

```
let fname=10.5;
fname = "Guvi";
lname = "geek"
let name = fname+" "+lname;
alert(`hello ${name}`)
```

---

6. Fix the below to alert sum of two numbers

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

script.js

```
let a = prompt("First number?");
let b = prompt("Second number?");
alert(a + b);
```

**Solution:**

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

script.js

```
let a = parseInt(prompt("First number?"));
let b = parseInt(prompt("Second number?"));
alert(a + b)
```

---

7. If you run the below script you will get “Code is Blasted”

Explain Why the Code is blasted and how to diffuse it and get “Diffused”.

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

script.js

```
var a = "2" > "12";//Don't touch below this
if (a) {
    console.log("Code is Blasted")
}
else
{
    console.log("Diffused")
}
```

### **Solution:**

The output prints ‘Code is blasted’ because `a = "2" > "12"`, the `a` satisfy the if condition, if there is any change in the value it prints the else condition

fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

script.js

```
var a = "2" < "12";//Don't touch below this
if (a) {
    console.log("Code is Blasted")
}
else
```

```
{  
  console.log("Diffused")  
}
```

---

## 8. How to get the success in console.

### fix.html

```
<!DOCTYPE html>  
<html>  
<body>  
<script src="script.js"></script>  
</body>  
</html>
```

### script.js

```
let a = prompt("Enter a number?");//Don't modify any code below  
this  
  
if (a) {  
  console.log( 'OMG it works for any number inc 0' );  
}  
else  
{  
  console.log( "Success" );  
}
```

### **Solution:**

#### fix.html

```
<!DOCTYPE html>  
<html>  
<body>  
<script src="script.js"></script>  
</body>  
</html>
```

#### script.js

```
let a = parseInt(prompt("Enter a word?")); //Don't modify any code below this

if (a) {
  console.log( 'OMG it works for any number inc 0' );
}
else
{
  console.log( "Success" );
}
```

-----

## 9. How to get the correct score in console.

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

### script.js

```
let value = prompt('How many runs you scored in this ball');
if (value === 4) {
  console.log("You hit a Four");
} else if (value === 6) {
  console.log("You hit a Six");
} else {
  console.log("I couldn't figure out");
}
```

## **Solution:**

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
```



```
</body>
</html>
```

### script.js

```
let value = prompt('How many runs you scored in this ball');
if (value == 4) {
    console.log("You hit a Four");
} else if (value == 6) {
    console.log("You hit a Six");
} else {
    console.log("I couldn't figure out");
}
```

---

## 10. Fix the code to welcome the Employee

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
</body>
</html>
```

### script.js

```
let login = 'Employee';
let message = (login == 'Employee') ? :
    (login == 'Director') ? 'Greetings' :
    (login == '') ? 'No login' :
    ''; console.log(message);
```

### **Solution:**

### fix.html

```
<!DOCTYPE html>
<html>
<body>
<script src="script.js"></script>
```

```
</body>
</html>
```

### script.js

```
let login = 'Employee';
if(message = login == 'Employee'){
  console.log("Welcome the Employee")}
```

-----

## 11. Fix the code to welcome the boss

### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

### script.js

```
// You cant change the value of the msg
let message;

if (null || 2 || undefined )
{let message = "welcome boss";
}
else{
  let message = "Go away";
}
  console.log(message);
```

### **Solution:**

### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
```

```
</body>
</html>
```

### script.js

```
let message;

if (null || 2 || undefined )
{message = "welcome boss";
}
else{message = "Go away";
}

console.log(message);
```

---

## 12. Fix the code to welcome the boss

### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

### script.js

```
let message;
let lock = 2;//Dont change any code below this

if (null || lock || undefined )
{message = "Go away";
}
else
{message = "welcome";
}

console.log(message);
```

### Solution:

### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

### script.js

```
let message;
let lock = 2;

if (null && lock || undefined )
{message = "Go away";
}
else{message = "welcome";
}

console.log(message);
```

---

## 13. Fix the code to welcome the boss

### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

### script.js

```
let message;
let lock = 2;//Dont change any code below this

if (lock && " " || undefined )
{ message = "Go away";
}
else
{message = "welcome";
}

console.log(message);
```

## **Solution:**

fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

script.js

```
let message;
let lock = 2;

if (lock && " " && undefined )
{ message = "Go away";
}
else
{message = "welcome";
}
console.log(message);
```

-----

## **14. Change the code to print**

3

2

1

fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

script.js

```
//You can change only 2 character

let i = 3;
```

```
while (i) {  
  console.log( --i );  
}
```

## **Solution:**

### **fix.html**

```
<!DOCTYPE html>  
<html>  
<body>  
  <script src="script.js"></script>  
</body>  
</html>
```

### **script.js**

```
let i = 4;  
  
while (I >=2) {  
  console.log( --i );  
}
```

-----

## **15. Change the code to print 1 to 10 in 4 lines**

### **fix.html**

```
<!DOCTYPE html>  
<html>  
<body>  
  <script src="script.js"></script>  
</body>  
</html>
```

### **script.js**

```
let num = 1  
console.log(num)  
num += 1  
console.log(num)  
num += 1  
console.log(num)
```

```
num += 1
console.log(num)
num += 1
console.log(num)
num += 1
console.log(num)
num += 1
console.log(num)
num += 1
console.log(num)
num += 1
console.log(num)
num += 1
console.log(num)
```

## **Solution:**

### **fix.html**

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

### **script.js**

```
(function() {
  var line = ''
  for (var i = 1; i <= 10; i++) {
    line += i + ' '
    if (i % 3 == 1) {
      console.log(line)
      line = ''
    }
  }
})()
```

---

## 16. Change the code to print even numbers

fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

script.js

```
//You are allowed to modify only one character

for (let num = 2; num <= 20; num += 1) {
  console.log(num)
}
```

### **Solution:**

fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

script.js

```
for (let num = 2; num <= 20; num += 2) {
  console.log(num)
}
```

-----

## 17. Change the code to print all the gifts

fix.html

```
<!DOCTYPE html>
<html>
<body>
```



```
<script src="script.js"></script>
</body>
</html>
```

### script.js

```
let gifts = ["teddy bear", "drone", "doll"];

for (let i = 0; i < 3; i++) {
  console.log('Wrapped ${gifts[i]} and added a bow!');
}
```

### **Solution:**

#### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

#### script.js

```
let gifts = ["teddy bear", "drone", "doll"];

for (let i = 0; i < 3; i++) {
  console.log(`Wrapped ${gifts[i]} and added a bow!`);
}
```

-----

### **18. Fix the code to disarm the bomb.**

#### fix.html

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

#### script.js

```
let countdown = 100;

while (countdown > 0) {
  countdown--;
  if(countdown == 0)
  { console.log("bomb triggered");
  }
}
```

## **Solution:**

### **fix.html**

```
<!DOCTYPE html>
<html>
<body>
  <script src="script.js"></script>
</body>
</html>
```

### **script.js**

```
let countdown = 100;
while (countdown > 1) {
  countdown --;
  if(countdown == 0)
  { console.log("bomb triggered");
  }
  else {
console.log("bomb deactivated")
  }
}
```

-----

19. Whats the msg printed and why? Guess you answer before running it.

```
var lemein = "0";
var lemeout = 0;
var msg = "";

if (lemein) {
  msg += "hi";
}
```

```
if (lemeout) {  
  msg += 'Hello';  
}console.log(msg);
```

**Solution:**

“hi” will be printed. Because lemein is a string.

-----