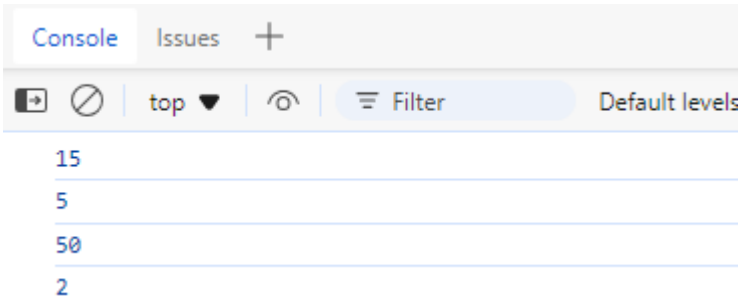
Task 26:

Convert a string to a number using both implicit and explicit conversion.

code:

output:



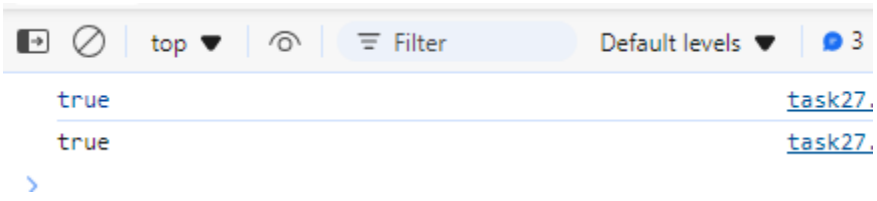
Task 27:

Convert a boolean to a string and vice versa.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
          let name="john";
          let file=true;
          let n= Boolean(name);
          let f=String(file);
                console.log(n);
                console.log(f);
        </script>
    </body>
</html>
```

output:



Task 28:

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

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a,b;
                a=10;
                b=5;
                console.log(a+b);
                console.log(a-b);
                console.log(a*b);
                console.log(a/b);
                console.log(a%b);
        </script>
    </body>
</html>
```

output:

```
15                                                    28.html
5                                                     28.html
50                                                    28.html
2                                                     28.html
0                                                     28.html
```

Task 29:

Use the ++ and -- operators on a numeric variable.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a,b;
                a=10;
                b=5;
                console.log(a++);
                console.log(++a);
                console.log(--b);
                console.log(b--);
                console.log(a--);
        </script>
    </body>
</html>
```

output:

```
10                                                    29.html
12                                                    29.html
4                                                     29.html
4                                                     29.html
12                                                    29.html
```

Task 30:

Explore the precedence of operators by combining multiple operators in a single expression.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a,b,c;
                a=10;
                b=53;
                c=18
                console.log(a+b*c/a%b);
                console.log(a==b||a!=c&&c==b);
        </script>
    </body>
</html>
```

output:

```
52.400000000000006                                    30.html:13
false                                                 30.html:14
```

Task 31:

Compare two numbers using relational operators (>, <, >=, <=).

code:

```
html>
   <head>
      <title>
         task
      </title>
   </head>
   <body>
      <script>
         var a,b;
            a=10;
            b=5;
            console.log(a<b);
            console.log(a>b);
            console.log(a<=b);
            console.log(a>=b);
      </script>
   </body>
/html>
```

output:

```
false                                                    31.html
true                                                     31.html
false                                                    31.html
true                                                     31.html
```

Task 32:

Use equality () and strict equality (=) operators to compare different data types and note the differences.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a,b;
                a=10;
                b=5;

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

output:

```
false                                                    32.html:13
false                                                    32.html:14
```

Task 33:

Compare two strings lexicographically.

code:

```
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var str1="john";
            var str2="alex";
            if(str1<str2){
                console.log(`"${str1}"is lexigraphically smaller than"${str2}"`);
            }
            else if(str1>str2){
                console.log(`"${str1}"is lexigraphically greater than"${str2}"`);
            }  else{
                console.log(`"${str1}" and "${name}" are lexigraphically equal`);
            }

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

output:

```
"john"is lexigraphically greater than"alex"                    33.html:15
```

Task 34:

Use the inequality (!=) and strict inequality (!==) operators to compare values.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a,b;
                a=10;
                b=5;
                console.log(a!=b);
                console.log(a!==b);
        </script>
    </body>
</html>
```

output:

```
true                                                    34.
true                                                    34.
```

Task 35:

Compare null and undefined using both == and ===.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=null;
              var b;
               console.log(a==b);
               console.log(a===b);
        </script>
    </body>
</html>
```

output:

```
true                                                    35.html:11
false                                                   35.html:12
```

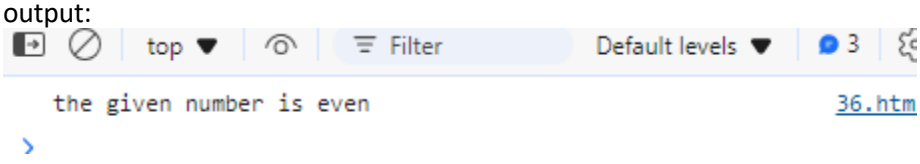
Task 36:

Write an if statement that checks if a number is even or odd.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=2;
            if(a%2==0){
                console.log("the given number is even");
            }
            else{
                console.log("the given number is odd");
            }
        </script>
    </body>
</html>
```

output:



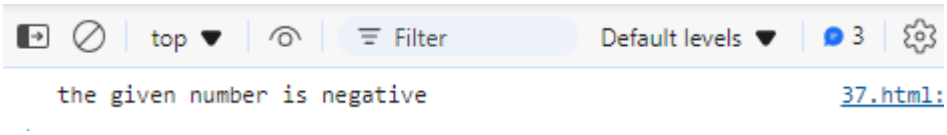
Task 37:

Use nested if statements to classify a number as negative, positive, or zero.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=-2;
            if(a==null){
                console.log("the given number is invalid");
            }
            else{
                if(a>0){
                console.log("the given number is positive");
            }if(a<0){
                console.log("the given number is negative");
            }else{
                console.log("the given number is zero");
            }
            }
        </script>
    </body>
</html>
```

output:



Task 38:

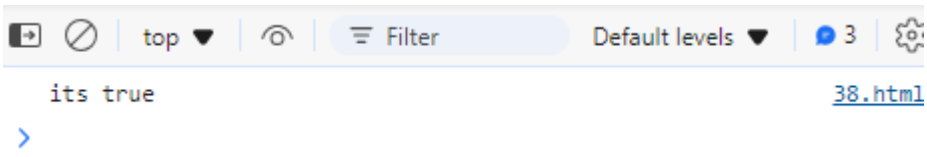
Use the conditional (ternary) operator '?' to rewrite a simple if…else statement.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=5;
             var b=2;
             var c= a>b?"its true":"its false";
              console.log(c);

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

output:



Task 39:

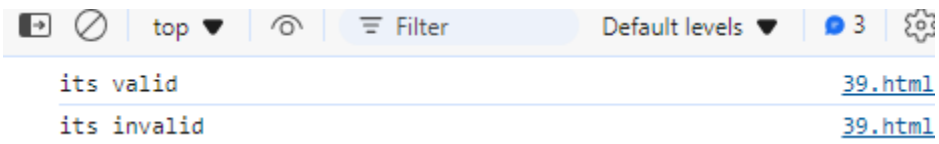
Check the validity of a variable using the ? operator.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var name="john";
             var age;
             var c= name?"its valid":"its invalid";
             var d= age?"its valid":"its invalid";
              console.log(c);
              console.log(d);

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

output:



Task 40:

Use the conditional operator to assign a value to a variable based on a condition.

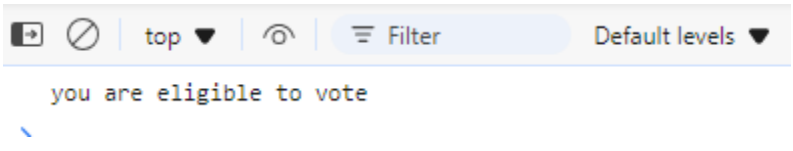
code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=18;

            var c= a>="18"?"you are eligible to vote":"you are not eligible to vote";
             console.log(c);

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

output:



Task 41:

Evaluate various combinations of logical operators (&&, ||, !).

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a,b,c;
                a=10;
                b=53;
                c=18
                console.log(a==b||a!=c);
                console.log(a!=c&&c==b);
        </script>
    </body>
</html>
```

output:

```
true                                                    41.html
false                                                   41.html
>
```

Task 42:

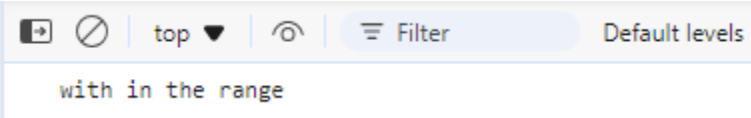
Use logical operators to write a condition that checks if a number is in a given range.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a;
              a=105;
              if((a<500)||(a>0)){
                console.log("with in the range");
              }
              else if((a<500)&&(a>0)){
               console.log("with in the range");
              }
              else{
               console.log("Not in the range");
              }


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

output:



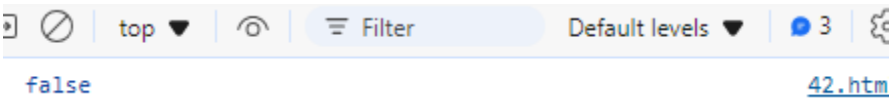
Task 43:

Use the NOT (!) operator to invert a boolean value.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var boolean=true;
                console.log(!boolean);
        </script>
    </body>
</html>
```

output:



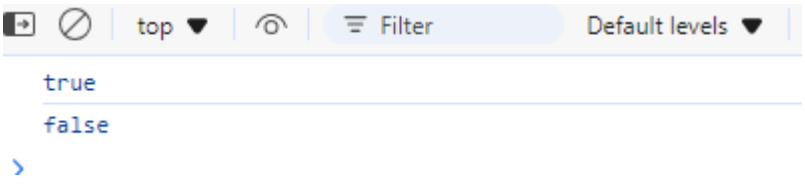
Task 44:

Evaluate the short-circuiting nature of logical operators.

code:

```html
<html>
    <head>
    </head>
    <body>
        <script>
            var a,b;
                a=true;
                b=false;
                var c,d;
                c=a||b;
                d=a&&b;
                console.log(c);
                console.log(d);
        </script>
    </body>
</html>
```

output:



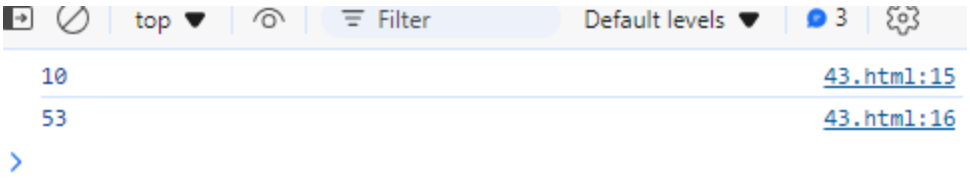
Task 45:

Compare two non-boolean values using logical operators and observe the result

code:

```
<html>
    <head>
    </head>
    <body>
        <script>
            var a,b;
                a=10;
                b=53;
                var c,d;
                c=a||b;
                d=a&&b;
                console.log(c);
                console.log(d);
        </script>
    </body>
</html>
```

output:



Task 46:

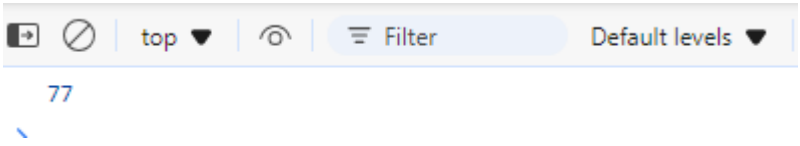
Write a function that takes two numbers as arguments and returns their sum.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=23,b=54;

            function addition(a,b){
            console.log( a+b);
    }
                addition(a,b);
        </script>
    </body>
</html>
```

output:



Task 47:

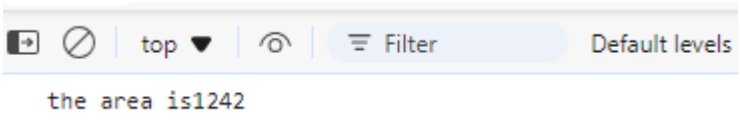
Create a function that calculates the area of a rectangle.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=23,b=54;

            function area(a,b){
            console.log( "the area is"+a*b);
    }
                area(a,b);
        </script>
    </body>
</html>
```

output:



Task 48:

Declare a function without parameters and call it.

code:

```html
<html>
    <head>
        <title>
            task
        </title>
    </head>
    <body>
        <script>
            var a=23,b=54;

            function area(){
            console.log( a+b);
    }
                area();
        </script>
    </body>
</html>
```

output: