02. Car Management System

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Your Task

Your task is to write a single **function `solve()`** that performs various data manipulation operations on a given array of car objects in a car dealership. You will **add**, **remove**, **update**, and **filter** cars within this array. The function **`solve()`** should take an **array** of **cars** as its **parameter**. **Inside** this **function**, you will define several **methods** to handle specific operations, and **each method** should **return** its **respective message**.

You are provided with an **array** called **cars** that contains objects. Each object represents a car and has the following **properties**:

```
let cars = [
    { id: 1, brand: "Toyota", model: "Corolla", year: 2020, price: 20000, inStock: true },
    { id: 2, brand: "Honda", model: "Civic", year: 2019, price: 22000, inStock: true },
    { id: 3, brand: "Ford", model: "Mustang", year: 2021, price: 35000, inStock: false }
  ];
```

Write the following **methods inside** the **`solve()`** function:

Filter cars by brand

- Write a function **`getCarsByBrand(brand)`** that takes a **`brand`** parameter and returns an array of cars belonging to the given brand.
- The method should return **filtered cars**.

Add a new car

- Write a function **`addCar(id, brand, model, year, price, inStock)`** that takes six parameters (**id**, **brand**, **model**, **year**, **price**, **inStock**) and adds a new car to the **cars** array.
- The method should return **cars array with new car included**.

Find car by ID

- Write a function **`getCarById(id)`** that takes an **id parameter** and returns the **car object** with the **given id**.
- The method should return **car object** or `` `Car with ID ${id} not found` ``

Remove car by ID

- Write a function **`removeCarById(id)`** that takes an **id parameter** and **removes** the **car** with the **given id** from the **cars** array.
- The method should return **cars array without removed car**.
- If the car with this ID does not exist, return: `` `Car with ID ${id} not found` ``

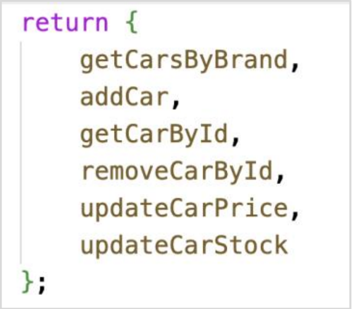
Update car price

- Write a function **`updateCarPrice(id, newPrice)`** that takes an **`id`** parameter and a **`newPrice`** parameter and updates the price of the car with the given id.
- The method should return **cars array with updated car price**.
- If the car with this ID does not exist, return: `` `Car with ID ${id} not found` ``

Update car stock status

- Write a function **`updateCarStock(id, inStock)`** that takes an **`id`** parameter and a boolean **`inStock`** parameter to update the stock status of the car with the given id.
- The method should return **cars array with updated car stock status**.
- If the car with this ID does not exist, return: `` `Car with ID ${id} not found` ``

At the end of the **`solve()`** function, **do not forget to include the final `return` statement** that returns an object with references to all the methods you have defined. This will allow the methods to be called from outside the **`solve()`** function.



```
return {
    getCarsByBrand,
    addCar,
    getCarById,
    removeCarById,
    updateCarPrice,
    updateCarStock
};
```

Examples

Input	Output

`const dealership = solve(cars);`
`dealership.getCarsByBrand("Toyota");`
	`[{id: 1, brand: 'Toyota', model: 'Corolla', year: 2020, price: 20000, inStock: true}]`

`dealership.addCar(4, "Tesla", "Model S", 2022, 80000, true);`	`[{id: 1, brand: 'Toyota', model: 'Corolla', year: 2020, price: 20000, inStock: true}, {id: 2, brand: 'Honda', model: 'Civic', year: 2019, price: 22000, inStock: true}, {id: 3, brand: 'Ford', model: 'Mustang', year: 2021, price: 35000, inStock: false}, {id: 4, brand: 'Tesla', model: 'Model S', year: 2022, price: 80000, inStock: true}]`

dealership.**getCarById**(2);	{id: 2, brand: 'Honda', model: 'Civic', year: 2019, price: 22000, inStock: true}
dealership.**removeCarById**(3);	[{id: 1, brand: 'Toyota', model: 'Corolla', year: 2020, price: 20000, inStock: true}, {id: 2, brand: 'Honda', model: 'Civic', year: 2019, price: 22000, inStock: true}]
dealership.**updateCarPrice**(1, 85000);	[{id: 1, brand: 'Toyota', model: 'Corolla', year: 2020, price: 85000, inStock: true}, {id: 2, brand: 'Honda', model: 'Civic', year: 2019, price: 22000, inStock: true}, {id: 3, brand: 'Ford', model: 'Mustang', year: 2021, price: 35000, inStock: false}]
dealership.**updateCarStock**(10, false);	Car with ID 10 not found

Submission

In Judge submit only **solve()** function.