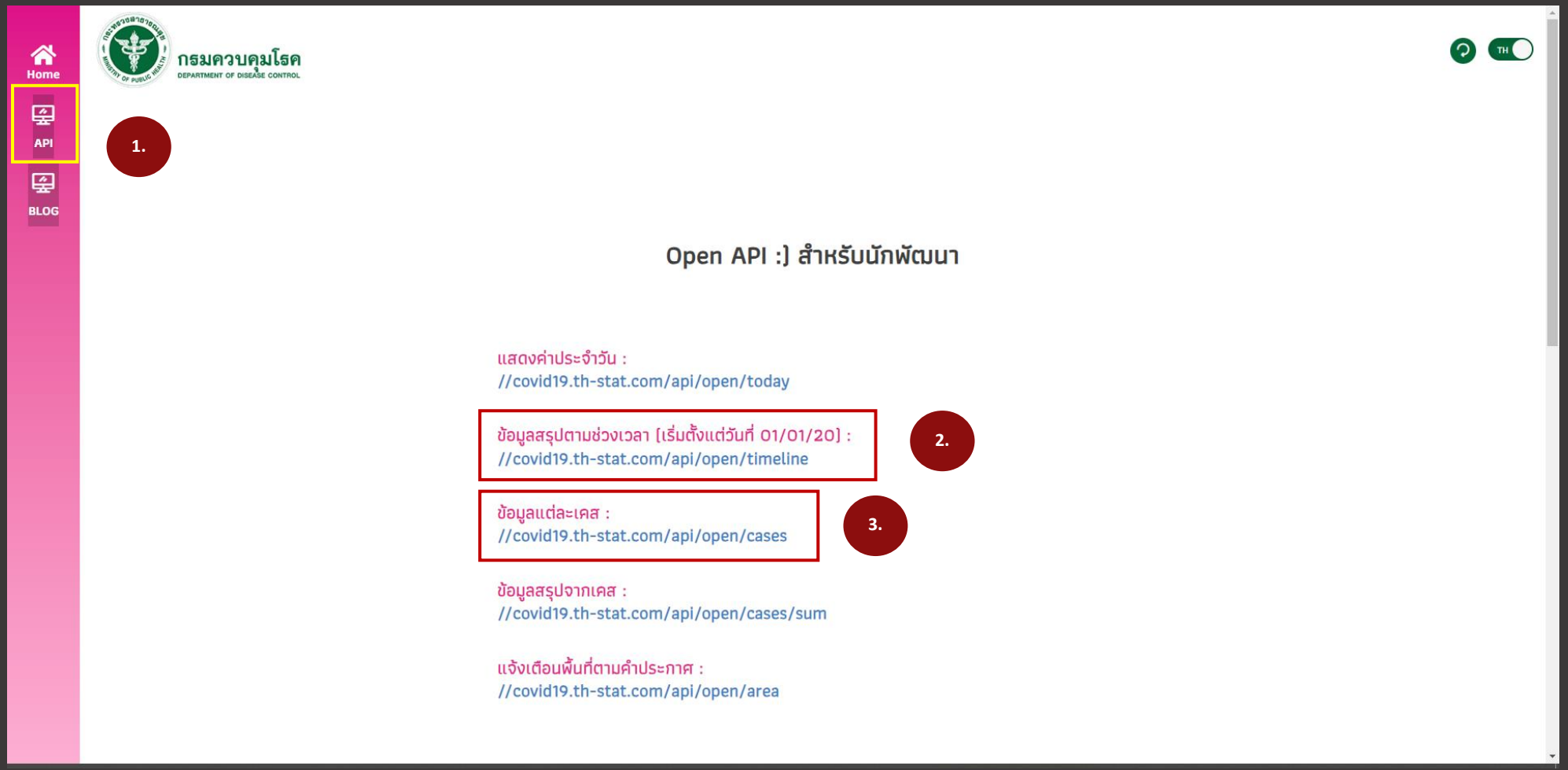
COVID-19

Overview in Thailand

CONTENTS

PART 1
DATASET


Home
API
BLOG
กรมควบคุมโรค
DEPARTMENT OF DISEASE CONTROL
TH
1.
Open API :) สำหรับนักพัฒนา
แสดงค่าประจำวัน :
//covid19.th-stat.com/api/open/today
ข้อมูลสรุปตามช่วงเวลา [เริ่มตั้งแต่วันที่ 01/01/20] :
//covid19.th-stat.com/api/open/timeline
2.
ข้อมูลแต่ละเคส :
//covid19.th-stat.com/api/open/cases
3.
ข้อมูลสรุปจากเคส :
//covid19.th-stat.com/api/open/cases/sum
แจ้งเตือนพื้นที่ตามคำประกาศ :
//covid19.th-stat.com/api/open/area

PART 2
IMPORT LIBRARY & READ FILE

IMPORT LIBRARY & READ FILE

IMPORT LIBRARY

```
import pandas as pd
import numpy as np
import matplotlib
import matplotlib.pyplot as plt
import seaborn as sns
import requests
```

READ FILE

```
#อ่านข้อมูลจาก API all cases
url= "https://covid19.th-stat.com/api/open/cases"
cr = requests.get(url)

date = cr.json()
date = date["UpdateDate"]
print("Update Date=",date)

case = cr.json()
case = case["Data"]
case_df = pd.DataFrame(case)
case_df.tail()
```

READ FILE

```
#อ่านข้อมูลจาก API update cases
url="https://covid19.th-stat.com/api/open/timeline"
ur = requests.get(url)

update = ur.json()
date = update["UpdateDate"]
print("Update Date=",date)

update = ur.json()
update = update["Data"]
update_df = pd.DataFrame(update)
update_df.tail()
```

OUTPUT

```
Update Date= 28/04/2020
```

	ConfirmDate	No	Age	Gender	GenderEn	Nation	NationEn	Province	ProvinceId	District	ProvinceEn	Detail
2933	2020-01-24 00:00:00	5	66.0	หญิง	Female	จีน	Chinese	นนทบุรี	24		Nonthaburi	None
2934	2020-01-22 00:00:00	4	68.0	ชาย	Male	จีน	Chinese	กรุงเทพมหานคร	1		Bangkok	None
2935	2020-01-22 00:00:00	3	73.0	หญิง	Female	ไทย	Thai	นครปฐม	19	เมือง	Nakhon Pathom	None
2936	2020-01-17 00:00:00	2	74.0	หญิง	Female	จีน	Chinese	กรุงเทพมหานคร	1		Bangkok	None
2937	2020-01-12 00:00:00	1	61.0	หญิง	Female	จีน	Chinese	กรุงเทพมหานคร	1		Bangkok	None

```
Update Date= 29/04/2020 11:34
```

	Date	NewConfirmed	NewRecovered	NewHospitalized	NewDeaths	Confirmed	Recovered	Hospitalized	Deaths
115	04/25/2020	53	57	-5	1	2907	2547	309	51
116	04/26/2020	15	47	-32	0	2922	2594	277	51
117	04/27/2020	9	15	-7	1	2931	2609	270	52
118	04/28/2020	7	43	-38	2	2938	2652	232	54
119	04/29/2020	9	13	-4	0	2947	2665	228	54

PART 3
DATA PREPROCESSING

```python
#นำ column ที่ไม่ได้ใช้ออก
case_df = case_df.drop(["ConfirmDate","No","Gender","Nation","Province","ProvinceId","District","Detail"],axis=1)
print("Update Date=",date)
case_df.head()
```

OUTPUT

Update Date= 28/04/2020

	Age	GenderEn	NationEn	ProvinceEn
0	25.0	Female	Chinese	Bangkok
1	39.0	Female	Thai	Bangkok
2	50.0	Female	Thai	Phuket
3	20.0	Male	Thai	Phuket
4	23.0	Male	Thai	Phuket

Update Date= 29/04/2020 11:34

	Date	NewConfirmed	Confirmed	Recovered	Hospitalized	Deaths
115	04/25/2020	53	2907	2547	309	51
116	04/26/2020	15	2922	2594	277	51
117	04/27/2020	9	2931	2609	270	52
118	04/28/2020	7	2938	2652	232	54
119	04/29/2020	9	2947	2665	228	54

DATA PREPROCESSING

```python
#นำ column ที่ไม่ได้ใช้ออก
print("Update Date=",date)
update_df = update_df.drop(["NewRecovered","NewHospitalized","NewDeaths"],axis=1)
update_df.tail()
```

