**PYTHON-Django-Model-RESTFramework-API-Deployment ASSIGNMENT**

**ASSIGNMENT DETAILS**

1. Unzip Data-PythonDjangoAssignment1.zip
2. The following contents are extracted
   * **INPUT FILE1 - PharmaSales.csv**

The PharmaSales.csv is a comma separated file containing Pharma Sales for the years 2014 – 2019 for drugs in the following ATC Code categories

**Note on ATC Codes and their Descriptions**

|  |  |
| --- | --- |
| **Anatomical Therapeutic Chemical (ATC) Classification Code** | **ATC classification Details** |
| M01AB | Acetic acid derivatives and related substances |
| M01AE | Propionic acid derivatives, antiinflammatory and antirheumatic products |
| N02BA | Salicylic acid and derivatives, analgesics and antipyretics |
| N02BE | Anilide analgesics and antipyretics |
| N05B | ANXIOLYTICS |
| N05C | HYPNOTICS AND SEDATIVES |
| R03 | DRUGS FOR OBSTRUCTIVE AIRWAY DISEASES |
| R06 | ANTIHISTAMINES FOR SYSTEMIC USE |

**Note on Drug Classification**

* ATC Codes starting with M (e.g. M01AB , M01AE ) are classified as “**Musculo-Skeletal System Drugs**”
* ATC Codes starting with N (e.g. N02BE, N05B, N05C) are classified as “**Nervous System Drugs**”
* ATC Codes starting with R (e.g. R03, R06) are classified as “**Respiratory System Drugs**”

The columns in the CSV file (PharmaSales.csv ) and their descriptions are the following:

|  |  |
| --- | --- |
| **Column** | **Column Description** |
| Datum | Date of sale |
| M01AB | Sale of drugs with classification M01AB in quantity units |
| M01AE | Sale of drugs with classification M01AE in quantity units |
| N02BA | Sale of drugs with classification N02BA in quantity units |
| N02BE | Sale of drugs with classification N02BE in quantity units |
| N05B | Sale of drugs with classification N05B in quantity units |
| N05C | Sale of drugs with classification N05C in quantity units |
| R03 | Sale of drugs with classification R03 in quantity units |
| R06 | Sale of drugs with classification R06 in quantity units |
| Year | The year of sale ranging from 2014-2019 |

* + **INPUT FILE2 - DrugReviewData.csv**

This input file is a dataset on drug reviews on random drugs by patients. This is a Comma Separated Values (csv) format file containing the following columns

* + uniqueID (A unique number)
  + drugName (Melatonin, Digoxin etc)
  + condition (Medical Condition of the person taking the drug such as Insomnia, Renal Cell Carcinoma etc)
  + review (A detailed review comment by the patient after taking the drug)
  + rating (on a scale of 1 – 10)
  + date (Date of Drug Review)
  + usefulCount (A random number suggesting the Usefulness of the drug)

Assignment

1. Your project should be checked into a git repository and written using Python-Django framework
2. Create appropriate models for the above input datasets
3. Create two Django APIs for the following
   1. API-1: Retrieve Sales by Drug Classification
      1. INPUT
         1. **Year** - in the range of 2014 - 2019
         2. **Drug Classification** – one of “M”, “N” or “R” signifying “Musculo-Skeletal System Drugs”, “Nervous System Drugs” or “Respiratory System Drugs”
      2. OUTPUT

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug Classification** | **ATC Classification** | **Sales - <Year>** | **Sales - <Prev Year>** |
| Musculo-Skeletal System Drugs | Acetic acid derivatives and related substances (M01AB) | mmmm | Nnnn |
| Musculo-Skeletal System Drugs | …. | … | .. |

Note the below points

* If any of the Sales Values is not available for the previous Year, output “NA”
* mmmm = sum of the sales of the Input Year
* nnnn = sum of the sales for the Previous Year
* Note in ATC Classification Column, ATC Code’s description has been used and appended with ATC Code
  1. API-2: Retrieve Drug Reviews for a given Drug
     1. INPUT
        1. **Year** - in the range of 2014 - 2019
        2. **Drug** - one of the list [Melatonin, Rituximab, Disulfiram, Erlotinib, Pazopanib, Eribulin]
     2. OUTPUT

|  |  |  |  |
| --- | --- | --- | --- |
| **Drug Name** | **Condition** | **Date** | **Review** |
| Melatonin | Insomnia | dd-mm-yyyy | <Review Text> |
| --- | …. | … | .. |

Note the below points

* The output should be sorted by Drug, Condition and Date in that order
* If reviews are not found for a particular year for a Drug, then output “No Reviews Found”

1. Use a simple postman frontend to accept the input and return the output as a CSV file.
2. Deploy and Demo the code as an application
3. Explain the various components developed in assignment in the follow-up discussion