SIT384 Cyber security analytics

Pass Task 4.1P: Visualize data using matplotlib

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	Total per attack type
Cyber incident	37	18	19	26	8	**108**
Theft of paperwork or data storage device	12	5	8	2	5	**32**
Rogue employee / insider threat	12	11	2	0	1	**26**
Social engineering / impersonation	2	6	1	2	0	**11**
Total per sector	**63**	**40**	**30**	**30**	**14**	**177**

You are asked to visualize the above information using matplotlib:

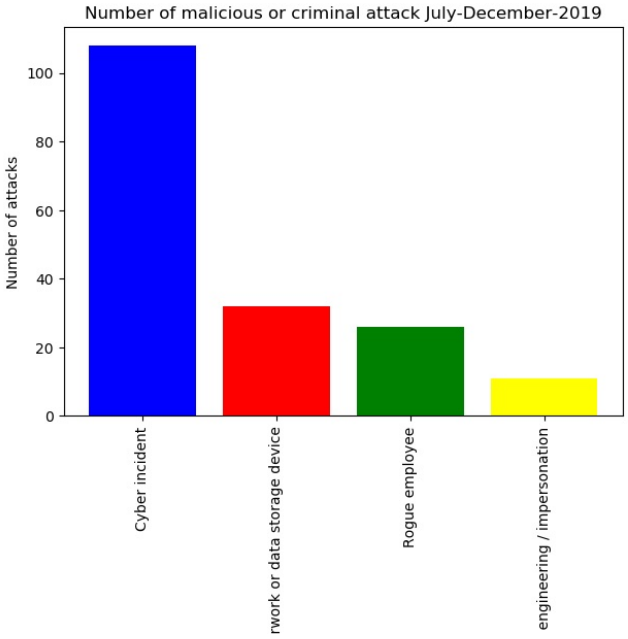
Bar chart with the following settings:

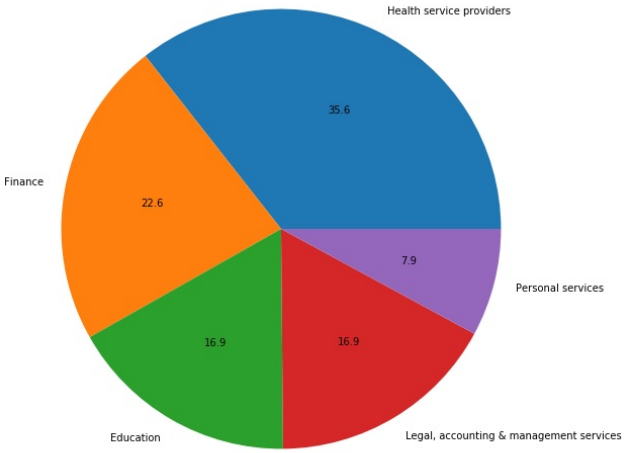
- figsize=(7,5), dpi=100
- colors = ['blue', 'red', 'green', 'yellow'] for the four attack types (Cyber incident, Theft of paperwork or data storage device, Rogue employee / insider threat and Social engineering / impersonation), respectively. Or you choose your preferred colors
- labels: attack types with rotation=90 ('Cyber incident', 'Theft of paperwork or data storage device', 'Rogue employee', 'Social engineering / impersonation')
- X axis: attack type
- Y axis label: number of attacks per attack type
- Title: Number of malicious or criminal attack July-December-2019

Pie chart with the following settings:

- figsize=(10, 10)
- labels: top 5 industry sectors ('Health service providers', 'Finance', 'Education', 'Legal, accounting & management services', 'Personal services')
- data: number of attacks per industry sector

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. task4-1.py)
2. A screen shot of your program running

Check the following things before submitting:

1. Add proper comments to your code