# 1. Code

1. Month job notify bill – **monthlyInformCustomers.js**

Usage – **node monthlyInformCustomers.js**

1. Will iterate over all customers.
   1. Will iterate over all plates belong to customer.
   2. Check existing records of plate In Records table.
      1. Count how many hit in each sensor.
      2. On each sensor that with more than 1 hit, query sensor cost.
      3. Sum all cost on particular plate.
   3. Sum cost on all plates.
   4. Post total cost to customer billing URL.
2. Sensors records update – **sensorRecordPost.js**

Usage (Import module) – **sensorRecordPost.sensortPost(plate, sensorId)**

Sensor will post to records table by passing:

1. Plate.
2. SensorId.

# 2. Modeling and descitios

1. Customers table:

* Partition key: CustomerId - unique ID (Numeric ID)
* Attributes:
  + Name(String): Customer name.
  + Email(String): Customer email.
  + BillingUrl(String): url to post the bill to.
  + LicensePlates(List[Strings]): list of plates.

2. Sensors table:

* Partition key: SensorId - ID (Numeric ID)
* Attributes:
  + Cost (Number): Cost of passing the sensor.
  + Lng (Float): longitude position.
  + Lat (Float): latitude position.

3. Records table:

* Partition key: ID can’t be used here, I chose to use hash on unique string of each record – sensor + time +plate.
* Attributes:
  + Occurred (Time stamp) – time of registering record.
  + Plate (String) – Plate.
  + SensorId (Number) – Sensor id of record.

# 3. Dynamo DB

## Script data generator

Usage:

A close up of a logo

Description automatically generated

## GUI – screen shots

A screenshot of a cell phone

Description automatically generated

### Customers

A screenshot of a cell phone

Description automatically generated

### Records

A screenshot of a cell phone

Description automatically generated

### Sensors

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Description automatically generated