SIT384 Cyber security analytics

Pass Task 4.2C: Visualize data with grouped bar chart and stacked bar chart

Task description:

According to "Notifiable Data Breaches Report: July–December 2019" released on 28 February 2020 on the Office of the Australian Information Commissioner (OAIC) website, notifications made under the NDB scheme by the five industry sectors made the most notifications in the reporting period (top five industry sectors).

The following information is retrieved from the aforementioned report:

Malicious or criminal attack type	Health service providers	Finance	Education	Legal, accounting & management services	Personal services
Cyber incident	37	18	19	26	8
Theft of paperwork or data storage device	12	5	8	2	5
Rogue employee / insider threat	12	11	2	0	1
Social engineering / impersonation	2	6	1	2	0

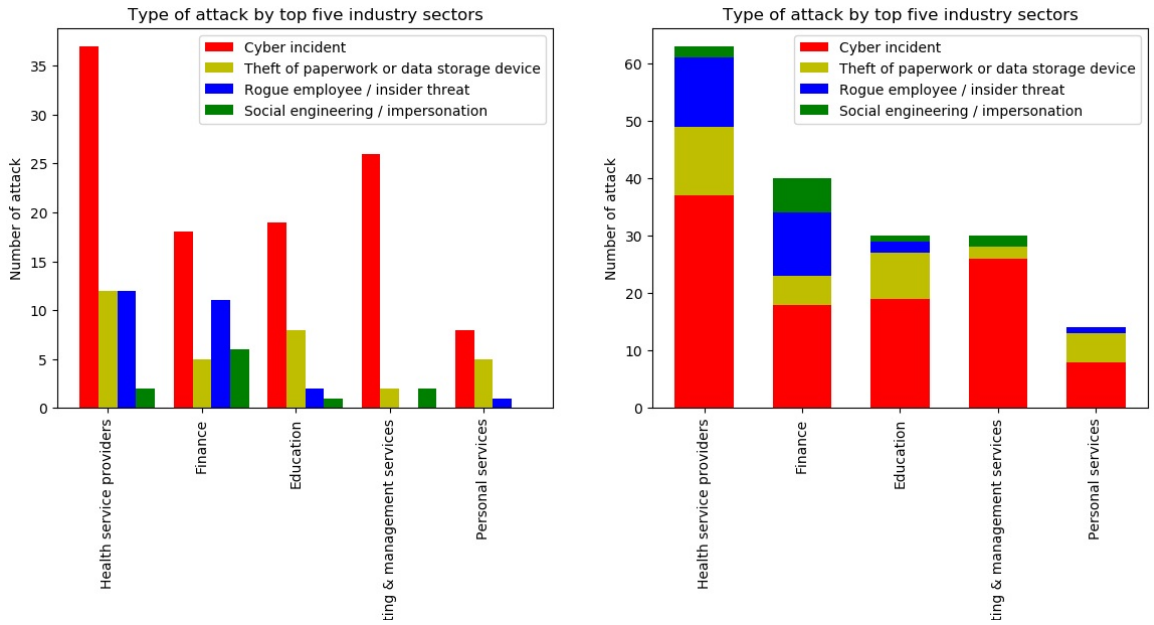
(The above data is for demonstration purposes only. Please download the full version of Malicious_or_criminal_attacks_breakdown-Top_five_industry_sectors_July-Dec-2019.csv.)

You are asked to read the file data and visualize the data using matplotlib's grouped bar chart and stacked bar chart with the following settings:

- pd.read_csv('file_name', index_col=0, engine='python')
- plt.subplots(nrows=1, ncols=2, figsize=(14, 5), dpi=100)
- colors = ['red', 'yellow', 'blue', 'green'] for the four attack types (Cyber incident, Theft of paperwork or data storage device, Rogue employee / insider threat and Social engineering / impersonation), respectively. Or of your choice.
- labels: attack types with rotation=90 ('Cyber incident', 'Theft of paperwork or data storage device', 'Rogue employee', 'Social engineering / impersonation')
- X axis: the top five industry sectors
- Y axis label: Number of attack
- title: Type of attack by top five industry sectors

- X axis with ticklabel and label rotation: 90
- legend
- other settings of your choice

Sample output as shown in the following figure is for demonstration purposes only.



Submission:

Submit the following files to OnTrack:

1. Your program source code (e.g. task4_2.py)
2. A screen shot of your program running

Check the following things before submitting:

1. Add proper comments to your code