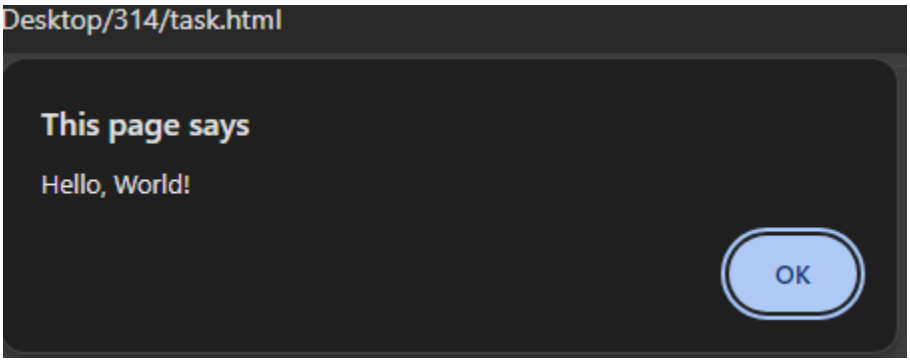
Task 1:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
            alert("Hello, World!");
        </script>
    </body>
</html>
```

Output:



Task 2:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
            let name ="Gopiga";
            let age = 18;
            let a = true;
            console.log(name);
            console.log(age);
            console.log(a);
        </script>
    </body>
</html>
```

Output:

Task 3:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
           let a = 10;
           let b = 5;
           console.log(a+b);
           console.log(a-b);
           console.log(a*b);
           console.log(a/b);

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

Output:

Task 4:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
           let name ="Gopiga ";
           let b = "Ramachandran";
           document.writeln(name+b);
        </script>
    </body>
</html>
```

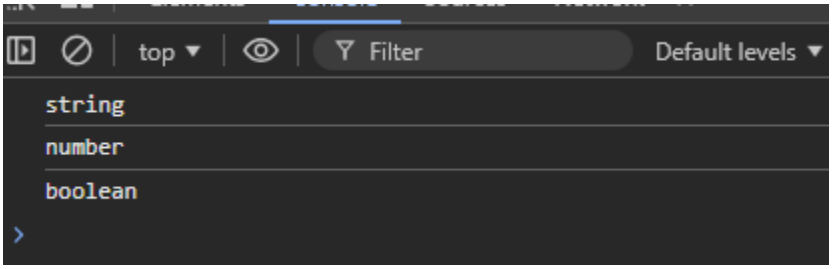
Output:

Gopiga Ramachandran

Task 5:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
          console.log(typeof("gopiga"));
          console.log(typeof(3));
          console.log(typeof(false));
        </script>
    </body>
</html>
```

Output:



Task 6:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
         // This is syntax for single line command
         /* This is syntax for multi line command */
        </script>
    </body>
</html>
```

Output:

Single-line comments:

Single-line comments are the comment lines confined to one line of code.

Multi-line comments

Multi-line comments are typically a block of text lines that may extend for multiple lines.

Task 7:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
         let name = "Pathirana";
         console.log(name);
         let name1 ="Matheesha"
         console.log(name1);
        </script>
    </body>
</html>
```

Output:

```
Pathirana
Matheesha
```

Difference:

Variable Declaration: You declare two variables using `let` (which has block-level scope).

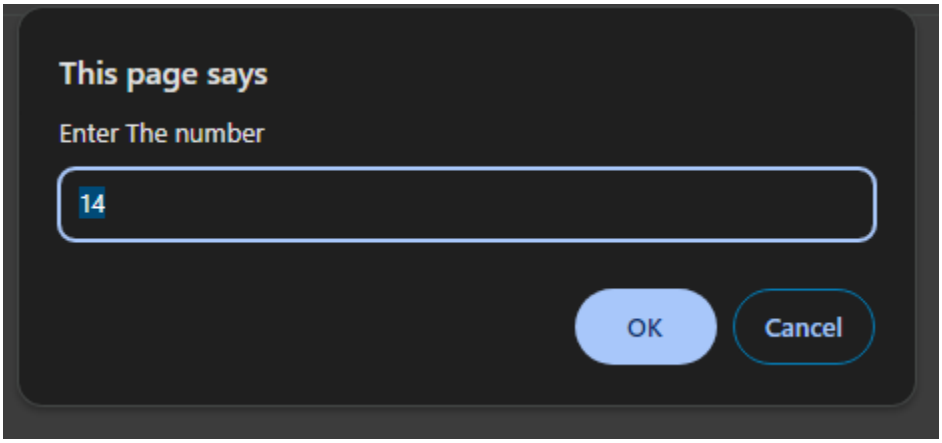
- `let name = "Pathirana";` assigns the string `"Pathirana"` to the variable `name`.
- `let name1 = "Matheesha";` assigns the string `"Matheesha"` to the variable `name1`.