PART 4
DATA PROCESSING

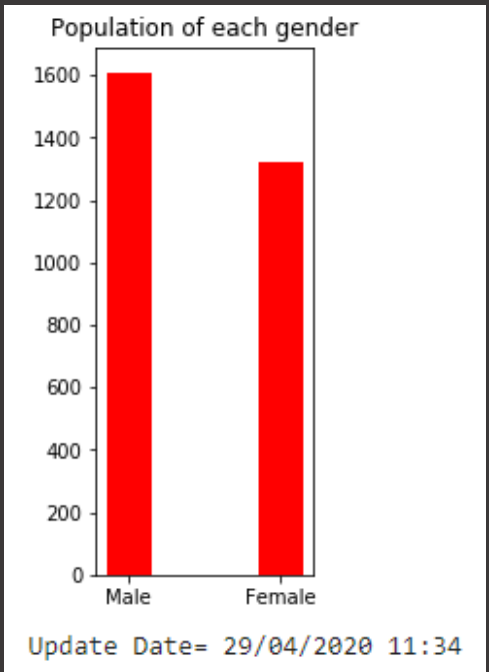
```python
#เลือกข้อมูลสัญชาติมาแสดงผล
print("Update Date=",date)
set_nation=set(case_df["NationEn"])
nationlist=list(case_df["NationEn"])
count_set_nation=len(set_nation)
print("Number of nations : ", count_set_nation)

nations={}
for nation in nationlist:
    if nation in nations:
        nations[nation]+=1
    else:
        nations[nation]=1
print(nations)
```

```
Update Date= 28/04/2020
Number of nations :  48
{'Chinese': 34, 'Thai': 2626, 'Burmese': 53, 'Vietnamese': 4, 'Malaysian': 4,
'Indian': 9, 'Cambodian': 3, 'English': 4, 'Filipino': 5, 'Italian': 8, 'Fren
ch': 29, 'American': 12, 'British': 20, 'Unknown': 14, 'Laotian': 2, 'Austral
ian': 4, 'Russian': 12, 'Palestinian': 1, 'Singaporean': 5, 'Kazakhstani': 2,
'Israelis': 2, 'Brazilian': 2, 'Japanese': 11, 'Albanian': 2, 'Dutch': 1, 'Sw
edish': 5, 'Mexican': 1, 'Tunisian': 1, 'Belgian': 6, 'Liberian': 1, 'Germa
n': 8, 'Hungarian': 1, 'Swiss': 6, 'Pakistani': 4, 'Canadian': 8, 'Serbian':
1, 'Korean': 3, 'Taiwanese': 1, 'Indonesian': 3, 'Indian-Thai': 1, 'Spain':
2, 'Uzbeks': 1, 'Portuguese': 1, 'Ukrainian': 1, 'Danish': 5, 'Finnish': 1,
'New Zealand': 1, 'Iranian': 1}
```

```python
#เลือกข้อมูลเพศมาแสดงผล
print("Update Date=",date)
set_gender=set(case_df["GenderEn"])
genderlist=list(case_df["GenderEn"])
count_set_gender=len(set_gender)
print("Number of gender : ", count_set_gender)

genders={}
for gender in genderlist:
    if gender in genders:
        genders[gender]+=1
    else:
        genders[gender]=1
print(genders)
```

```
Update Date= 28/04/2020
Number of gender :  2
{'Female': 1324, 'Male': 1608}
```

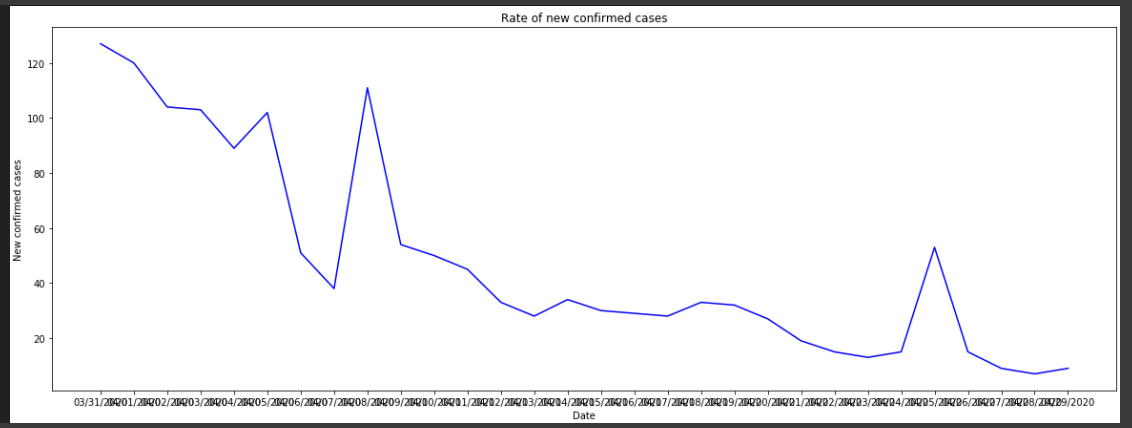
```python
#แสดง bar chart เพศ
plt.figure(figsize=[2,5])
x = np.arange(1,3)
y = [genders['Male'],genders['Female']]
gender = ['Male','Female']

ax = plt.gca(xticks=x)
ax.set_xticklabels(gender)
bara = plt.bar(x,y,align='center',width=0.3)
plt.title('Population of each gender')
plt.show()

print("Update Date=",date)
```



DATA PROCESSING

DATA PROCESSING

```
#อัตราพบผู้ป่วยใหม่
fig, ax1 = plt.subplots(figsize=(20,7))
sns.lineplot(data=update_df[-30:], y="NewConfirmed", ax=ax1, x="Date", color="blue")

ax1.set_xlabel("Date")
ax1.set_ylabel("New confirmed cases")

plt.title("Rate of new confirmed cases")
plt.show()

print("Update Date=",date)
```




```
#แสดงกราฟ overview
fig, ax1 = plt.subplots(figsize=(30,10))
sns.lineplot(data=update_df[-30:], y="Confirmed", ax=ax1, x="Date", label="Total Confirmed", color="red")
sns.lineplot(data=update_df[-30:], y="Recovered", ax=ax1, x="Date", label="Total Recovered", color="green")
sns.lineplot(data=update_df[-30:], y="Hospitalized", ax=ax1, x="Date", label="Total Hospitalized", color="blue")
sns.lineplot(data=update_df[-30:], y="Deaths", ax=ax1, x="Date", label="Deaths", color="black")

ax1.set_xlabel("Date")
ax1.set_ylabel("Population")

plt.title("Total cases")
plt.show()

print("Update Date=",date)
```