Lab: Objects and Classes

1. Person Info

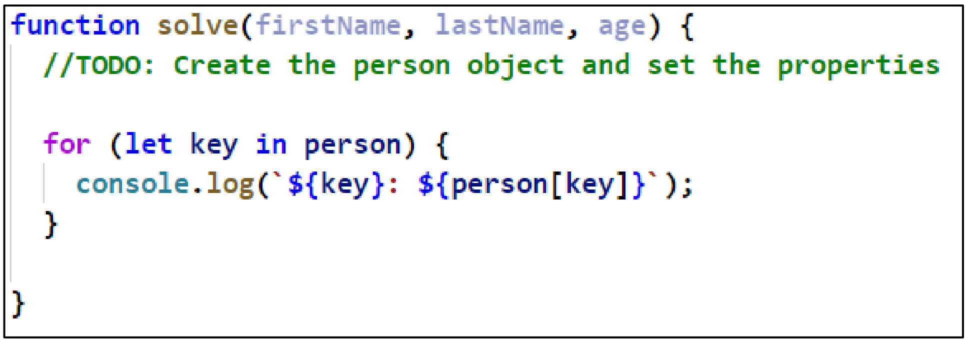
Write a function that receives **3 parameters**, sets them to an **object** and prints the object's properties by key and value in the format: "**{key}: {value}**"

The input comes as **3 separate strings** in the following order: **firstName**, **lastName**, **age**.

Examples

Input	Output
"Peter", "Pan", "20"	firstName: Peter lastName: Pan age: 20

Hints



```
function solve(firstName, lastName, age) {
  //TODO: Create the person object and set the properties

  for (let key in person) {
    console.log(`${key}: ${person[key]}`);
  }

}
```

2. City

Receive **five single strings**.

Create a **city object** which will hold the city **name**, **area**, **population**, **country** and **postcode**.

Loop through all the **keys** and print them with their **values** in format: "**{key} -> {value}**"

The input will be in the following order: **name**, **area**, **population**, **country** and **ZIP code**.

See the examples below.

Examples

Input	Output
"Atlanta", "343", "416474", "USA", "404"	name -> Atlanta area -> 343 population -> 416474

	country -> USA postCode -> 404

3. Convert to Object

Write a function that receives a **string** in **JSON format** and converts it to **object**.

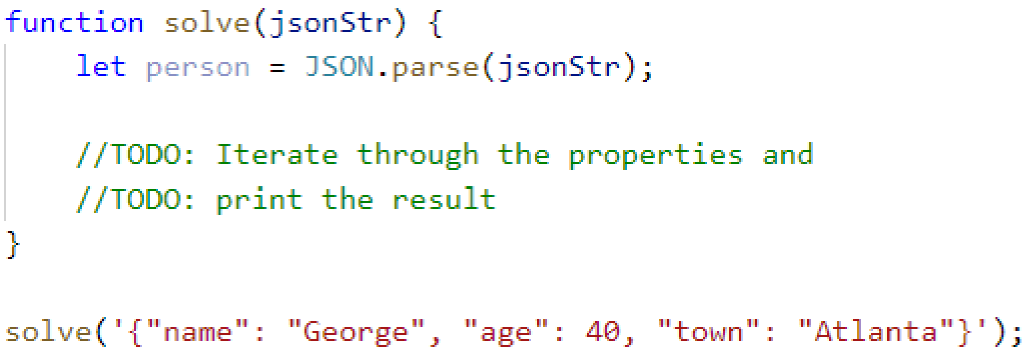
Loop through all the keys and print them with their values in format: "**`{key}: {value}`**"

Examples

Input	Output
`'{"name": "George", "age": 40, "town": "Atlanta"}'`	name: George age: 40 town: Atlanta

Hints

- Use **`JSON.parse()`** method to parse JSON string to an object



```
function solve(jsonStr) {
    let person = JSON.parse(jsonStr);

    //TODO: Iterate through the properties and
    //TODO: print the result
}

solve('{"name": "George", "age": 40, "town": "Atlanta"}');
```

4. Convert to JSON

Write a Function That Receives Name, LastName, HairColor and Sets Them to an Object.

Convert the **object** to **JSON string** and print it.

Input is provided as **3 single strings** in the order stated above.

Examples

Input	Output
'George', 'Jones', 'Brown'	{"name":"George", "lastName":"Jones", "hairColor":"Brown"}

Hints

- Use **`JSON.stringify()`** to parse the object to JSON string

```
function solve(name, lastName, hairColor) {
    //TODO: Create an object with the given input
    console.log(JSON.stringify(person));
}

solve('George', 'Jones', 'Brown');
```

5. Cats

Write a function that receives **array** of strings in the following format **`'{cat name} {age}'`**.

Create a **`Cat` class** that receives in the **`constructor`** the **name** and the **age** parsed from the input.

It should also have a function named **`"meow"`** that will print **`"{cat name}, age {age} says Meow"`** on the console.

For each of the strings provided you must **create a cat `object`.**

Examples

Input	Output

`['Mellow 2', 'Tom 5']`	`Mellow, age 2 says Meow`
	`Tom, age 5 says Meow`

Hints

- Create a Cat class with properties and methods described above
- Parse the input data
- Create all objects using class constructor and the parsed input data, store them in an array
- Loop through the array using **`for…of`** cycle and **invoke `.meow()`** method

```
function solve(arr) {
    let cats = [];
    //TODO: Create class Cat

    for (let i = 0; i < arr.length; i++) {
        let catData = arr[i].split(' ');
        let name, age;
        [name, age] = [catData[0], catData[1]];
        cats.push(new Cat(name, age));
    }
    //TODO: Iterate through cats[] and invoke .meow() using for...of loop
}

solve(['Mellow 2', 'Tom 5']);
```

6. Songs

Define a **class Song**, which holds the following information about songs: **typeList**, **name** and **time**.

You will receive the input as an **array**.

The first element **n** will be the number of songs. Next **n** elements will be the songs data in the following format: **"{typeList}_{name}_{time}"**, and the the last element will be **Type List** / **"all".**

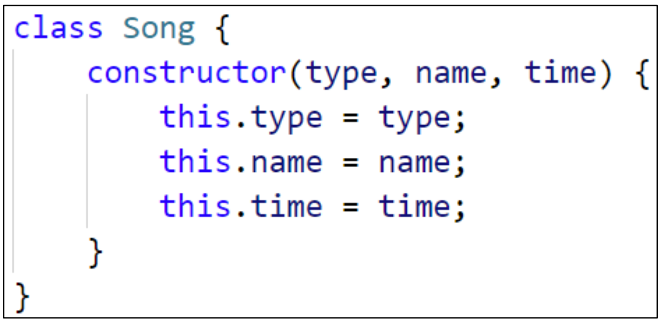
Print only the **names of the songs** which are from that **Type List** / **All songs**.

Examples

Input	Output
[3, 'favourite_DownTown_3:14', 'favourite_Kiss_4:16', 'favourite_Smooth Criminal_4:01', 'favourite']	DownTown Kiss Smooth Criminal
[4, 'favourite_DownTown_3:14', 'listenLater_Andalouse_3:24', 'favourite_In To The Night_3:58', 'favourite_Live It Up_3:48', 'listenLater']	Andalouse
[2, 'like_Replay_3:15', 'ban_Photoshop_3:48', 'all']	Replay Photoshop

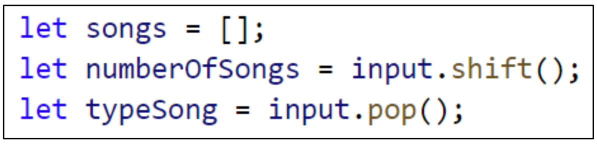
Solution:

Create a Song class with properties described above



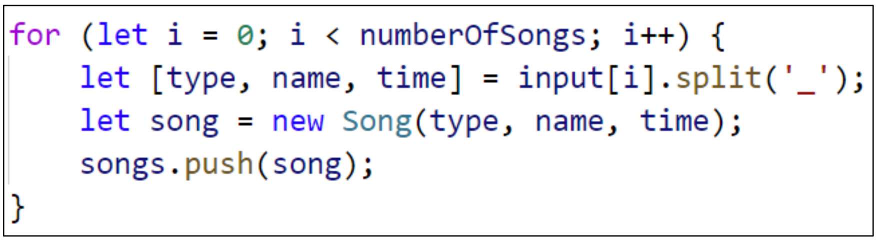
```
class Song {
    constructor(type, name, time) {
        this.type = type;
        this.name = name;
        this.time = time;
    }
}
```

Create a new array, where you will store songs

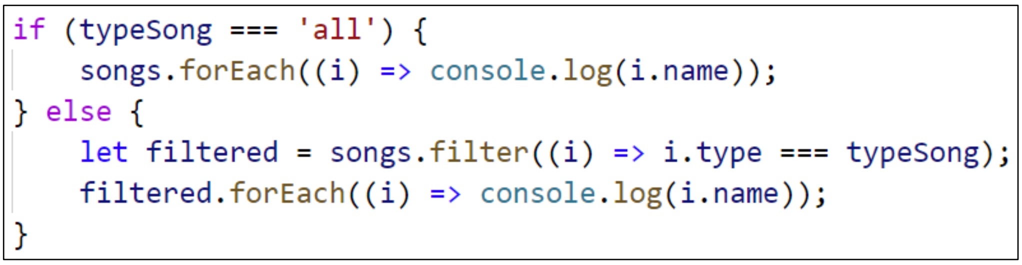


```
let songs = [];
let numberOfSongs = input.shift();
let typeSong = input.pop();
```

Iterate over the songs:



```
for (let i = 0; i < numberOfSongs; i++) {
    let [type, name, time] = input[i].split('_');
    let song = new Song(type, name, time);
    songs.push(song);
}
```



```
if (typeSong === 'all') {
    songs.forEach((i) => console.log(i.name));
} else {
    let filtered = songs.filter((i) => i.type === typeSong);
    filtered.forEach((i) => console.log(i.name));
}
```