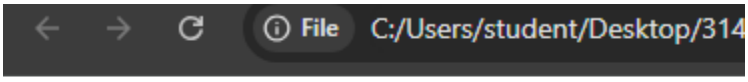
There is no unexpected behavior in this code.

Task 8:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
         let number = parseInt(prompt("Enter The number",14));
         if(isNaN(number))
         {
            alert("please enter the valid number:");
         }
         if(number%2==0){
            document.writeln("the number is even");
         }
         else{
            document.writeln("the number is odd");
         }
        </script>
    </body>
</html>
```

Output:



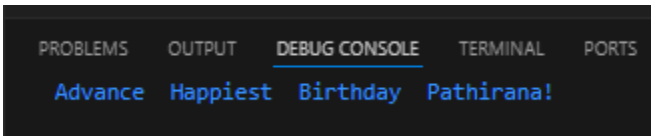


the number is even

Task 9:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
       let name = "Advance ", name1= "Happiest ",name2="Birthday ",name3
="Pathirana! ";
       console.log(name,name1,name2,name3);
        </script>
    </body>
</html>
```

Output:



Task 10:

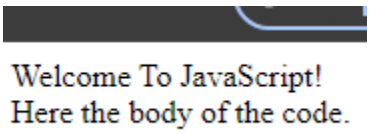
```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      document.writeln("Welcome To JavaScript!");
        </script>
    </body>
</html>
```

Output:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
        <script>
            document.writeln("Welcome To JavaScript!"+"<br>");
              </script>
    </head>
    <body>
         Here the   body of the code.

    </body>
</html>
```

Output:



Difference:

Script at the Top:

Can block rendering, causing delays in loading the page because the browser must stop rendering to download and execute the script.

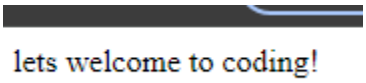
Script at the Bottom:

Improves page load time, as the browser can render the HTML content first while the script is being downloaded in the background.

Task 11:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      name="lets welcome to coding!"
      document.writeln(name);
        </script>
    </body>
</html>
```

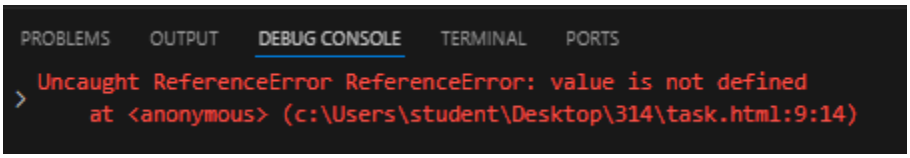
Output:



Task 12:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
        "use strict";
        value="lets welcome to coding!";
        console.log(value);
        </script>
    </body>
</html>
```

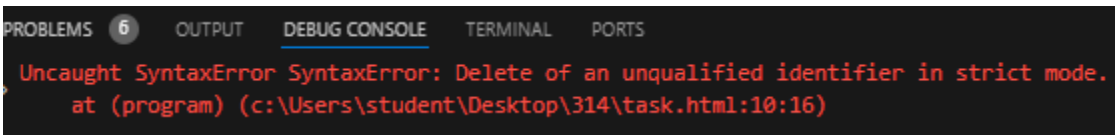
Output:



Task 13:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
        "use strict";
        var name="john";
        delete name;
        "use strict";
        function myfunction(){
            return welcome guys!;
        }
        delete myfunction;
        "use strict";
        function myfunction(goodmorning)
        delete myfunction;
        </script>
    </body>
</html>
```

Output:



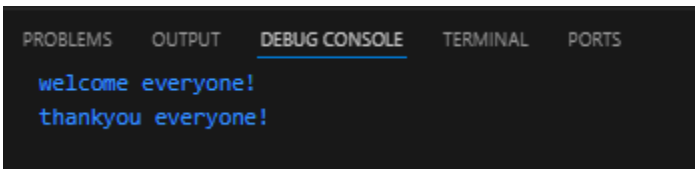
Task 14:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
       name="welcome everyone!";
```

