Group 1 → scatter graph

Group7→ scatter graph

	CC2104 Name list			
1	SUN HAOTIAN	1	Asia1	1978-1987
12	KWEE YAN TING			
13	NG KAI JUN			
3	NEO YU HENG	2	Asia2	1988-1997
4	LIONEL LOH MUN KIT			
5	NG HAN TONG CLIFF	3	Asia3	1998-2007
29	JERRELL CHEN			
26	TOH YIN LIAN	4	Asia4	2008-2017
17	JASMIN TEY XINYI			
18	NIKKI LEONG NIQI	5	Asia5	2011-2020
19	TANG QIU HUI, CECILIA			
14	ELYSIA SIM HUI EN	6	Europe1	1978-1987
23	OH KAI JIE			
2	YAN NAING AUNG	7	Europe 2	1988-1997
28	CHEONG XIANG RONG			
6	MUHAMMAD AZRI			
7	ALARIC ONG YEW TONG	8	Europe 3	1998-2007
8	TRISTAN YEO JIE SHENG			
9	NUR AMEERA	9	Europe 4	2008-2017
30	NG YI MING CHERYL			
10	NG YIN XIAN	10	Europe 5	2011-2020
11	JOEL TENG ZHAO YONG			
15	LEE ZHENG FENG	11	Others 1	1978-1987
16	KOH HONG YANG			
20	SEAH JIA HONG, BENJAMIN	12	Others 2	1988-1997
32	ALAN CHENG SOO HONG			
24	REGAN ONG JIAN XIONG	13	Others 3	1998-2007
21	MUHAMMAD HADI			
31	LEE ZONG HAN JOSTON	14	Others 4	2008-2017
25	NG QI JIE			
27	LEE CHING YEW TERENCE	15	Others 5	2011-2020
22	TAN KIA HONG RYAN			

Project requirement for members:

1. Plan each member's tasks (Put in the powerpoint)
2. All the students must do coding and share the codes that works along the way using Github VCS.
3. Producing output graphs
   - Student1 : all countries bar graph
   - Student2: top3 countries bar graph.
   - Student3: scatter graph for one country
   - All students must create unittest cases
   - 2 members group : create 2 functions, one testing for passed case while the other for a failed case. Then combine as one.
   - 3 members group : create 3 functions, two testing passed case while the other for a failed case. Then combine all as one.
4. Code explanation: Copy the entire code into a word file then explain each block.

Code Explanation

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

Import the python libraries

```
cars = pd.read_csv('mtcars.csv')
print(cars)
```

Reads the mtcars.csv into dataframe

```
print(cars.head())
print(cars.tail())
```

Display first 5 & last mtcars.csv into dataframe

Screenshot the followings (sample):

1. The dataframe column headers (your work region)

```
Index(['Periods', 'Brunei Darussalam', 'Indonesia', 'Malaysia', 'Myanmar',
       'Philippines', 'Thailand', 'Vietnam', 'China', 'Hong Kong SAR',
       'Taiwan', 'Japan', 'South Korea', 'Bangladesh', 'India', 'Pakistan',
       'Sri Lanka', 'Iran', 'Kuwait', 'Israel', 'Saudi Arabia',
       'United Arab Emirates'],
      dtype='object')
```

2. The dataframe for the first 3 and last 3 years range (e.g. 2000-2009)

```
******** first and last 3 years dataframe ******
      Periods Brunei Darussalam  ... United Arab Emirates  Year
264  2000 Jan             4,138  ...                1,445  2000
265  2000 Feb             3,538  ...                  958  2000
266  2000 Mar             3,628  ...                1,577  2000

[3 rows x 23 columns]
      Periods Brunei Darussalam  ... United Arab Emirates  Year
381  2009 Oct             3,988  ...                3,078  2009
382  2009 Nov             5,260  ...                4,631  2009
383  2009 Dec             9,705  ...                4,299  2009

[3 rows x 23 columns]
```

