# Solutions - More Exercise: JavaScript Syntax and Operators

## 1.Daily Calorie Intake

function calculateDailyCalorieIntake(personData, workoutsCount){

let sex = personData[0];

let weight = Number(personData[1]);

let height = Number(personData[2]);

let age = Number(personData[3]);

let caloriesBasicMetabolism = 0;

if (sex === 'm'){

caloriesBasicMetabolism = 66 + 13.8 \* weight + 5 \* height - 6.8 \* age;

}

else if (sex === 'f'){

caloriesBasicMetabolism = 655 + 9.7 \* weight + 1.85 \* height - 4.7 \* age;

}

let workoutsCountNumber = Number(workoutsCount);

let activeFactor = 0;

if (workoutsCountNumber < 1){

activeFactor = 1.2;

}

else if (workoutsCountNumber <= 2){

activeFactor = 1.375;

}

else if (workoutsCountNumber <= 5){

activeFactor = 1.55;

}

else if (workoutsCountNumber <= 7){

activeFactor = 1.725;

}

else if (workoutsCountNumber > 7){

activeFactor = 1.9;

}

let dailyCalorieIntake = Math.round(caloriesBasicMetabolism \* activeFactor);

//console.log(`My calorie intake is ${dailyCalorieIntake}`);

console.log(dailyCalorieIntake);

}

calculateDailyCalorieIntake(['f', 46, 157, 32], 5)

calculateDailyCalorieIntake(['m', 86, 185, 25], 3)

## 2.Common Numbers

function findCommonNumbers(arr1, arr2, arr3){

let commonNumbers = [];

for (let i = 0; i < arr1.length; i++){

if (arr2.includes(arr1[i]) && arr3.includes(arr1[i])){

commonNumbers.push(arr1[i]);

}

}

commonNumbers = commonNumbers.sort();

let commonNumbersSum = 0;

for (let i = 0; i < commonNumbers.length; i++){

commonNumbersSum += commonNumbers[i];

}

let commonNumbersAverage = commonNumbersSum / commonNumbers.length;

let commonNumbersMedian = 0;

let middle = Math.floor((commonNumbers.length - 1) / 2)

if ((commonNumbers.length - 1) % 2 === 0){

commonNumbersMedian = commonNumbers[middle];

}

else{

commonNumbersMedian = (commonNumbers[middle] + commonNumbers[middle + 1]) / 2.0;

}

console.log(`The common elements are ${commonNumbers.join(", ")}.`)

console.log(`Average: ${commonNumbersAverage}.`);

console.log(`Median: ${commonNumbersMedian}.`);

}

findCommonNumbers([5, 6, 50, 10, 1, 2], [5, 4, 8, 50, 2, 10], [5, 2, 50]);

findCommonNumbers([1, 2, 3, 4, 5], [3, 2, 1, 5, 8], [2, 5, 3, 1, 16]);

## 3.Humanized Number

function humanizeNumbersInText(inputString){

let inputArray = inputString.split(/[., ]+/);

//console.log(inputArray);

inputArray = inputArray.filter(w => w.length > 0);

//console.log(inputArray);

let numbers = [];

for(let word of inputArray){

let number = Number(word);

if(!Number.isNaN(number)){

numbers.push(number);

}

}

//console.log(numbers);

for(let number of numbers){

numberString = number.toString();

let lastDiditString = numberString[numberString.length - 1];

let lastButOneDigitString = numberString[numberString.length - 2];

if (numberString.length > 1 && lastButOneDigitString == 1){

number = `${number}th`

}

else if(lastDiditString == 1)

{

number = `${number}st`;

}

else if(lastDiditString == 2){

number = `${number}nd`;

}

else if(lastDiditString == 3){

number = `${number}rd`

}

else{

number = `${number}th`

}

console.log(number);

}

}

humanizeNumbersInText('The school has 256 students. In each class there are 26 chairs, 13 desks and 1 board.')

humanizeNumbersInText('Yesterday I bought 12 pounds of peppers, 3 kilograms of carrots and 5 kilograms of tomatoes.')

humanizeNumbersInText('Yesterday I bought 121 pounds of peppers, 32 kilograms of carrots and 513 kilograms of tomatoes.')

## 4.Perfect Number

function extractPerfectNumbers(numbers){

let perfectNumbers = [];

for (let number of numbers){

let lastDivisor = Math.floor(number / 2);

let divisorsSum = 0;

for (let i = 1; i <= lastDivisor; i++){

if (number % i === 0){

divisorsSum += i;

}

}

if(number === divisorsSum){

perfectNumbers.push(number);

}

}

if (perfectNumbers.length >= 1){

console.log(perfectNumbers.join(", "));

}

else{

console.log("No perfect number");

}

}

extractPerfectNumbers([5, 6, 28])

extractPerfectNumbers([5, 32, 82])

## 5.Converter to Coins

function convertToCoins(amount, coinsArray){

let orderedCoinsArray = coinsArray.sort((a,b) => b - a);

let convertedCoins = [];

for(let coin of orderedCoinsArray){

while(amount >= coin){

convertedCoins.push(coin);

amount -= coin;

}

}

console.log(convertedCoins.join(", "));

}

convertToCoins(46, [10, 25, 5, 1, 2])

convertToCoins(123, [5, 50, 2, 1, 10])