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JS EXERCISE 1

Q1 EVEN /ODD

CODE:

```
const prompt = require('prompt-sync')();
function chck(num) {
  if (num % 2 === 0) {
    return "Even";
  } else {
    return "Odd";
  }
}

var n = prompt("Enter a number:");
var res = chck(parseInt(n));

console.log(res);
```

OUTPUT :

```
harsh@Harshs-MacBook-Air JS % cd "/Users/harsh/weblab/JS"
harsh@Harshs-MacBook-Air JS % node "/Users/harsh/weblab/JS/evenodd.js"
Enter a number:33
Odd
harsh@Harshs-MacBook-Air JS %
```

Q2 : RADIUS :

CODE :

```
const prompt = require('prompt-sync')()
function area(rad) {
    return Math.PI * rad * rad;
  }

  let r = prompt("Enter the radius of the circle:");
  let rad = parseFloat(r);
  if (isNaN(rad) || rad <= 0) {
    console.log("Please enter a positive number for the radius.");
  } else {
    let ar = area(rad);
```

```
    console.log(ar);
}
```

```
Enter the radius of the circle:7
153.93804002589985
harsh@Harshs-MacBook-Air JS %
```

Q3 : Read year and check if the given year is a leap year.

CODE :

```
const prompt = require("prompt-sync")();
function isLeapYear(year) {
    if ((year % 4 === 0 && year % 100 !== 0) || (year % 400 === 0)) {
      return true;
    } else {
      return false;
    }
  }
  let yearInput = prompt("Enter a year:");
  let year = parseInt(yearInput);

  if (isNaN(year)) {
    console.log("Please enter a valid year.");
  } else {
    if (isLeapYear(year)) {
      console.log(`${year} is a leap year.`);
    } else {
      console.log(`${year} is not a leap year.`);
    }
  }
```

OUTPUT :

```
harsh@Harshs-MacBook-Air JS % d "/Users/harsh/weblab/JS"
zsh: command not found: d
harsh@Harshs-MacBook-Air JS % node "/Users/harsh/weblab/JS/leap.js"
Enter a year:2024
2024 is a leap year.
harsh@Harshs-MacBook-Air JS %
```

Q4 :
CODE :

```
const prompt = require('prompt-sync')()

let room = prompt("Enter room number:");

switch (room) {
  case '823':
    console.log("Java Programming");
    break;

  case '824':
    console.log("Python Programming");
    break;

  default:
    console.log("Invalid input");
    break;
}
```

OUTPUT :

```
harsh@Harshs-MacBook-Air JS % cd "/Users/harsh/weblab/JS"
harsh@Harshs-MacBook-Air JS % node "/Users/harsh/weblab/JS/switch.js"
Enter room number:824
Python Programming
harsh@Harshs-MacBook-Air JS %
```

Q5 : MULTIPLICATION TABLE
Code :

```
const prompt = require('prompt-sync')()
let n = prompt("Enter a number:");
n = parseInt(n);

if (isNaN(n)) {
  console.log("Invalid n");
} else {
  for (let i = 1; i <= 10; i++) {
    let res = n * i;
    console.log((n)+"* "+i+" = "+(n*i))
  }
}
```

OUTPUT :

```
harsh@Harshs-MacBook-Air JS % node "/Users/harsh/weblab/JS/mul.js"
Enter a number:12
12* 1 = 12
12* 2 = 24
12* 3 = 36
12* 4 = 48
12* 5 = 60
12* 6 = 72
12* 7 = 84
12* 8 = 96
12* 9 = 108
12* 10 = 120
harsh@Harshs-MacBook-Air JS %
```

EXERCISE 2

Q1 :
Code:

```
const prompt = require('prompt-sync')()
let n1 = prompt("Enter the first integer:");
let n2 = prompt("Enter the second integer:");
let n3 = prompt("Enter the third integer:");
n1 = parseInt(n1);
n2 = parseInt(n2);
n3 = parseInt(n3);

let greater = n1;

if (n2 > greater) {
    greater = n2;
}

if (n3 > greater) {
    greater = n3;
}

console.log("the greatest among "+n1+","+n2+","+"and "+n3+" is: "+greater)
```

Output :

```
harsh@Harshs-MacBook-Air Ex 2 % d "/Users/harsh/weblab/JS/Ex 2"
zsh: command not found: d
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/greater.js"
Enter the first integer:12
Enter the second integer:23
Enter the third integer:34
the greatest among 12,23,and 34 is: 34
harsh@Harshs-MacBook-Air Ex 2 %
```

Q2 :
Code :

```
const prompt = require('prompt-sync')()
let mark = prompt("Enter the subject mark:");
mark = parseInt(mark);

if (isNaN(mark)) {
    console.log("Invalid mark entry. Please enter a valid number.");
} else {
    let grade;

    if (mark < 40) {
        grade = "F";

    } else if (mark >= 40 && mark <= 60) {
        grade = "E";
    } else if (mark > 60 && mark <= 80) {
        grade = "B";
    } else if (mark > 80 && mark <= 90) {
        grade = "A";
    } else if (mark > 90 && mark <= 100) {
        grade = "S";
    } else {
        grade = "Invalid inp";
    }

    console.log("Grade for the given mark" + mark + " is: " + grade);
}
```

OUTPUT:

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/grade.js"
Enter the subject mark:78
Grade for the given mark78 is: B
harsh@Harshs-MacBook-Air Ex 2 %
```

Q3 :
Code:

```
const prompt = require('prompt-sync')()
let n = prompt("Enter a number between 1 and 3:");

switch (parseInt(n)) {
  case 1:
    console.log("one");
    break;

  case 2:
    console.log("two");
    break;
```

```
  case 3:
    console.log("three");
    break;

  default:
    console.log("Wrong Input");
    break;
}
```

Output :

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/switch.js"
Enter a number between 1 and 3:2
two
harsh@Harshs-MacBook-Air Ex 2 %
```

Q4 :
CODE :

```
const prompt = require('prompt-sync')()

var country = prompt("Enter a country name:");
country = country.toLowerCase();
var capital;

switch (country) {
  case "germany":
    capital = "Berlin";
    break;
  case "uk":
    capital = "London";
    break;
  case "pakistan":
    capital = "Islamabad";
    break;
  default:
    capital = "Wrong Input";
}

console.log("The capital of " + country.toUpperCase() + " is " + capital);
```

OUTPUT :

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/country.js"
Enter a country name:germany
The capital of GERMANY is Berlin
harsh@Harshs-MacBook-Air Ex 2 %
```

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/country.js"
Enter a country name:asdkf
The capital of ASDKF is Wrong Input
harsh@Harshs-MacBook-Air Ex 2 %
```

Q5:

CODE :

```
const prompt = require('prompt-sync')()
let ask = prompt("Enter the mark:")
let mark = parseFloat(ask);
let newMark = mark >= 40 ? mark + 10 : mark + 20;
console.log("New Mark: " + newMark);
```

OUTPUT :

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/tern.js"
Enter the mark:78
New Mark: 88
harsh@Harshs-MacBook-Air Ex 2 %
```

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/tern.js"
Enter the mark:30
New Mark: 50
harsh@Harshs-MacBook-Air Ex 2 %
```

Q6 ;
CODE :

```
function isPrime(num) {
    if (num <= 1) return false;
    for (let i = 2; i <= Math.sqrt(num); i++) {
        if (num % i === 0) return false;
    }
    return true;
}
function count(arr) {
    let even = 0;
    let odd = 0;
    let prime = 0;

    for (let n of arr) {
        if (n % 2 === 0) {
            even++;
        } else {
            odd++;
        }

        if (isPrime(n)) {
            prime++;
        }
    }

    console.log('Array:', arr);
    console.log('Even numbers count:', even);
    console.log('Odd numbers count:', odd);
    console.log('Prime numbers count:', prime);
}
const arr = [2, 5, 8, 11, 15, 20, 23, 29, 30, 37];

// Call the function to count even, odd, and prime numbers
count(arr);
```

OUTPUT :

```
Array: [
   2,  5,  8, 11, 15,
  20, 23, 29, 30, 37
]
Even numbers count: 4
Odd numbers count: 6
Prime numbers count: 6
harsh@Harshs-MacBook-Air Ex 2 %
```

Q7 : ARMSTRONG

CODE :

```
const prompt = require('prompt-sync')()

function isArm(number) {
    const str = String(number);
    const totdigits = str.length;
    let sum = 0;
    for (let i = 0; i < totdigits; i++) {
        const digit = parseInt(str[i], 10);
        sum += Math.pow(digit, totdigits);
    }
    return sum === number;
}
const num = prompt("Enter the number");

if (isArm(num)) {
    console.log(`${num} is an Armstrong number.`);
} else {
    console.log(`${num} is not an Armstrong number.`);
}
```

OUTPUT :

```
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/armstrong.js"
Enter the number323
323 is not an Armstrong number.
harsh@Harshs-MacBook-Air Ex 2 %
```

Q8 : sum of first n numbers

CODE :

```
const prompt = require('prompt-sync')()

function calsum(n) {
    let sum = 0;
    for (let i = 1; i <= n; i++) {
        sum += i;
    }
    console.log("The sum of the first "+n+" numbers is: "+sum);
}

let n = prompt("Enter a number: ")
n = parseInt(n)
calsum(n);
```

OUTPUT :

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/sum-of-n.js"
Enter a number: 5
The sum of the first 5 numbers is: 15
harsh@Harshs-MacBook-Air Ex 2 %
```

Q9 ;

CODE :

```
const prompt = require('prompt-sync')()


function isEven(num) {
    return num % 2 === 0;
}

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

function countdig(number) {
    let even = 0;
    let odd = 0;
    let prime = 0;
    let digits = number.toString();

    for (let i = 0; i < digits.length; i++) {
        const d = parseInt(digits[i]);

        if (isEven(d)) {
            even++;
        } else {
            odd++;
        }

        if (isPrime(d)) {
            prime++;
        }
    }

    console.log("Number of even digits: " + even);
    console.log(":Number of odd digits: " + odd);
    console.log("Number of prime digits: " + prime);
}
```

```
let n = prompt("Enter a number: ");
n = parseInt(n);
if (!isNaN(n)) {
    countdig(n);
} else {
    console.log("Invalid input. Please enter a valid number.");
}
```

OUTPUT :

```
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/count.js"
Enter a number: 1233254
Number of even digits: 3
:Number of odd digits: 4
Number of prime digits: 5
harsh@Harshs-MacBook-Air Ex 2 %
```

Q10 :

CODE :

```
const prompt = require('prompt-sync')()

function rev(n) {
    let revnum = 0;

    while (n !== 0) {
        const digit = n % 10;
        revnum = revnum * 10 + digit;
        n = Math.floor(n / 10);
    }

    return revnum;
}
let n = prompt("Enter an integer: ");
n = parseInt(n);
if (!isNaN(n)) {
    const res = rev(n);
    console.log("Reverse of the digits: "+res);
} else {
    console.log("Invalid input");
}
```

OUTPUT :

```
harsh@Harshs-MacBook-Air Ex 2 % cd "/Users/harsh/weblab/JS/Ex 2"
harsh@Harshs-MacBook-Air Ex 2 % node "/Users/harsh/weblab/JS/Ex 2/while.js"
Enter an integer: 4567
Reverse of the digits: 7654
harsh@Harshs-MacBook-Air Ex 2 %
```