

Task 1: Write a simple script that displays “Hello, World!” on the web page using an alert box.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      alert("hello world !");
    </script>
  </body>
</html>
```

Output :

127.0.0.1:5500 says

hello world !

OK

Task 2: Experiment with different data types in JavaScript (e.g., string, number, boolean) by declaring and logging them in the console.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str = "hi this is string";
      var num = 3;
      var bool = true;
      console.log(str);
      console.log(num);
      console.log(bool);
    </script>
  </body>
</html>
```

Output:

```
hi this is string      java script.html:10
3                      java script.html:11
true                   java script.html:12
Live reload enabled.   java script.html:44
>
```

Task 3: Use the console to perform basic math operations like addition, subtraction, multiplication, and division

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      console.log(3 + 5);
      console.log(3-5);
      console.log(50/10);
      console.log(3*5);
      console.log(4%2) ;
    </script>
  </body>
</body>
</html>
```

Output:

```
8                      java script.html:7
-2                     java script.html:8
5                      java script.html:9
15                     java script.html:10
0                      java script.html:11
Live reload enabled.   java script.html:41
> |
```

Task 4: Declare two strings and concatenate them using the + operator.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str = "hi java script";
      var str = "concatenated string";
      document.writeln(str+str);
    </script>
  </body>
</body>
</html>
```

Output:



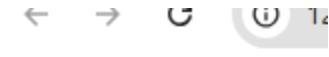
concatenated stringconcatenated string

Task 5: Use the typeof operator to check the data type of various variables

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str = "hi this is string";
      var num = 3;
      var bool = true;
      document.writeln(typeof(str));
      document.writeln(typeof(num));
      document.writeln(typeof(bool));

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

Output:



string number boolean

Code structure:

Task 6: Write a multi-line JavaScript comment and a single-line comment. Explain the difference

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str = "hi this is string";//This declares a str and it is a single line
comment when the comment starts with //
      var num = 3;/*it is a multiline comment and the line of comment continues till the
operator is used and the comment will
      be closed*/
      var bool = true;

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

Task 7: Create a script with both semicolon-separated and not separated lines. Note any differences in behavior.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str = "hi this is string";// with semicolon
      var num = 3 //without semicolon
      document.writeln(str);
      document.writeln(num)
    </script>
  </body>
</body>
</html>
```

Output:

hi this is string 3

Task 8: Use proper indentation to format a nested loop.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str = "hi this is string";// with semicolon
      var num = 3 ;//without semicolon
      for(var i=0;i<num;i++)
      {
        document.writeln(i);
        for(var j= num;j>=0;j--)
        {
          document.writeln(j);
        }
      }
    </script>
  </body>
</body>
</html>
```

Output:

0 3 2 1 0 1 3 2 1 0 2 3 2 1 0

Task 9: Declare multiple variables in a single line

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str,num;
      str="string";
      num = 3;
      document.writeln(str+num);
    </script>
  </body>
</body>
</html>
```

Output:

string3

Task 10: Place a script tag at the top and bottom of an HTML document. Note any differences in behavior.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <script>
    var str,num;
    str="string";
    num = 3;
    document.writeln(str+num);
  </script>
  <body>
    <script>
      var str,num;
      str="string";
      num = 3;
      document.writeln(str+num);
    </script>
  </body>
  <script>
    var str,num;
    str="string";
    num = 3;
    document.writeln(str+num);
  </script>
</html>
```

Output:

string3 string3 string3

The modern mode, “use strict”, Variables

1. The modern mode, “use strict”:

Task 11: Write a script without using “use strict” and try to assign a value to an undeclared variable. Note the result.

```

<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>

      k = "undeclared variable";
      document.writeln(k);
    </script>
  </body>
</body>
</html>

```

Output:

undeclared variable

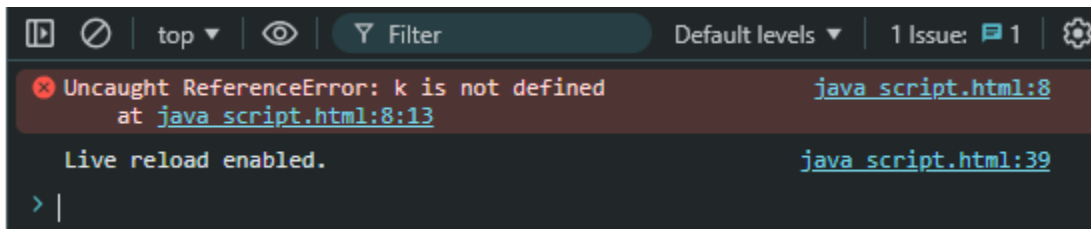
Task 12: Enable “use strict” mode and repeat the above action, noting the difference

```

<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      "use strict"
      k = "undeclared variable";
      document.writeln(k);
    </script>
  </body>
</body>
</html>

```

Output:



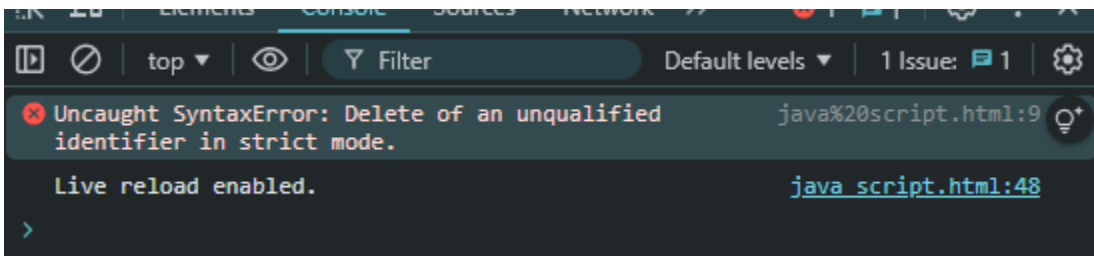
Task 13: In “use strict” mode, try to delete a variable, function, or function parameter

```

<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      "use strict"
      let k = "undeclared variable";
      delete(k);
      function fun(){
        document.write("hi this is the function");
      }delete(fun);
      function fun2(str,name){
        delete(str);
        document.write(str);
        document.write(name);
      }
      fun2("hi","vishnu");
    </script>
  </body>
</body>
</html>

```

Output:



Task 14: Assign a value to an undeclared variable without “use strict” and then with “use strict”

```

<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      j = "undeclared variable j ";
      document.writeln(j + '<br>');
      "use strict"
      j = "undeclared variable k ";
      document.writeln(j);
    </script>
  </body>
</body>
</html>

```

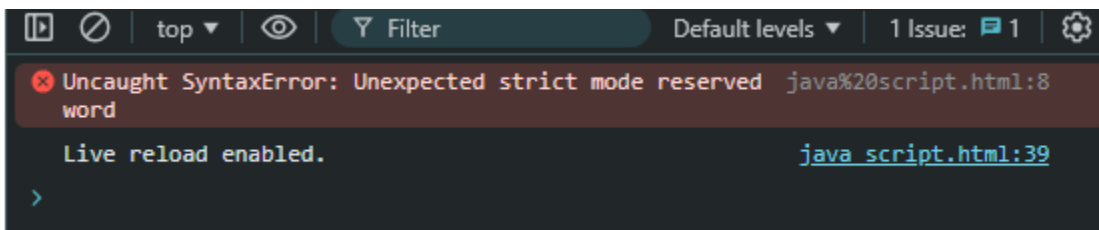

Output:

undeclared variable j undeclared variable k

Task 15: Declare a variable with a reserved keyword in “use strict” mode.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      "use strict"
      let if = "undeclared variable k ";
      document.writeln(if);
    </script>
  </body>
</html>
```

Output:



2. Variables:

Task 16: Declare variables using let, const, and var. Discuss when each should be used

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      let k = "string";
      var j = "string";
      const l = "string";
      document.writeln(k);
      document.writeln("    the variable k can be redefined and cannot be
redeclared" + '<br>');
      document.write(j);
      document.write("    the variable j can be redefined and redeclared" + '<br>');
      document.write(l);
      document.write("    the variable l neither redefined nor redeclared" + '<br>');
    </script>
  </body>
</html>
```

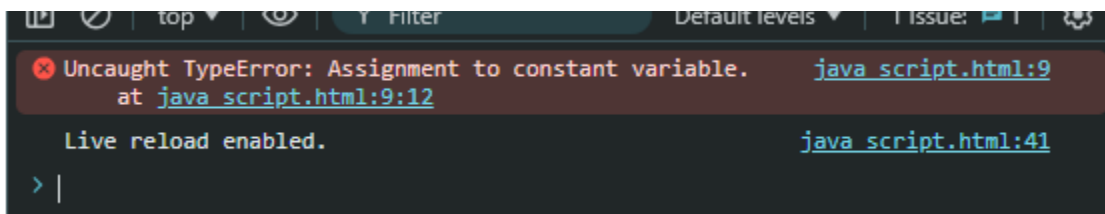
Output:

```
string the variable k can be redefined and cannot be redeclared;  
string the variable j can be redefined and redeclared  
string the variable l neither redefined nor redeclared
```

Task 17: Attempt to reassign a const variable and observe the result.

```
<html lang = 'en'>  
  <head>  
    <title>java script tasks</title>  
  </head>  
  <body>  
    <script>  
  
      const l = "string";  
      l = "hi";  
      document.writeln(l);  
  
    </script>  
  </body>  
</html>
```

Output:



Task 18: Declare a variable without initializing it and print its value

```
<html lang = 'en'>  
  <head>  
    <title>java script tasks</title>  
  </head>  
  <body>  
    <script>  
      var l ;  
      document.writeln(l);  
    </script>  
  </body>  
</html>
```

Output:

undefined

Task 19: Assign a number, string, and boolean value to a variable and print its type using typeof.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str,num,bool;
      str="string";
      num = 3;
      bool = true;
      document.write(typeof(str)+" "+typeof(num)+ " "+typeof(bool));
    </script>
  </body>
</body>
</html>
```

Output:

string number boolean

Task 20: Rename a variable and observe the outcome.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      let s = {name : "vishnu",key : 21};
      const{name:newname} = s ;
      document.write(newname);
    </script>
  </body>
</body>
</html>
```

Output:

vishnu

Data types, Basic operators, maths:

1. Data types:

Task 21: Create variables of different data types (e.g., string, number, boolean, null, undefined, object).

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str,num,bool,undef;
      str="string";
      num = 3;
      bool = true;
      let s = {name : "vishnu",age:19}
      document.write(str+'<br>');
      document.write(num+'<br>');
      document.write(bool+'<br>');
      document.write(undef+'<br>');
      document.write(null);
      document.write(s);
    </script>
  </body>
</html>
```

Output:

```
string
3
true
undefined
null[object Object]
```

Task 22: Use the typeof operator to determine the type of various variables

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str,num,bool,undef;
      str="string";
      num = 3;
      bool = true;
      document.write(typeof(str)+" "+typeof(num)+ " "+typeof(bool)+" "+typeof(undef)+"
"+typeof(null));
    </script>
```

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

Output:

string number boolean undefined object

Task 23: Declare a symbol and print its type.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var sym = Symbol("*");
      document.write(typeof(sym));
    </script>
  </body>
</body>
</html>
```

Output:

symbol

Task 24: Assign the value null to a variable and check its type using typeof.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var s = null;
      document.write(typeof(s));
    </script>
  </body>
</body>
</html>
```

Output:

object

Task 25: Differentiate between declaring a variable using var and let in terms of scope

```
<html lang='en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      {
        let k = "let" ;

        var s;
        function fun(){
          s = "var";
          document.writeln(s + " inlocal");
          document.writeln(k + " inlocal");
        } fun();
        s ="vishnu";
        document.writeln(s + " inglobal");
        document.writeln(k + " inglobal");
      }
    </script></body>
</html>
```

Output:

```
var inlocal let inlocal vishnu inglobal
```

2. Basic operators, mat

Task 26: Convert a string to a number using both implicit and explicit conversion

```
<html lang='en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var str ="156";
      str = Number(str);//explicit
      document.write(str);
      var s = "155";
      s = (s-1);//implicit
      document.write(s);
    </script>
  </body>
</body>
</html>
```

Output:

156154

Task 27: Convert a boolean to a string and vice versa.

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      var bool = true;
      var str = String(bool);
      bool = Boolean(str);
      document.write(typeof(str));
      document.write(typeof(bool));
    </script>
  </body>
</body>
</html>
```

Output:

stringboolean

Task 28: Practice basic arithmetic operators (+, -, *, /, %).

```
<html lang = 'en'>
  <head>
    <title>java script tasks</title>
  </head>
  <body>
    <script>
      document.write(3+5 );
      document.write('<br>');
      document.write(5-9); document.write('<br>');
      document.write(3/5); document.write('<br>');
      document.write(3%5); document.write('<br>');
      document.write(3*5);  document.write('<br>');
    </script>
  </body>
</body>
</html>
```

Output:

8
-4
0.6
3
15