1. The sorted values

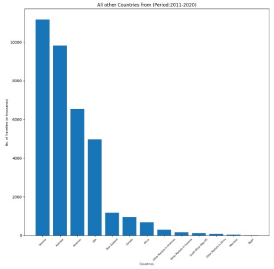
```
******** Sorted values ******
Indonesia              16386403
China                   8074877
Japan                   6288326
Malaysia                5938669
India                   5337401
South Korea             3685019
Thailand                3089969
Philippines             2965564
Hong Kong SAR           2805970
Taiwan                  2823897
Vietnam                 1280994
Sri Lanka                669255
Bangladesh               554158
Brunei Darussalam        521716
Myanmar                  413678
United Arab Emirates     388086
Pakistan                 222235
Saudi Arabia             115387
Iran                      98909
Kuwait                    60801
Israel                        0
dtype: int64
```

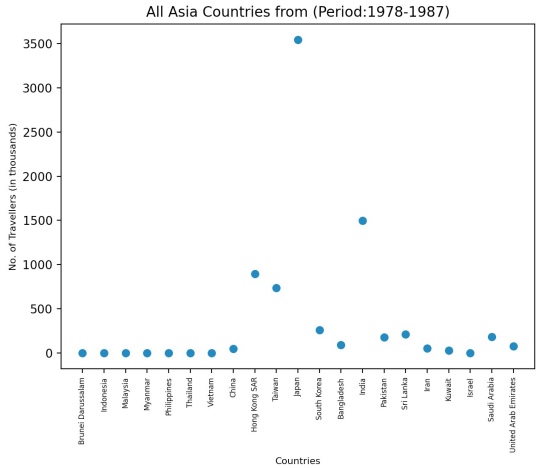
4. Total and mean value of the top 3 countries

```
The total no. of visitors for the top 3 countries is  30741606
The mean value for the top 3 countries is  10247202.0
```

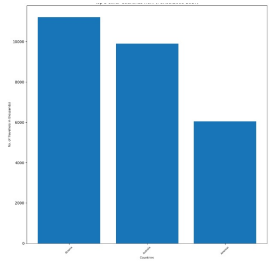
```
****** Top 3 countries ********
Indonesia    16386403
China         8074877
Japan         6280326
```

5. Bar chart of all countries & Scatter chart





6. Bar chart of Top 3 countries



7. Unittest result
8. Github Repository + Pycharm compare file + Demo
9. Copy code into a word file with code explanation on functions
10. PowerPoint presentation slides (5 mins)

Project Submission for ASP (1 submission per group)

1. Create a folder named as <group no(your name)_ASP_Project>. Zip
   (Your name - only need 1 name. e.g., Group1_Haotian_ASP_Project.zip>
   Folder must have the files :
   - group no_ASP_project.py
   - group no_ ASP_project_testcase.py
   - group no_ ASP_screenshots.docx
   - group no_ ASP_PPT_slide.ppt
   - group no_ ASP_codeExplanation.docx
   - Bar charts images

   Submit your ASP project to MyConnexion by 19 Aug 2021 by 4pm

2. Project presentation on 20 Aug 2021 @9:00am

Follow countries for the 3 regions below:

Regions	Countries
Asia (21)	'Brunei Darussalam', 'Indonesia', 'Malaysia', 'Myanmar', 'Philippines', 'Thailand', 'Vietnam', 'China', 'Hong Kong SAR', 'Taiwan', 'Japan', 'South Korea', 'Bangladesh', 'India', 'Pakistan', 'Sri Lanka', 'Iran', 'Kuwait', 'Israel', 'Saudi Arabia', 'United Arab Emirates'
Europe (14)	'Belgium & Luxembourg', 'Denmark', 'Finland', 'France', 'Germany', 'Italy', 'Netherlands', 'Norway', 'Rep Of Ireland', 'Russian Federation', 'Spain', 'Sweden', 'Switzerland', 'United Kingdom'
Others (13)	'Americas', 'Canada', 'USA', 'Other Markets In Americas', 'Oceania', 'Australia', 'New Zealand', 'Other Markets In Oceania', 'Africa', 'Egypt', 'Mauritius', 'South Africa (Rep Of)', 'Other Markets In Africa'