Overview:

EVN is a major organization with different and complicated activities. I suggest that we will focus on the activity of collecting electricity consumption of users and calculate their cost. So that we can output bills for payment with basic information to users and receive revenue to the company.

* User: there are different groups of users that we have to apply different price types to.
* Price: includes different price types.

https://www.evn.com.vn/c3/evn-va-khach-hang/Bieu-gia-ban-le-dien-9-79.aspx

Use case: (please look at the excel file to understand the ideas easier)

**Obtain document**

|  |
| --- |
| * Input/delete/update Number of household or factory |
| * Input/delete/update information of household or factory |
| * Input/delete/update Payment status |
| * Input/delete/update Number of types of price |
| * Input/delete/update Price details for each groups of users (can read files of price to reduce the workload) |
| * Input/delete/update Meter reading day and Previous meter reading day |
| * Input/delete/update Meter reading amount and Previous meter reading amount |
| * Input/delete/update Monthly consumption, cost (daily and yearly consumption/cost will be calculated according to monthly consumption and cost) |

**Search for document**

* Read file of users
* Read file of prices
* Search for personal info of a specific user
* Search for a historical record of a specific user (consumption, cost…)

**Solve document**

* Calculate Consumption of each month by subtracting Previous meter reading amount by Meter reading amount. From this result, calculate consumption per day, years
* Update above results to the system
* Calculate monthly cost/ daily cost/ yearly cost (import price from other package to modulus calculation)
* Update above results to the system
* Total electric consumption per day/year/month (for each group of users /all group of users)
* Total avenue/ paid amount/ not yet paid amount (for each group of users /all group of users)
* Present those above using pie charts, line or bar charts.
* Present electric consumption on a graph
* Present electric consumption (it’s also the total avenue) on graph

**List document**

|  |
| --- |
| * list users |
| * list prices |
| * list daily/monthly /yearly consumption of users |
| * list daily/monthly/yearly cost of users |
| * list paid users/ not paid users |
| * List a bill (include basic info such as: dates (meter readings), amount consuming, cost, tax...) of a specific user.   Attention!! |

Input function should receive not trivial number or string:

* Number of users and types of price -->positive
* Meter reading date > previous meter reading day
* Meter reading amount > previous meter reading amount
* Payment status can receive integer value: 1 (paid), 0 (not yet paid)
* ID can include both number and letter. However, they need to be in the same form for all variables to manipulate more easily during coding.