```
        console.log(name);
        "use strict";
        name="thankyou everyone!";
        console.log(name);

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

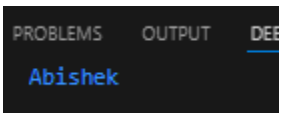
Output:



Task 15:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
            "use strict";
      const name ="Abishek"
      console.log(name);
     </script>
    </body>
</html>
```

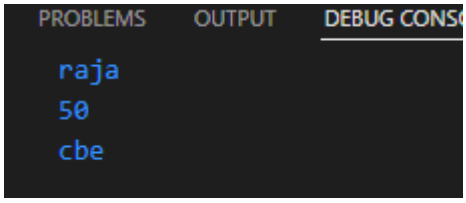
Output:



Task 16:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      var name = "raja";
      console.log(name);
      const age=50;
      console.log(age);
      let address="cbe"
      console.log(address)
     </script>
    </body>
</html>
```

Output:



Var:

Variables declared with var can be redeclared within the same scope without throwing an error.

Let:

Variables declared with let can be reassigned, but cannot be redeclared in the same scope.

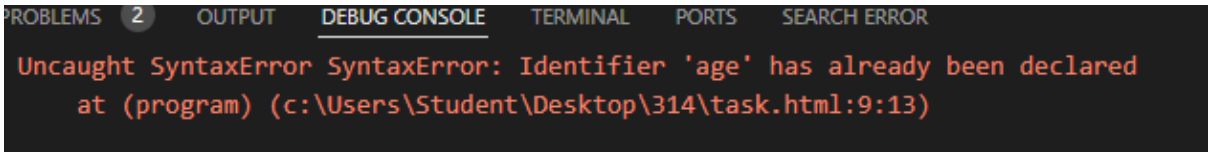
Const:

Use when the variable should not be reassigned.

Task 17:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      const age = 50;
      const age = 30;
      console.log("age:"+age);
     </script>
    </body>
</html>
```

Output:



Task 18:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      var a;
      console.log(a);
     </script>
    </body>
</html>
```

Output:

Task 19:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      let name="ramya";
      console.log(typeof(name));
      let age = 14;
      console.log(typeof(age));
      let a = false;
      console.log(typeof(a));
     </script>
    </body>
</html>
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SEARCH ERROR
  string
  number
  boolean
```

Task 20:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    var a = 5;
    var b = a;
    console.log(b);
     </script>
    </body>
</html>
```

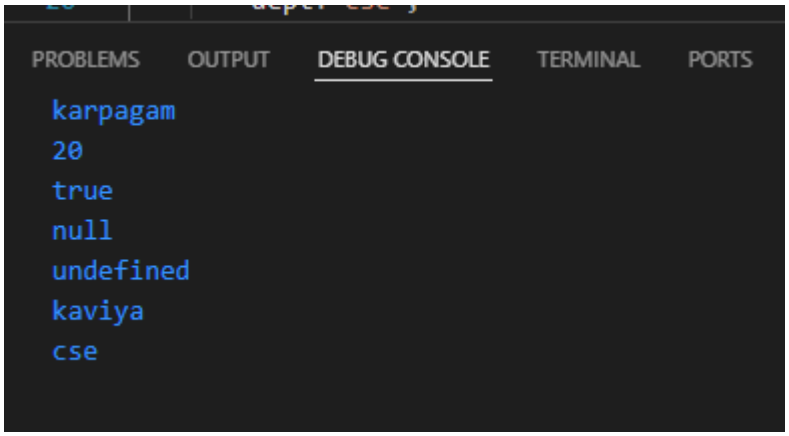
Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  POR
 5
```

Task 21:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    var a="karpagam";
    console.log(a);
    var b = 20;
    console.log(b);
    var c =true;
    console.log(c);
    var d=null;
    console.log(d);
    var e;
    console.log(e);
    let employee={
        name:"kaviya",
        dept:"cse",
    };
    console.log(employee.name);
    console.log(employee.dept);
     </script>
    </body>
</html>
```

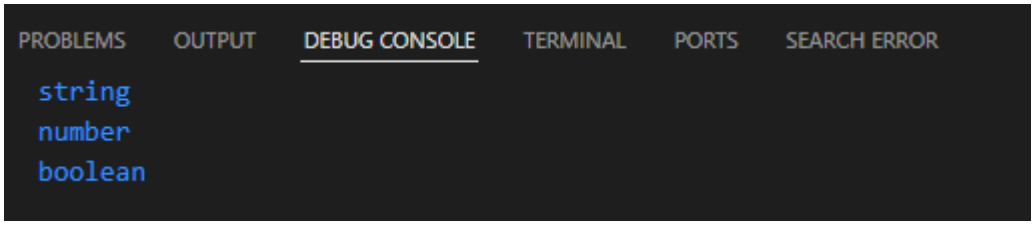
Output:



Task 22:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      let name="ramya";
      console.log(typeof(name));
      let age = 14;
      console.log(typeof(age));
      let a = false;
      console.log(typeof(a));
     </script>
    </body>
</html>
```

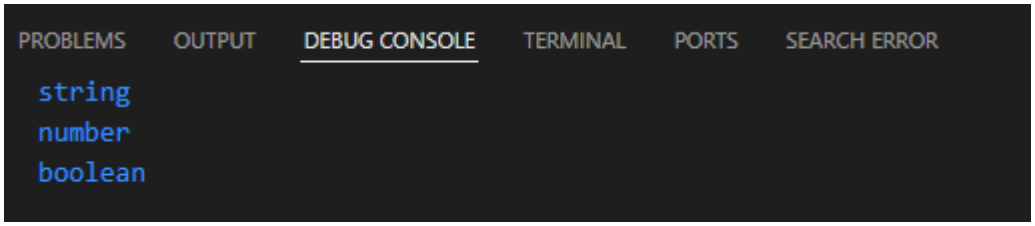
Output:



Task 23:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
      let name="ramya";
      console.log(typeof(name));
      let age = 14;
      console.log(typeof(age));
      let a = false;
      console.log(typeof(a));
     </script>
    </body>
</html>
```

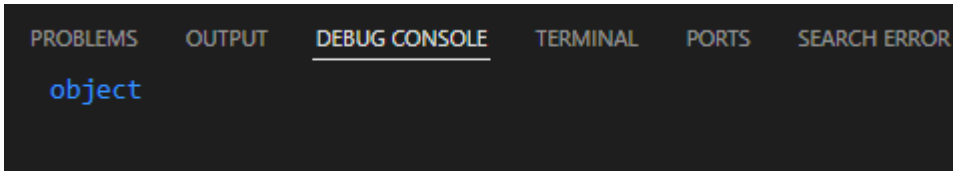
Output:



Task 24:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    var a = null;
    console.log(typeof(a));
     </script>
    </body>
</html>
```

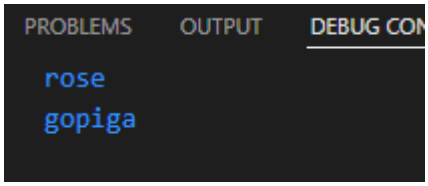
Output:



Task 25:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    var a = "rose";
    console.log(a);
    let b ="gopiga";
    console.log(b);
     </script>
    </body>
</html>
```

Output:



`var`

function-scoped or **global-scoped**. It means that a variable declared with `var` inside a block (e.g., inside an `if` or `for` loop) is still accessible outside that block (within the function or globally, depending on where `var` is declared).

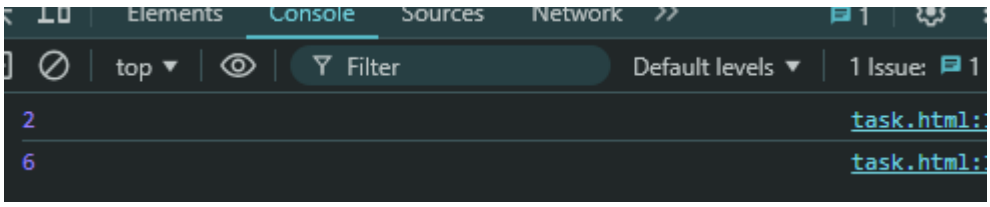
`let`

block-scoped. It ensures that a variable is only accessible within the specific block (curly braces `{}`) in which it is defined. This prevents unexpected behavior and scope leakage that can occur with `var`.

