Matplotlib 16_ Alur Hidup Plot (Plot Lifecycle)

June 8, 2022

1 Plot Lifecycle

Dalam sesi ini akan mempelajari lifecycle pada proses plotting dengan Matplotlib.

1.1 1. Import Modules

[1]:

```
%matplotlib inline
```

[2]:

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

print(matplotlib.__version__)
print(np.__version__)
```

```
3.3.4
1.20.1
```

1.2 2. Sample Dataset

[3]:

```
data = {'Item A': 109843,
        'Item B': 103569,
        'Item C': 112214,
        'Item D': 112591,
        'Item E': 100934,
        'Item F': 103668,
        'Item G': 137351,
        'Item H': 123381,
        'Item I': 135841,
        'Item J': 104437}

data
```

[3]:

```
{'Item A': 109843,
 'Item B': 103569,
 'Item C': 112214,
 'Item D': 112591,
 'Item E': 100934,
 'Item F': 103668,
 'Item G': 137351,
 'Item H': 123381,
 'Item I': 135841,
 'Item J': 104437}
```

```
[4]: items = tuple(data.keys())
     items
```

```
[4]: ('Item A',
      'Item B',
      'Item C',
      'Item D',
      'Item E',
      'Item F',
      'Item G',
      'Item H',
      'Item I',
      'Item J')
```

```
[5]: count = tuple(data.values())
     count
```

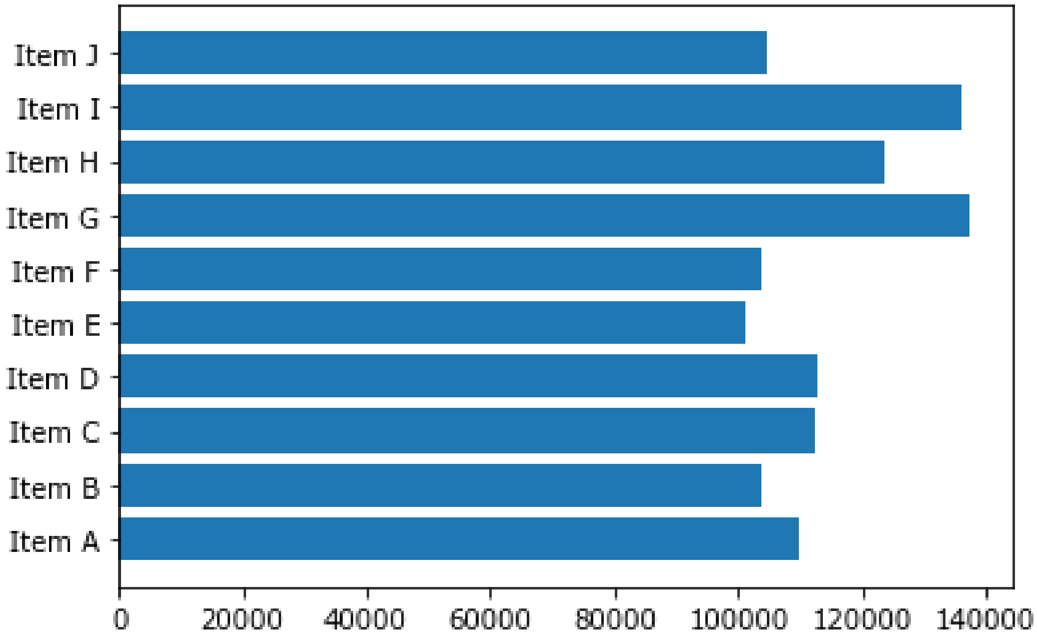
```
[5]: (109843,
      103569,
      112214,
      112591,
      100934,
      103668,
      137351,
      123381,
      135841,
      104437)
```

1.3 3. Simple Plot

```
[6]: fig, ax = plt.subplots()

     ax.barh(items, count)

     plt.show()
```



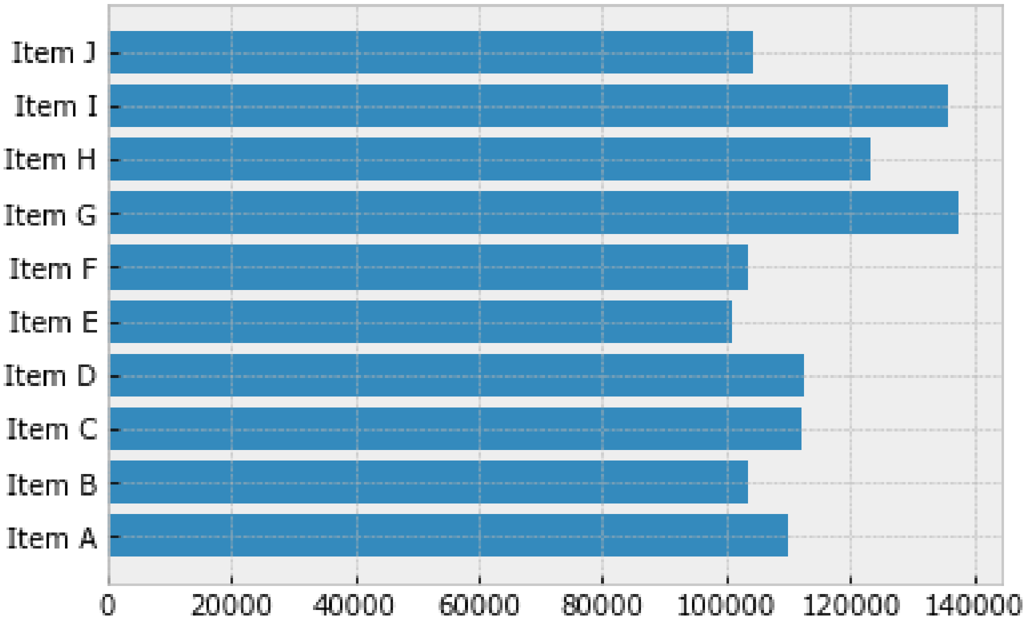
1.4 4. Pengaturan Style

```
[7]: plt.style.available
```

```
[7]: ['Solarize_Light2',
      '_classic_test_patch',
      'bmh',
      'classic',
      'dark_background',
      'fast',
      'fivethirtyeight',
      'ggplot',
      'grayscale',
      'seaborn',
      'seaborn-bright',
      'seaborn-colorblind',
      'seaborn-dark',
      'seaborn-dark-palette',
      'seaborn-darkgrid',
      'seaborn-deep',
      'seaborn-muted',
      'seaborn-notebook',
      'seaborn-paper',
      'seaborn-pastel',
      'seaborn-poster',
 'seaborn-talk',
 'seaborn-ticks',
 'seaborn-white',
 'seaborn-whitegrid',
 'tableau-colorblind10']
```

[8]:
```
plt.style.use('bmh')

fig, ax = plt.subplots()
ax.barh(items, count)
plt.show()
```



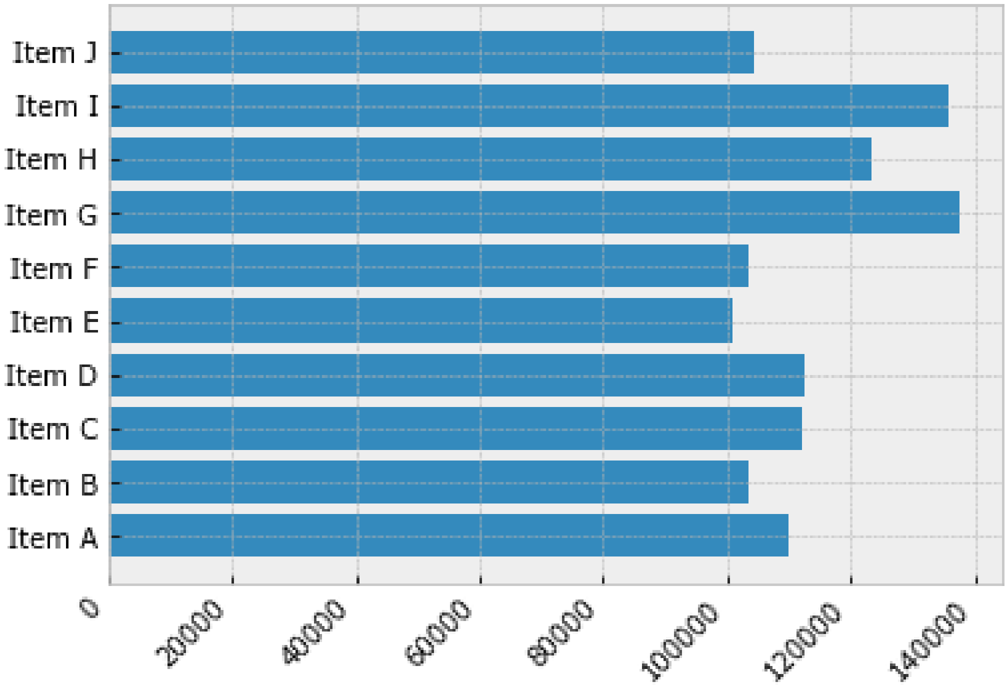
1.5 5. Pengaturan Tick Label

[9]:
```
fig, ax = plt.subplots()
ax.barh(items, count)

labels = ax.get_xticklabels()

# set properties (setp)
plt.setp(labels,
        rotation = 45,
        horizontalalignment = 'right')

plt.show()
```



1.6 6. Pengaturan Format pada Ticker

[10]:
```
from matplotlib.ticker import FuncFormatter
```

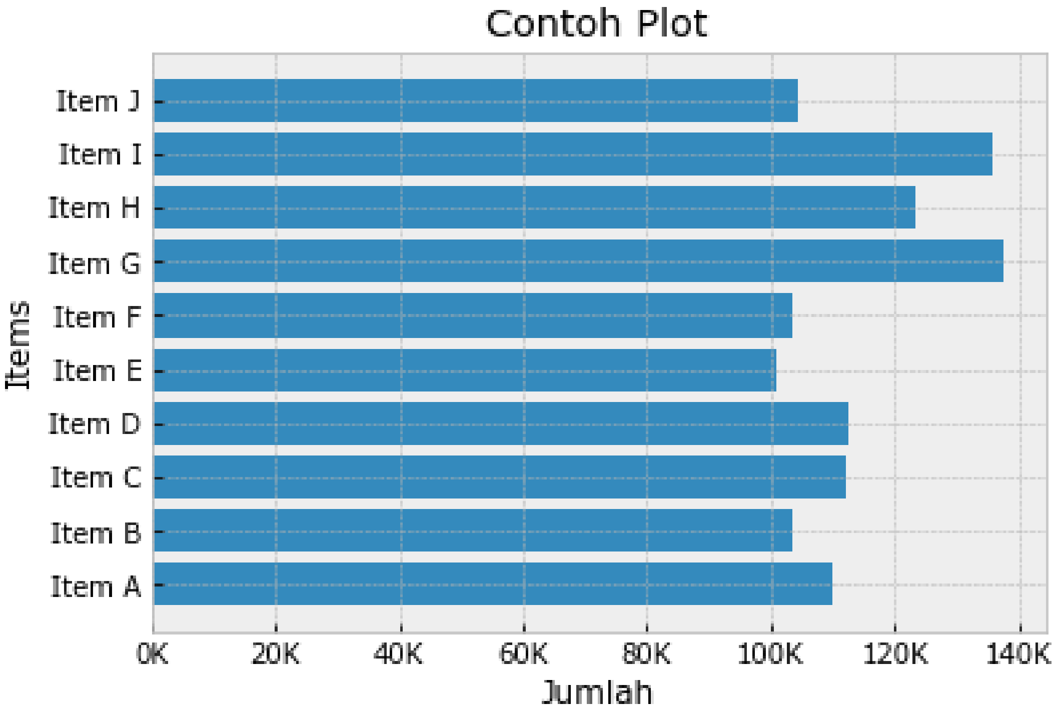
[11]:
```
def ribuan(x, pos):
    return f'{(int(x/1000))}K'
```

[12]:
```
fig, ax = plt.subplots()
ax.barh(items, count)

formatter = FuncFormatter(ribuan)
ax.xaxis.set_major_formatter(formatter)

ax.set(title = 'Contoh Plot',
       xlabel = 'Jumlah',
       ylabel = 'Items')

plt.show()
```

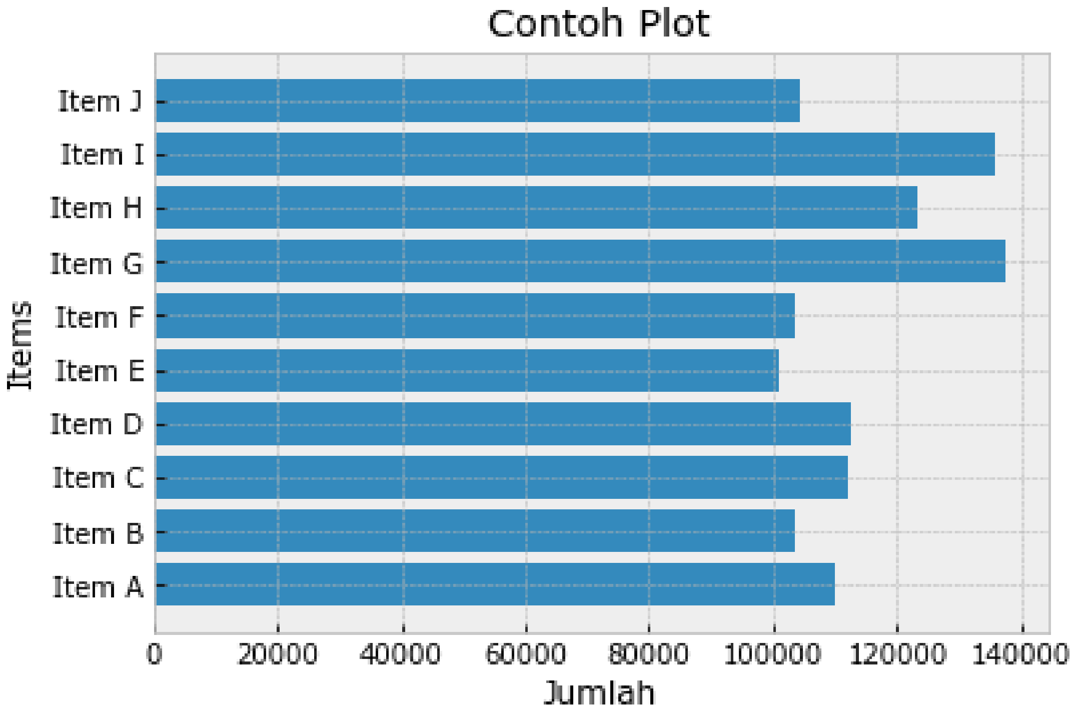


1.7 7. Pengaturan Label pada Sumbu (axis) dan Judul (title)

[13]:
```
fig, ax = plt.subplots()
ax.barh(items, count)

ax.set(title = 'Contoh Plot',
       xlabel = 'Jumlah',
       ylabel = 'Items')

plt.show()
```



1.8 8. Pengaturan Garis (vertical/horizontal line) pada Plot

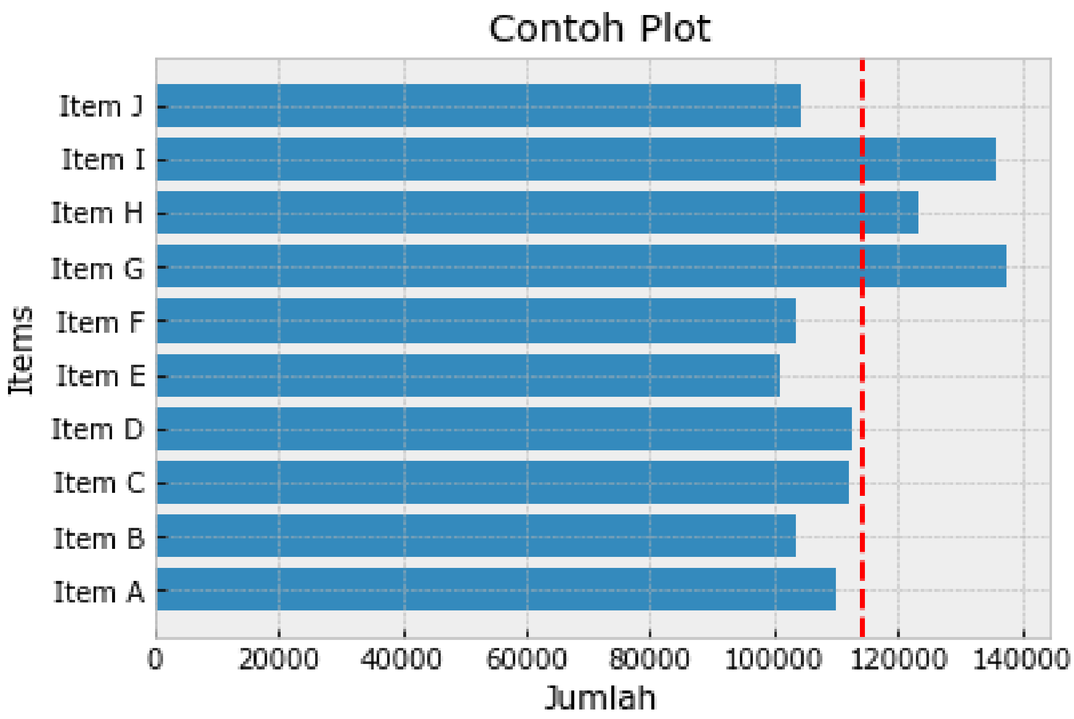
[14]:

```
fig, ax = plt.subplots()
ax.barh(items, count)

ax.axvline(np.mean(count),
           ls = '--',
           color = 'r')

ax.set(title = 'Contoh Plot',
       xlabel = 'Jumlah',
       ylabel = 'Items')

plt.show()
```



1.9 9. Menyimpan Hasil Plot ke dalam suatu File

```
[15]: fig.canvas.get_supported_filetypes()
```

```
[15]: {'eps': 'Encapsulated Postscript',
       'jpg': 'Joint Photographic Experts Group',
       'jpeg': 'Joint Photographic Experts Group',
       'pdf': 'Portable Document Format',
       'pgf': 'PGF code for LaTeX',
       'png': 'Portable Network Graphics',
       'ps': 'Postscript',
       'raw': 'Raw RGBA bitmap',
       'rgba': 'Raw RGBA bitmap',
       'svg': 'