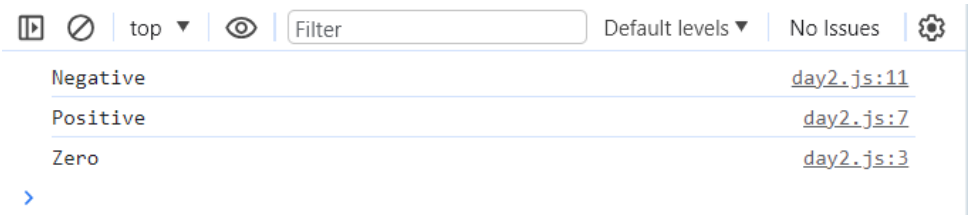
DAY 2 - ASSIGNMENT

Assignment 1:
Write a JavaScript function that takes a number as a parameter and prints whether it's positive, negative, or zero.

Code :

```
function digit(n){
    if(n==0){
        console.log("Zero")
    }
    else if(n>0)
    {
        console.log("Positive")
    }
    else
    {
        console.log("Negative")
    }
}
digit(-3)
digit(4)
digit(0)
```

Output :



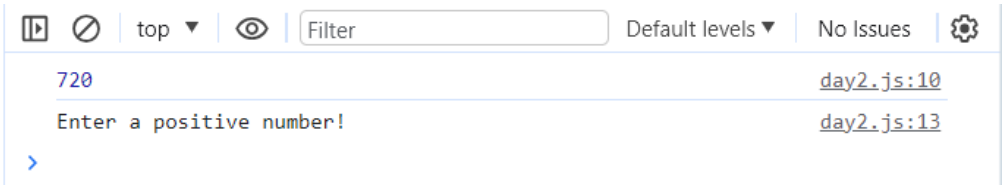
Assignment 2:
Write a JavaScript function that takes a positive integer as a parameter and calculates its factorial using a for loop. The factorial of a number N is the product of all positive integers less than or equal to N.

Code :

```
function fact(n)
{
    if(n>0)
    {
        let fact=1
```

```
        for(let i=1;i<=n;i++)
        {
            fact=fact*i;
        }
        console.log(fact)
    }
    else{
        console.log("Enter a positive number!")
    }
}
fact(6)
fact(-6)
```

Output :

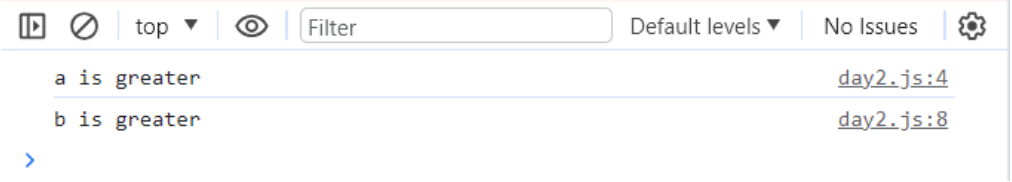


Assignment 3:
Write a JavaScript function that takes two numbers as parameters and returns the larger one.

Code :

```
function greater(a,b)
{
    if(a>b)
    {
        console.log("a is greater")
    }
    else
    {
        console.log("b is greater")
    }
}
greater(6,4)
greater(1,9)
```

Output:



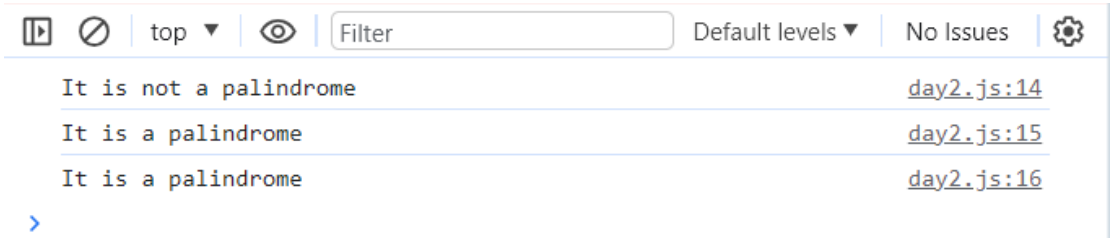
Assignment 4:
Write a JavaScript function that takes a string as a parameter and determines whether it's a palindrome or not. A palindrome is a word, phrase, number, or other sequence of characters that reads the same forward and backward (ignoring spaces, punctuation, and capitalization).

Code:

```
function Palindrome(str)
{
    let len = str.length;
    let str1=str.toLowerCase();
    for (let i = 0; i < len / 2; i++)
    {
        if (str1[i] !== str1[len - 1 - i]) {
            return 'It is not a palindrome';
        }
    }
    return 'It is a palindrome';
}

console.log(Palindrome("Book"))
console.log(Palindrome("123321"))
console.log(Palindrome("Mom"))
```

Output:



Assignment 5:
Write a JavaScript function that takes a positive integer as a parameter and prints all the prime numbers less than or equal to that integer. A prime number is a natural number greater than 1 that is not a product of two smaller natural numbers.

Code:

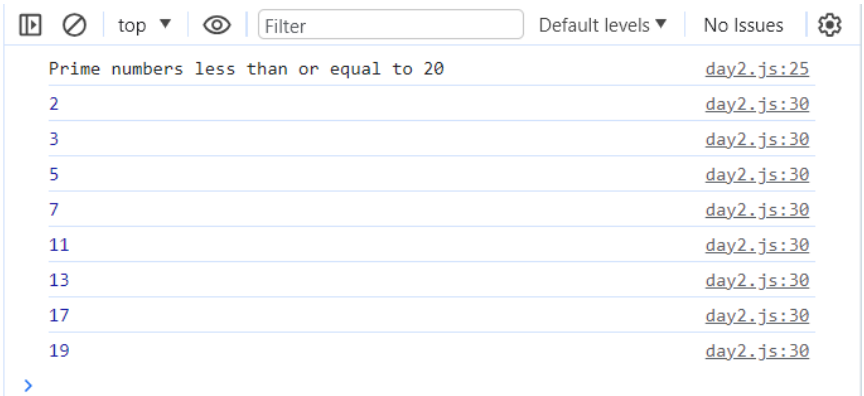
```
function checkPrime(num)
{
    if(num<=1){
        return false;
    }
    for(let i=2;i<=Math.sqrt(num);i++)
    {
        if(num%i==0)
        {
```

```
            return false
        }
    }
    return true
}

function printPrimeBeforeNumber(number)
{
    if(number<=1)
    {
        console.log("There is no prime number less than 1");
        return false;
    }
    else
    {
        console.log("Prime numbers less than or equal to "+ number)
        for(let i=2;i<=number;i++)
        {
            if(checkPrime(i))
            {
                console.log(i)
            }
        }
    }
}

let number=20;
printPrimeBeforeNumber(number)
```

Output :



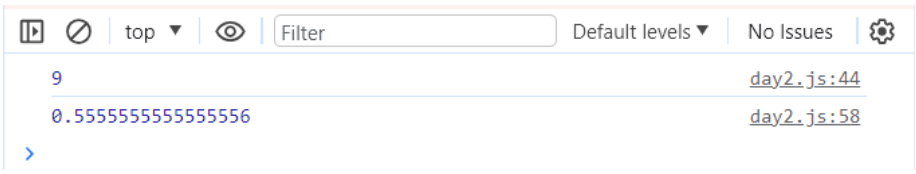
Assignment 6:
Write a JavaScript function that simulates a simple calculator. The function should take two numbers and an operator (+, -, *, or /) as parameters and perform the corresponding operation.

Code:

```
function Calculator(a,b,operator)
{
    if(operator=="+")
    {
        console.log(a+b)
    }
    else if(operator=="-")
    {
        console.log(a-b)
    }
    else if(operator=="*")
    {
        console.log(a*b)
    }
    else if(operator=="/")
    {
       if(b!=0)
       {
        console.log(a/b)
       }
       else{
        console.log("${a} not divisible by 0")
       }
    }
    else{
        console.log("Wrong choice of operator")
    }
}

Calculator(6,3,"+")
Calculator(5,9,"/")
```

Output:

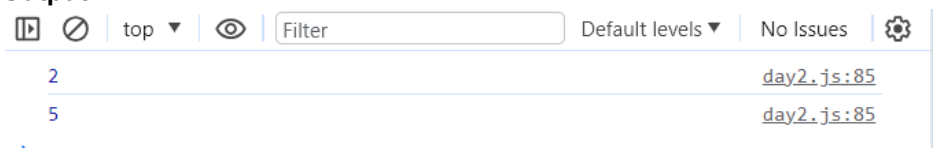


Assignment 7:
Write a JavaScript function that takes a string as a parameter and counts the number of vowels (a, e, i, o, u) in the string.

Code :

```
function Count(Str)
{
    let count=0;
    let Str1=Str.toLowerCase();
    let len=Str1.length;
    for(let i=0;i<Str1.length;i++)
    {
        if(Str1[i]=="a"||Str[i]=="e"||Str[i]=="i"||Str[i]=="o"||Str[i]=="u")
        {
            count++
        }
    }
    console.log(count)
}
Count("Apple")
Count("a ei ou")
```

Output :



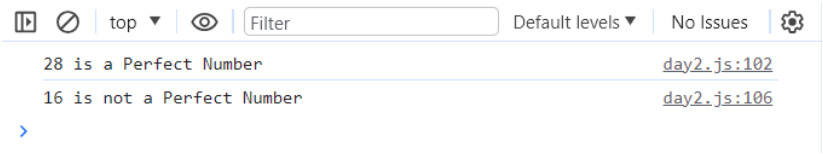
Assignment 8:
Write a JavaScript function that takes a positive integer as a parameter and checks if it's a perfect number. A perfect number is a positive integer that is equal to the sum of its proper divisors, excluding itself.

Code :

```
perfect = N=>
{
    let res=0;
    for(let i=1;i<N;i++)
    {
        if(N%i==0)
        {
            res=res+i;
        }
    }
    if(res==N)
    {
        console.log(N+" is a Perfect Number")
    }
```

```
    else
    {
        console.log(N +" is not a Perfect Number")
    }
}
perfect(28)
perfect(16)
```

Output :



Assignment 9:

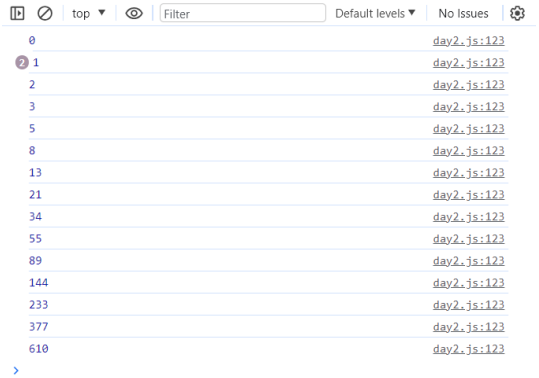
Write a JavaScript function that takes a number as a parameter and prints the Fibonacci series up to that number. The Fibonacci series is a sequence of numbers in which each number is the sum of the two preceding ones.

Code :

```
function fibonacci(N)
{
    let num1=0;
    let num2=1;
    let nextTerm;
    for(let i=0;i<=N;i++)
    {
        console.log(num1)
        nextTerm=num1+num2
        num1=num2
        num2=nextTerm
    }
}

let N=15;
fibonacci(N);
```

Output:



Assignment 10:
Write a JavaScript function that takes a positive integer as a parameter and prints its multiplication table up to 10.

Code:

```
Table = N=>
{
    if(N<=0)
    {
        console.log("Enter a positive number")
    }
    else
    {
        for(let i=1;i<=10;i++)
    {
        console.log(N+" x "+i+" = "+N*i)
    }
    }
}
Table(9)
```

Output :