

Javascript Assignment 3 Answers

1. Using for loops, write a Javascript program to output the following pattern -

```
1
2 3
4 5 6
7 8 9 10
```

Solution:

```
function printPattern() {
    let number = 1;
    for (let i = 1; i <= 4; i++) {
        let rowOutput = "";
        for (let j = 1; j <= i; j++) {
            rowOutput += number + ' ';
            number++;
        }
        console.log(rowOutput.trim());
    }
}
```

2. Armstrong Number Checker

Problem Statement

Write a program to find whether a given number is an Armstrong number or not.

An Armstrong number is a number that is equal to the sum of cubes of its digits. For example: 0, 1, 153, 370, 371, and 407 are Armstrong numbers.

Example of 153:

- $(111) = 1$
- $(555) = 125$
- $(333) = 27$
- $1 + 125 + 27 = 153$

Solution:

```
function isArmstrong(num) {  
  const numStr = num.toString();  
  const sum = numStr.split("").reduce((acc, digit) => {  
    return acc + Math.pow(parseInt(digit), numStr.length);  
  }, 0);  
  return sum === num;  
}
```

3. Special Number Checker

Problem Statement

Write a program to find whether a given number is a special number or not.

A special number is a number where the sum of the factorial of its digits is equal to the number itself.

Example: 145 is a special number

- $1! + 4! + 5! = 1 + 24 + 120 = 145$

Solution:

```
function factorial(n) {  
  if (n === 0 || n === 1) return 1;  
  return n * factorial(n - 1);  
}
```

```
function isSpecialNumber(num) {  
  const numStr = num.toString();  
  const sum = numStr.split("").reduce((acc, digit) => {  
    return acc + factorial(parseInt(digit));  
  }, 0);  
  return sum === num;  
}
```