Task 26:

```
html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a = "2";
    let number= a*1;
    console.log(number);
    let b ="6";
    let number1 = Number(b);
    console.log(number1);
     </script>
    </body>
</html>
```

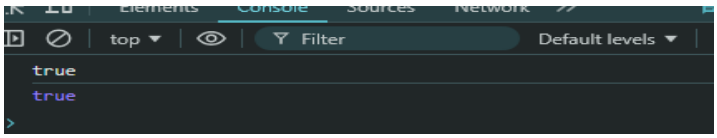
Output:



Task 27:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a = true;
    let name = a+"";
    console.log(name);
    let b ="rose";
    let c = Boolean(b);
    console.log(c);
   </script>
    </body>
</html>
```

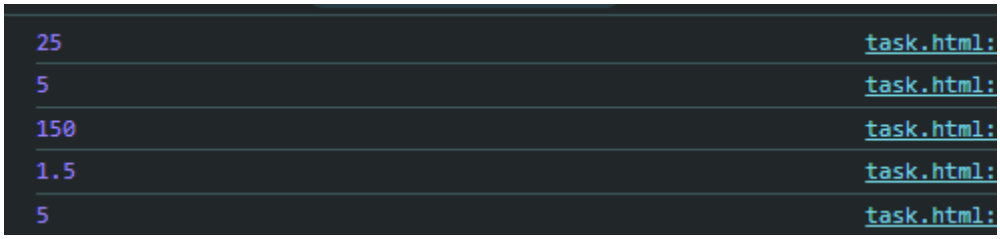
Output:



Task 28:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= 15;
    let b= 10;
    console.log(a+b);
    console.log(a-b);
    console.log(a*b);
    console.log(a/b);
    console.log(a%b);
   </script>
    </body>
</html>
```

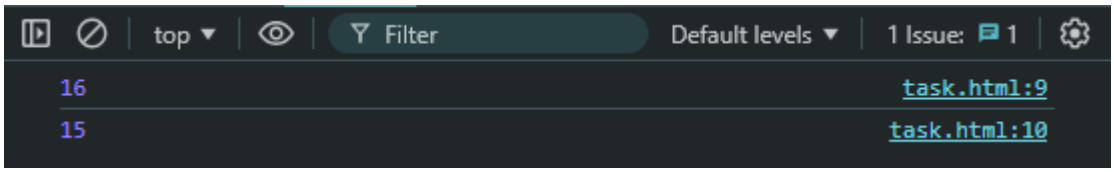
Output:



Task 29:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= 15;
    console.log(++a);
    console.log(--a);
   </script>
    </body>
</html>
```

Output:



Task 30:

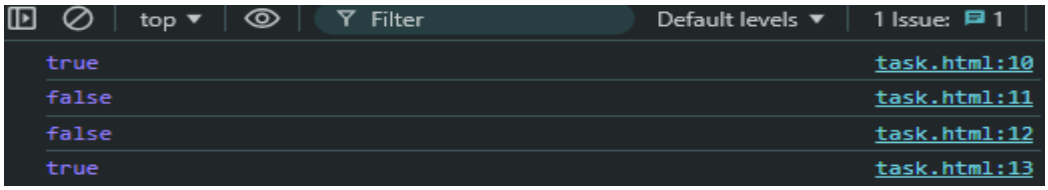
```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= 15;
    let b= 10;
    let ans = a*b+a-b*++a+--b;
    console.log(ans);
   </script>
    </body>
</html>
```

Output:

Task 31:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= 15;
    let b= 10;
    console.log(a>b);
    console.log(a<b);
    console.log(a<=b);
    console.log(a>=b);
   </script>
    </body>
</html>
```

Output:



Task 32:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= 10;
    let b= "10";
    console.log(a==b);
    console.log(a===b);
   </script>
    </body>
```

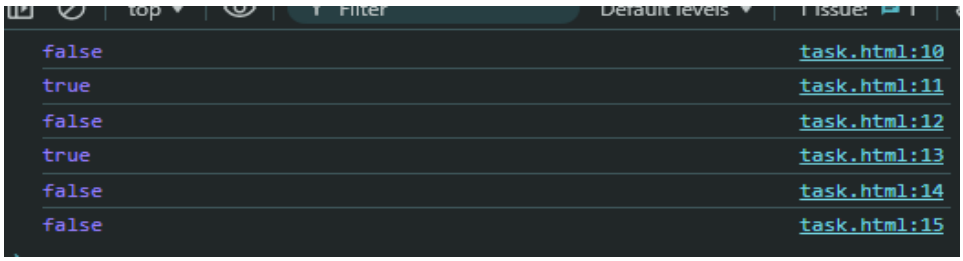
```
</html>
```

Output:

Task 33:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a ="jack";
    let b ="rose";
    console.log(a>b);
    console.log(a<b);
    console.log(a>=b);
    console.log(a<=b);
    console.log(a==b);
    console.log(a===b);
   </script>
    </body>
</html>
```

Output:



Task 34:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a =20;
```

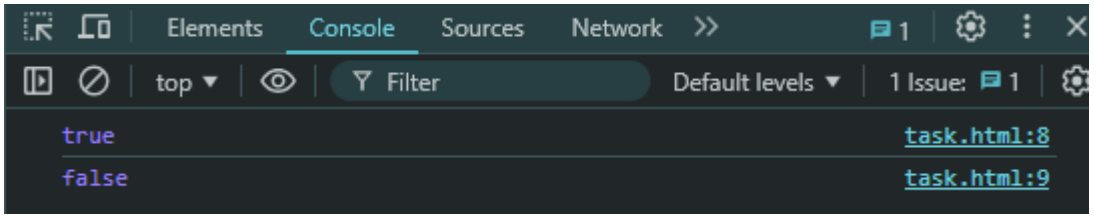
```
    let b =10;
    console.log(a!=b);
    console.log(a!==b);
   </script>
    </body>
</html>
```

Output:

Task 35:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    console.log(null==undefined);
    console.log(null===undefined);
   </script>
    </body>
</html>
```

Output:



Task 36:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a = 10;
    if(a%2==0){
```

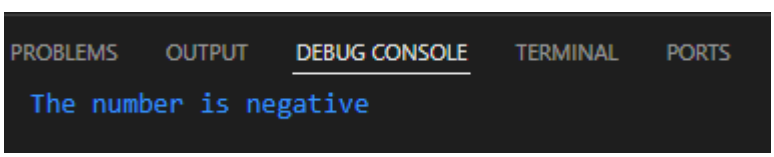
```
        console.log("the number is even");
    }
    else{
        console.log("the number is odd");
    }
   </script>
    </body>
</html>
```

Output:

Task 37:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a = -10;
    if(a>0){
        console.log("The number is positive");
    }
   else if(a<0){
      console.log("The number is negative");
   }
   else{
    console.log("The number is zero");
   }
   </script>
    </body>
</html>
```

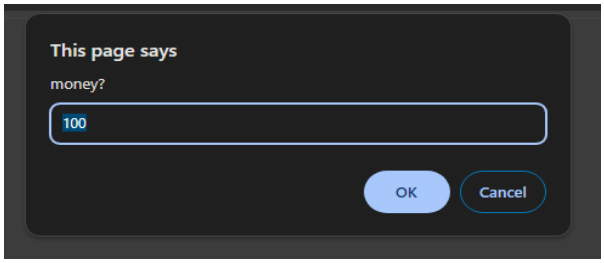
Output:

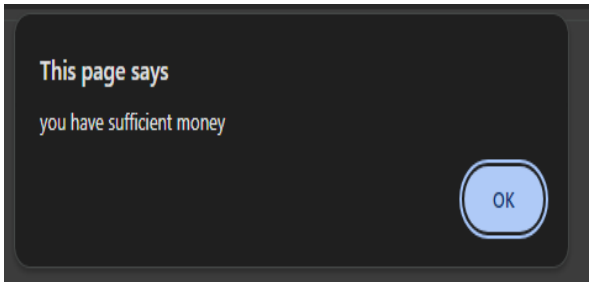


Task 38:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let money= prompt("money?",100);
    let greetings=(money<100)?"you hava insufficient money":
    (money>100)?"you have more money":
    "you have sufficient money";
    alert(greetings);
   </script>
    </body>
</html>
```

Output:



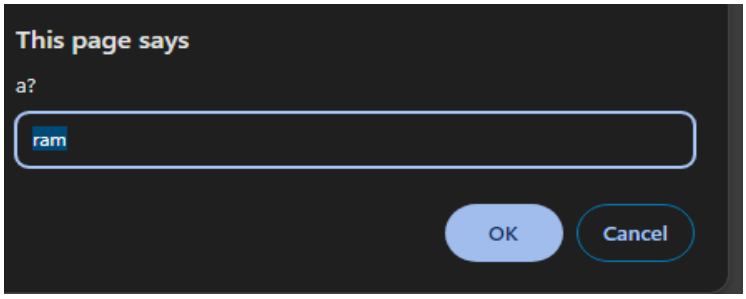


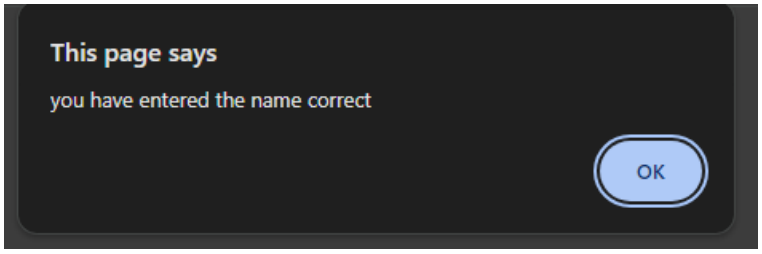
Task 39:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= prompt("a?","ram");
    let greetings=(a!="ram")?"you enter the name wrong":
    "you have entered the name correct";
```

```
    alert(greetings);
   </script>
    </body>
</html>
```

Output:

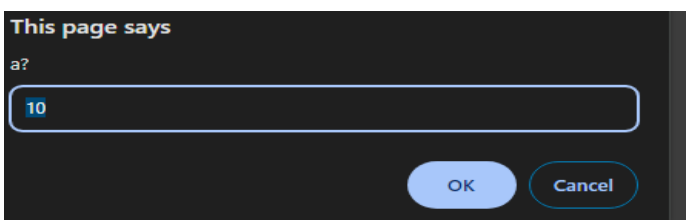




Task 40:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= prompt("a?",10);
    let greetings=(a==10)?"you are correct":
    "you are wrong";
    alert(greetings);
   </script>
    </body>
</html>
```

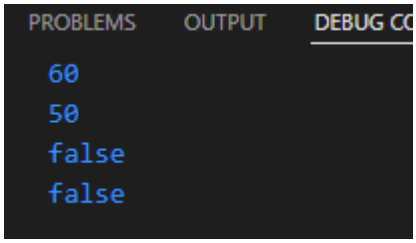
Output:



Task 41:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a = 50;
    let b = 60;
    console.log(a&&b);
    console.log(a||b);
    console.log(!a);
    console.log(!b);
   </script>
    </body>
</html>
```

Output:

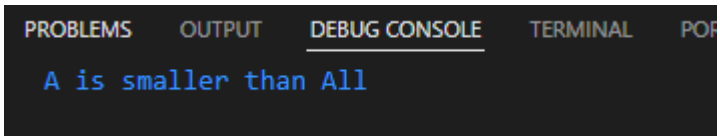


Task 42:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a = 50;
    let b = 60;
    let c=70;
    if(a>=b && a>=c){
        console.log("A is greater than B and C");
    }
```

```
    else if(a>=b || a>=c){
        console.log("A must be less than B or C");
    }
    else{
        console.log("A is smaller than All");
    }
   </script>
    </body>
</html>
```

Output:



Task 43:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= true;
    let b= false;
    console.log(!a);
    console.log(!b);
   </script>
    </body>
</html>
```

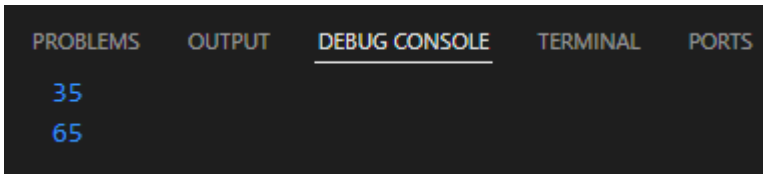
Output:

Task 44:

```
<html>
    <head>
        <meta charset ="UTF-8">
```

```
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= 65;
    let b= 35;
    console.log(a&&b);
    console.log(a||b);
   </script>
    </body>
</html>
```

Output:



Task 45:

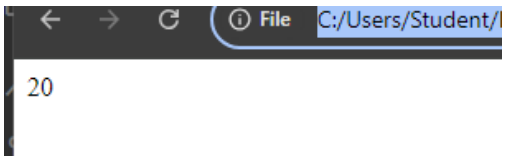
```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let a= "ram";
    let b= "ramya";
    console.log(a&&b);
    console.log(a||b);
    let c= 10;
    let d = 50;
    console.log(c&&d);
    console.log(c||d);
   </script>
    </body>
</html>
```

Output:

Task 46:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
    let add = function(num1,num2)
   {
    return num1+num2;
   }
   document.writeln(add(15,5));
   </script>
    </body>
</html>
```

Output:



Task 47:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
            let area = function(l,b)
            {
             return l*b;
            }
            document.writeln(area(20,30));

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

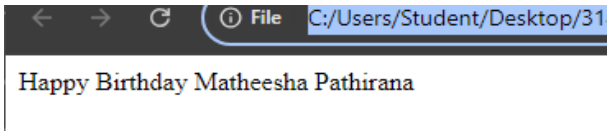
Output:

Task 48:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
           let name = function()
           {
            document.writeln("Happy Birthday Matheesha Pathirana");
           }
           name();

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

Output:

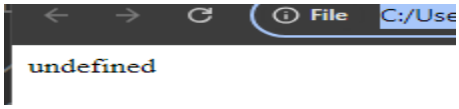


Task 49:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
            let area = function(l,b)
            {
             return ;
            }
            document.writeln(area(20,30));

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

Output:

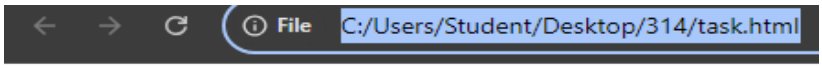


Task 50:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
           let area=function(l=10,b=50){
            return l+b;
           }
           document.writeln(area(20,30));

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

Output:

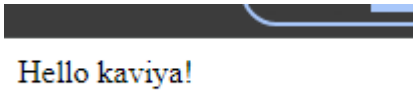


50

Task 51:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
          let greet =(name)=>{
         return("Hello "+name+"!");
          }
          document.writeln(greet("kaviya"));
   </script>
    </body>
</html>
```

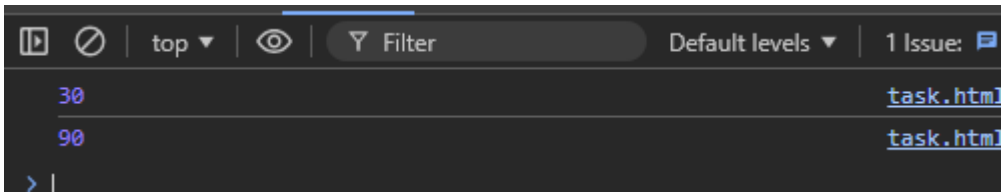
Output:



Task 52:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
          let add=(num1,num2)=>{
            return num1+num2;
          }
          console.log(add(20,10));
          console.log(add(80,10));
   </script>
    </body>
</html>
```

Output:



Task 53:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
          let isEven = (num)=>{
            if(num%2==0){
                return("The number is even");
            }
            else{
                return("The number is odd");
            }
```

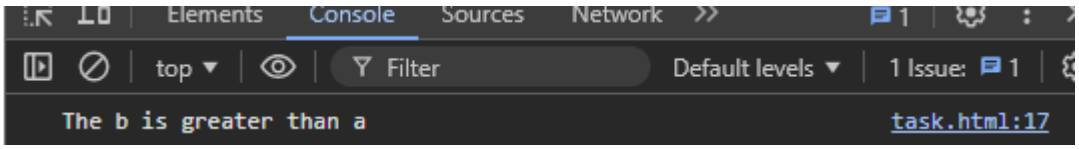
```
        }
        document.writeln(isEven(45));
   </script>
    </body>
</html>
```

Output:

Task 54:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
          let maxValue = (a,b)=>
          {
            if(a>b){
                return("The a is greater than b");
            }
            else{
                return("The b is greater than a");
            }
          }
            console.log(maxValue(8,18))
   </script>
    </body>
</html>
```

Output:



Task 55:

```
<html>
    <head>
        <meta charset ="UTF-8">
        <meta name:"viewport" content="width+device_width,initial-scale=1.0">
    </head>
    <body>
        <script>
          let myObject = {
            value:30,
            multiplyTraditional:function(num){
                return this.value*num;
            },
            multiplyArrow:(num)=>{
                return this.value*num;
            }
          }
          console.log(myObject.multiplyTraditional(2));
          console.log(myObject. multiplyArrow(2));
   </script>
    </body>
</html>
```

Output: