**Data file format:**

1. Patient name
2. MRN
3. Gender
4. Physician Id (format – 4 digit)
5. Admission Date
6. Discharge Date
7. Category (category can be GEN, NEU or ENT)

**Validations:**

1. All fields are mandatory. - function
2. Patient should contain only alphabets and whitespace. - regex
3. MRN should start with IN or OUT and end with integer. - regex
4. Physician Id should be a combination of 4digit and Category i.e., 1234-GEN or 2345-NEU or 3421-ENT - regex
5. Physician Id should be unique. - hashset
6. Admission Date and Discharge Date should be in dd/MM/yyyy format. – date parse
7. Admission Date should not greater than Discharge Date. - function

**Output format:**

Map<Integer, Map<String, List<PatientVO>>>

|  |  |  |
| --- | --- | --- |
| **Key** | **Value** | |
| 1 | **Key(admission date)** | **Value Map(List of the patient based on admission date)** |
| 06/06/2012 | List of patients, where each patient:   1. patient name 2. MRN 3. Gender 4. Physician Id 5. admission date 6. Discharge Date 7. **bill amount** |
| 2 | **Category** | **Patient Count based on category** |
| GEN | 2 |
| NEU | 2 |
| ENT | 2 |

**Bill Amount calculation:**

1. No of Days in a hospital = Discharge Date – Admission date
2. Bill Amount = Bill amount based on category \* No of Days

|  |  |
| --- | --- |
| **Category** | **Billing Amount/day** |
| GEN | 1250 |
| NEU | 1750 |
| ENT | 1500 |

**Patient Count Calculation:**

If patient count based on any category is 0, then 0 will be stored in the Map for that particular category.