**Part 1: Find the culprits and nail them — debugging JavaScript**

1. **Find the culprit**

fix.html

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

<!DOCTYPE html>

<html>

<body>

<script>

alert( "I’m JavaScript!"); //wrong inverted commas

</script>

Whats the error in this ?

</body>

</html>

1. **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!”);

answer: Both inverted closed inverted commas.

fix.html

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

Script.js

alert("I'm invoked!");

1. 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

answer: both inverted closed inverted commas

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

1. **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"

answer: both inverted closed inverted comma

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; //add a space in between

alert( admin ); // "Guvi geek"

1. 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}' );

answer: both inverted closed inverted comma

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

let fname=10.5;

fname = "Guvi";

lname = "geek"

let name = fname+" "+lname; //add a space in between

alert( 'hello '+name ); //add a space and name to be outside ''

1. 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);

answer:

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); //convert to integer

1. 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);

answer:

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); //convert to integer

1. 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")   
}

answer: The code is blasted because being a string it was comparing the first value of both the strings which make it true since 2>1;

**fix.html**

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

**Script.js**

var a = parseInt("2") > parseInt("12"); //convert to int

//Don't touch below this

if (a) {

console.log("Code is Blasted")

}

else

{

console.log("Diffused")

}

1. 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" );  
}

answer: let the variable 'a' empty or null, this will make the result of if statement false and return 'success'.

1. 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");  
}

answer: it takes score as a string rather than an integer, so either compare a string with another string or convert the input to integer.

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");

}

1. 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);

answer:

fix.html

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

Script.js

let login = 'Employee';

let message = (login == 'Employee') ?

'Greetings' :

'No login' ;

console.log(message);

1. 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);

answer:

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 )

{

message = "welcome boss";

}

else

{

message = "Go away";

}

console.log(message);

1. 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);

answer: make the value of lock to 0 in order to make the if statement false

fix.html

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

let message;

let lock = 0;

//Dont change any code below this

if (null || lock || undefined )

{

message = "Go away";

}

else

{

message = "welcome";

}

console.log(message);

1. 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);

answer: make the value of lock to 0 in order to make the if statement false

fix.html

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

let message;

let lock = 0;

//Dont change any code below this

if (lock && " " || undefined )

{

message = "Go away";

}

else

{

message = "welcome";

}

console.log(message);

1. 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 characterslet i = 3;while (i) {  
 console.log( --i );  
}

Answer: change pre decrement to post decrement

Fix.html

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

Script.js

//You can change only 2 characters

let i = 3;

while (i) {

console.log( i-- );

}

1. 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)

answer:

fix.html

<!DOCTYPE html>

<html>

<body>

<script src="script.js"></script>

</body>

</html>

Script.js

let num = 1

let count=[];

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

num += 1

count.push(num);

console.log(...count)

console.log(...count)

console.log(...count)

console.log(...count)

1. 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)  
}

Answer: increase the increment from 1 to 2.

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 += 2) {

console.log(num)

}

1. 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!');  
}

answer:

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!');

}

1. 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");  
 }  
}

answer:

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");

}

}

1. Whats the msg printed and why?

var lemein = “0”;  
var lemeout = 0;  
var msg = “”;

if (lemein) {  
 msg += “hi”;  
 }

if (lemeout) {  
 msg += ‘Hello’;  
}

console.log(msg);

answer:

**Output:**

**hi**

lemein is a string and if(lemein) results true and lemeout is an interger and if(lemeout) results false

1. 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);

answer:

**Output:**

**hi**

lemein is a string and if(lemein) results true and lemeout is an interger and if(lemeout) results false