# Programming Fundamentals Mid Exam Retake 12 August 2020

## Problem 2. The Lift

Write a program that **finds a place for the tourist on a lift.**

Every wagon should have **a maximum of 4 people on it**. If a wagon is full you should direct the people to **the next one with space** available.

### Input

* **On the first line** you, will receive **how many people** are waiting to get **on the lift**
* **On the second line**, you will you will receive the **current state of the lift separated by** **" "**.

### Output

**When there is no more available space left on the lift**, or there are **no more people in the queue**, you should print on the console the final state of the lift's wagons separated by **" "** and one of the following messages:

* If there are no more people and the lift have empty spots you should print:

**"The lift has empty spots!**

**{wagons separated by ' '}"**

* If there are still people on the queue and no more available space, you should print:

**"There isn't enough space! {people} people in a queue!**

**{wagons separated by ' '}"**

* If the lift is full and there are no more people in the queue, you should print only the wagons separated by **" "**

### Examples

|  |  |
| --- | --- |
| **Input JS** | **Output** |
| [ "15", "0 0 0 0 0"] | The lift has empty spaces!  4 4 4 3 0 |
| **Comment** | |
| First state - 4 0 0 0 -> 11 people left  Second state – 4 4 0 0 -> 7 people left  Third state – 4 4 4 0 -> 3 people left | |
| **Input JS** | **Output** |
| [ "20", "0 2 0"] | There isn't enough space! 10 people in a queue!  4 4 4 |
| **Comment** | |
| First state - 4 2 0 -> 16 people left  Second state – 4 4 0 -> 14 people left  Third state – 4 4 4 -> 10 people left, but there’re no more waggons. | |

function lift(arr) {

    let people = Number(arr[0]);

    let liftArr = arr.pop().split(` `).map(Number);

    let wagons = [];

    let emptySeats = 0;

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

        let seats = 4 - liftArr[i]

        let boarding = 0;

        if (people >= seats) {

            boarding = seats;

            people -= boarding;

        } else {

            boarding = people;

            people -= boarding;

        }

        emptySeats = seats - boarding

        wagons.push(liftArr[i] + boarding)

    }

    if (people <= 0 && emptySeats > 0) {

        console.log(`The lift has empty spots!`);

        console.log(wagons.join(` `))

    }

    if (people > 0 && emptySeats <= 0) {

        console.log(`There isn't enough space! ${people} people in a queue!`);

        console.log(wagons.join(` `))

    }

    if (people === 0 && emptySeats === 0) {

        console.log(wagons.join(` `))

    }

}

lift([ "20", "0 2 0"])