

## **\*\*Electrician Allocation System:\*\***

Let's say we have a system that manages electricians and the sites they need to work on. The system helps ensure that the right electricians are sent to the right sites. Here's a simple example:

### **\*\*Input:\*\***

#### **- Electricians:**

1. Electrician A (General)
2. Electrician B (Grievance)

```
example: {  
    name: 'Pranav',  
    phoneNumber: '6161232524',  
    zone: ['DELHI'],  
    grievanceElectrician: true  
},  
{  
    name: 'Sidharth',  
    phoneNumber: '6161232524',  
    zone: [ 'NOIDA', 'GHAZIABAD' ],  
    grievanceElectrician: false  
},
```

#### **- Sites to be installed on a given day:**

1. Site X in City Noida (Grievance)
2. Site Y in City Delhi (General)

```
example: y={  
    name: 'KRISHNA ROY',  
    phone: '6163988877',  
    city: 'NOIDA',  
    AssignedElectritian: [],  
    InstallationDate: 2023-01-04T00:00:00.000Z,  
    grievance: false  
},  
x={  
    name: 'Anuj Gupta ',  
    phone: '6163988877',  
    city: 'DELHI',  
    AssignedElectritian: [],  
    InstallationDate: 2023-10-18T00:00:00.000Z,  
    grievance: true  
}
```

### **\*\*Process:\*\***

1. Give a button to automatically assign electricians to the sites.
2. When we click this button, the system works like this:
  - It first assigns the Grievance Electrician B to Site X because it's a grievance

site. Electrician B can handle grievances.

- Then, it assigns Electrician A to site Y because he is a general electrician.
- Each electrician is assigned to a maximum of three sites at a moment to keep things manageable.
- You do not consider zone/city of electrician while handling the Grievance site and electrician as well

**\*\*Output:\*\***

- After clicking the button:

- Site X in City DELHI is assigned to Electrician B (Grievance).
- Site Y in City NOIDA is assigned to Electrician A (General).

```
      y={
        name: 'KRISHNA ROY',
        phone: '6163988877',
        city: 'NOIDA',
        AssignedElectrician: [
          {"electricianName": "Sidharth",
"electricianAssignDate": "2023-10-25"}
        ],
        InstallationDate: 2023-01-04T00:00:00.000Z,
        grievance: false
      },
      x={
        name: 'Anuj Gupta ',
        phone: '6163988877',
        city: 'DELHI',
        AssignedElectrician: [
          {"electricianName": "Pranav",
"electricianAssignDate": "2023-10-25"}
        ],
        InstallationDate: 2023-10-18T00:00:00.000Z,
        grievance: true
      }
    }
```

In simple terms, this system ensures that:

- Grievance sites are handled by the Grievance electrician.
- General sites are distributed fairly among general electricians.
- No electrician is overwhelmed with too many sites to work on, that's why it is limited to three only.
- If any electrician is pending without site assignment and the site is also pending then you can assign a grievance electrician to the general site or vice-versa.

Rule to distribute electrician: number of sites on current date/number of available electricians on current date.

Things you have to do:

1. Give a page on the front end to change the installation date of the given data(sites).
2. Give a button on the page to auto-assign the site to the electrician based on the above rule.
3. Show output on a new page or directly console the output.