COVID VACCINES ANALYSIS

India has recently launched its largest Vaccination drive for everyone to get vaccinated against covid-19. The CoWin is an official website that handles the availability of the vacant slot. The process of going forth can be tedious items. Python API Wrapper for this site, CoWin, offers certain methods which can help us find availability near us on basis of Pincode and districts.

Installation:

To install this module type the below command in the terminal.

pip install cowin

Getting List of All States

Here will get all the states using get_states() methods. First, we will import the module, and then we use coWinAPI() to access the get_state() object. This method gets list of states present along with their IDs

Code:

```
from cowin_api import CoWinAPI

from pprint import pprint

cowin = CoWinAPI()

 states = cowin.get_states()

print("All States List : ")

print(states)
```

Output:

```
All States List :
{'states': [{'state_id': 1, 'state_name': 'Andaman and Nicobar Islands'},
            {'state_id': 2, 'state_name': 'Andhra Pradesh'},
            {'state_id': 3, 'state_name': 'Arunachal Pradesh'},
            {'state_id': 4, 'state_name': 'Assam'},
            {'state_id': 5, 'state_name': 'Bihar'},
            {'state_id': 6, 'state_name': 'Chandigarh'},
            {'state_id': 7, 'state_name': 'Chhattisgarh'},
            {'state_id': 8, 'state_name': 'Dadra and Nagar Haveli'},
            {'state_id': 37, 'state_name': 'Daman and Diu'},
            {'state_id': 9, 'state_name': 'Delhi'},
            {'state_id': 10, 'state_name': 'Goa'},
            {'state_id': 11, 'state_name': 'Gujarat'},
            {'state_id': 12, 'state_name': 'Haryana'},
            {'state_id': 13, 'state_name': 'Himachal Pradesh'},
            {'state_id': 14, 'state_name': 'Jammu and Kashmir'},
            {'state_id': 15, 'state_name': 'Jharkhand'},
            {'state_id': 16, 'state_name': 'Karnataka'},
            {'state_id': 17, 'state_name': 'Kerala'},
            {'state_id': 18, 'state_name': 'Ladakh'},
            {'state_id': 19, 'state_name': 'Lakshadweep'},
            {'state_id': 20, 'state_name': 'Madhya Pradesh'},
            {'state_id': 21, 'state_name': 'Maharashtra'},
            {'state_id': 22, 'state_name': 'Manipur'},
            {'state_id': 23, 'state_name': 'Meghalaya'},
            {'state_id': 24, 'state_name': 'Mizoram'},
            {'state_id': 25, 'state_name': 'Nagaland'},
            {'state_id': 26, 'state_name': 'Odisha'},
            {'state_id': 27, 'state_name': 'Puducherry'},
            {'state_id': 28, 'state_name': 'Punjab'},
            {'state_id': 29, 'state_name': 'Rajasthan'},
            {'state_id': 30, 'state_name': 'Sikkim'},
            {'state_id': 31, 'state_name': 'Tamil Nadu'},
            {'state_id': 32, 'state_name': 'Telangana'},
            {'state_id': 33, 'state_name': 'Tripura'},
            {'state_id': 34, 'state_name': 'Uttar Pradesh'},
            {'state_id': 35, 'state_name': 'Uttarakhand'},
            {'state_id': 36, 'state_name': 'West Bengal'}],
 'ttl': 24}
```

Getting all districts in a State

Here we will use get_districts(), which return the district name, pass the integer into the get_districts(). get_districts(state_id) takes state id returned from above API, as param and returns all districts with their IDs.

Code:

```
from cowin_api import CoWinAPI

from pprint import pprint

cowin = CoWinAPI()

state_id = '24'

districts = cowin.get_districts(state_id
)

print("Districts by State Id : ")

pprint(districts)
```

Output :

```
Districts by State Id :
{'districts': [{'district_id': 425, 'district_name': 'Aizawl East'},
               {'district_id': 426, 'district_name': 'Aizawl West'},
               {'district_id': 429, 'district_name': 'Champhai'},
               {'district_id': 428, 'district_name': 'Kolasib'},
               {'district_id': 432, 'district_name': 'Lawngtlai'},
               {'district_id': 431, 'district_name': 'Lunglei'},
               {'district_id': 427, 'district_name': 'Mamit'},
               {'district_id': 430, 'district_name': 'Serchhip'},
               {'district_id': 433, 'district_name': 'Siaha'}],
 'ttl': 24}
```

Getting all centers with Availability Information in District

Here we will get the center information in the district, get_availability_by_district() methods are able to return all the center information within the district.

Syntax:

get_availability_by_district(district_id, date, min_age_limit)

Parameters :

district_id : ID obtained using above API.
date(optional) : Date in dd-mm-YYYY format. Defaults to today.
min_age_limit(optional) : Minimum age to be queried, since slots get open in different age group brackets. If not given

ages are used as filter.

Code:

```
from cowin_api import CoWinAPI

from pprint import pprint

cowin = CoWinAPI()

district_id = '425'

date = '14-05-2021'

available_centers = cowin.get_availability_by_district(district_id, date)

print("All Available Centers [ By district ] : ")

pprint(available_centers)
```

Output :

```
All Available Centers [ By district ] :
{'centers': [{'address': 'BawngkawnAizawl',
              'block_name': 'Tlangnuam RD Block',
              'center_id': 597224,
              'district_name': 'Aizawl East',
              'fee_type': 'Free',
              'from': '10:00:00',
              'lat': 23,
              'long': 92,
              'name': 'Bawngkawn South YMA Hall',
              'pincode': 796014,
              'sessions': [{'available_capacity': 0,
                            'date': '14-05-2021',
                            'min_age_limit': 45,
                            'session_id': '0b6273aa-363c-4aba-8e0a-77d6c637a1da',
                            'slots': ['10:00AM-12:00PM',
                                      '12:00PM-02:00PM',
                                      '02:00PM-04:00PM',
                                      '04:00PM-05:00PM'],
                            'vaccine': 'COVISHIELD'}],
              'state_name': 'Mizoram',
              'to': '17:00:00'},
             {'address': 'Dawrpui',
              'block_name': 'Tlangnuam RD Block',
              'center_id': 591640,
              'district_name': 'Aizawl East',
              'fee_type': 'Free',
              'from': '10:00:00',
              'lat': 23,
              'long': 92,
              'name': 'Dawrpui Multipurpose Hall 1',
              'pincode': 796001,
              'sessions': [{'available_capacity': 0,
                            'date': '14-05-2021',
                            'min_age_limit': 45,
                            'session_id': 'a30a73e4-c9fb-407e-bdc9-70d432d7e484',
                            'slots': ['10:00AM-12:00PM',
                                      '12:00PM-02:00PM',
                                      '02:00PM-04:00PM',
                                      '04:00PM-05:00PM'],
                            'vaccine': 'COVISHIELD'}],
              'state_name': 'Mizoram',
              'to': '17:00:00'}]}
```

Getting all centers with Availability Information by Pincode

Here we will get all the center availability info according to Pincode, get_availability_by_pincode are able to return the center information by Pincode.

Syntax:

> *get_availability_by_pincode(pin_code, date, min_age_limit)*

Parameter:

- *pin_code : Pincode of area to find centers.*
- *date(optional) : Date in dd-mm-YYYY format. Defaults to today.*
- *min_age_limit(optional) : Minimum age to be queried, since slots get open in different age group brackets. If not given, all ages are used as filter.*

Code:

```
from cowin_api import CoWinAPI

from pprint import pprint

cowin = CoWinAPI()

pin_code = "796014"

date = '14-05-2021'

min_age_limit = 18

available_centers = cowin.get_availability_by_pincode(pin_code, date)
```

```
print("All Available Centers [ By Pincode ] : ")

pprint(available_centers)
```

Output :

```
All Available Centers [ By Pincode ] :
{'centers': [{'address': 'BawngkawnAizawl',
              'block_name': 'Tlangnuam RD Block',
              'center_id': 597224,
              'district_name': 'Aizawl East',
              'fee_type': 'Free',
              'from': '10:00:00',
              'lat': 23,
              'long': 92,
              'name': 'Bawngkawn South YMA Hall',
              'pincode': 796014,
              'sessions': [{'available_capacity': 0,
                            'date': '14-05-2021',
                            'min_age_limit': 45,
                            'session_id': '0b6273aa-363c-4aba-8e0a-77d6c637a1da',
                            'slots': ['10:00AM-12:00PM',
                                      '12:00PM-02:00PM',
                                      '02:00PM-04:00PM',
                                      '04:00PM-05:00PM'],
                            'vaccine': 'COVISHIELD'}],
              'state_name': 'Mizoram',
              'to': '17:00:00'}]}
```