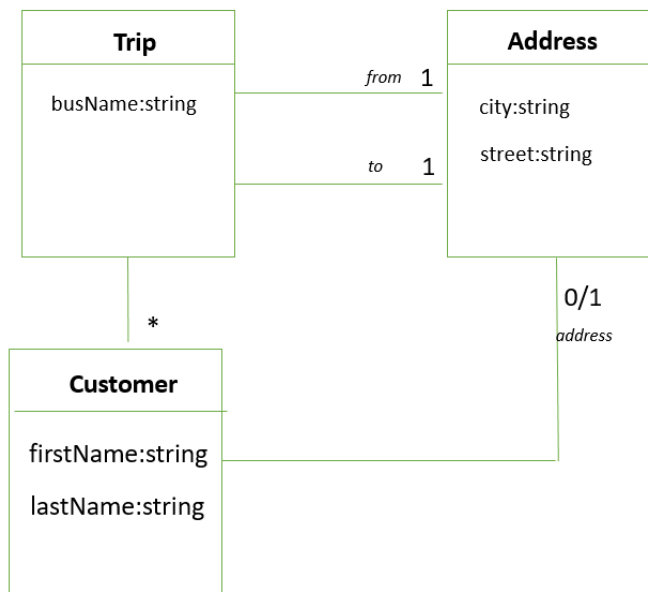# C2- S4 – PRACTICE- **BUS TRIP**

We want to manage BUS trips, and customers going to each trips

- A Trip
    - o Has a list of customers,
    - o The bus is going from a departure address to an arrival address
- A customer
    - o Has a first/last name
    - o Can have an address , but he/she does need to mention it

- Address must be defined using class , as it contains many information

Trip		Address
busName:string	*from* 1	city:string
	to 1	street:string

0/1
address

Customer
firstName:string
lastName:string

Q1 Create the **OOP model** (classes / attributes/ constructors / setters) needed to match with this problem

Q2 Create the following **instance** of this OOP model:

CUSTOMERS

First name	Last Name	Address
Ronan	Ogor	Paris, France
Him	Hey	*No address*
Sovanda	Chib	Phnom Penh, Cambodia

TRIPS

Bus name	KAKA Bus
Departure place	Phnom Penh, Cambodia
Arrival place	Kampot, Cambodia
Customers	Him, Sovanda

Bus name	LYHOR Express
Departure place	Phnom Penh, Cambodia
Arrival place	Sieam Reap, Cambodia
Customers	Him, Sovanda, Ronan

```typescript
class Trip{
    busName: string;
    constructor(name: string){
        this.busName = name;
    }
}
class Address{
    departurePlace: string;
    arrivalPlace: string;
    trip: Trip[] =[];
    constructor(departurePlace: string, arrivalPlace: string){
        this.departurePlace = departurePlace;
        this.arrivalPlace = arrivalPlace;
    }
    addTrip(trip: Trip){
        this.trip.push(trip);
    }
}


class Customer{
    firstName: string;
    lastName: string;
    address: Address[] =[];
    constructor(firstName: string, lastName: string){
        this.firstName = firstName;
        this.lastName = lastName;
    }
    addAddress(address: Address){
        this.address.push(address);
    }
}

let trip1 = new Trip("KAKA Bus");
let trip2 = new Trip("LYHOR Express");


let address1 = new Address("Phnom Penh, Cambodia","Kampot, Cambodia");
let address2 = new Address("Phnom Penh, Cambodia", "Sieam Reap, Cambodia");
let address3 = new Address("No","address")

let customer1 = new Customer("Him", "Hey");
let customer2 = new Customer("Sovanda","Chib");
let customer3 = new Customer("Ronan","Ogor");


customer1.addAddress(address3);
customer2.addAddress(address2);
customer3.addAddress(address3);
```
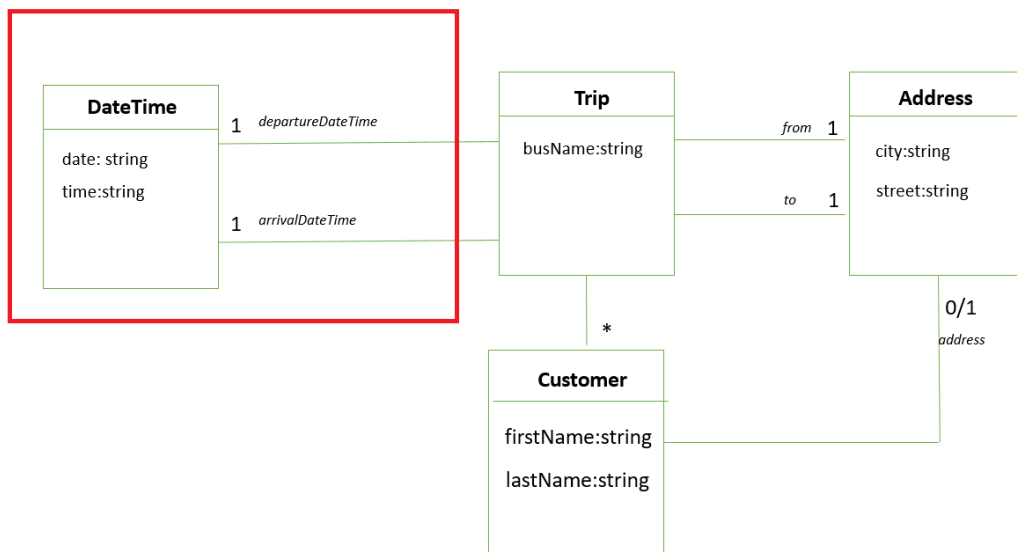
```
console.log(trip1, trip2, customer1, customer2, customer3);
```

BONUS

(This part is optional: it will give you more points, but ONLY if the first part is correct!!!)

We want now to manage when the bus is leaving and arriving at tis destination:

- The bus is leaving at a specific date/time and arriving at a specific date/time
- We create a class DateTime to manage both date and time together

Q1 Update the **OOP model** (classes / attributes/ constructors / setters) needed to match with this new problem

Q2 Update your bus instances to add their start and end date and time

- *Any data / time you want*

```typescript
class Trip{
    busName: string;
    date: DateTime[] = [];
    constructor(name: string){
        this.busName = name;
    }
    addDate(date: DateTime){
        this.date.push(date);
    }
}
class Address{
    departurePlace: string;
    arrivalPlace: string;
    trip: Trip[] =[];
    constructor(departurePlace: string, arrivalPlace: string){
        this.departurePlace = departurePlace;
        this.arrivalPlace = arrivalPlace;
    }
    addTrip(trip: Trip){
        this.trip.push(trip);
    }
}

class Customer{
    firstName: string;
    lastName: string;
    address: Address[] =[];
    constructor(firstName: string, lastName: string){
        this.firstName = firstName;
        this.lastName = lastName;
    }
    addAddress(address: Address){
        this.address.push(address);
    }
}

class DateTime{
    date: string;
    time: string;
    constructor(date: string, time: string){
        this.date = date;
        this.time = time;
    }
}

let trip1 = new Trip("KAKA Bus");
let trip2 = new Trip("LYHOR Express");
```

```javascript
let address1 = new Address("Phnom Penh, Cambodia","Kampot, Cambodia");
let address2 = new Address("Phnom Penh, Cambodia", "Sieam Reap, Cambodia");
let address3 = new Address("No","address")

let customer1 = new Customer("Him", "Hey");
let customer2 = new Customer("Sovanda","Chib");
let customer3 = new Customer("Ronan","Ogor");

let date1 = new DateTime("Monday - Sunday","07:00 AM");
let date2 = new DateTime("Monday -Sunday","07:00 PM");


customer1.addAddress(address3);
customer2.addAddress(address2);
customer3.addAddress(address3);
trip1.addDate(date1)
trip2.addDate(date2)
console.log(trip1, trip2, customer1, customer2, customer3);
```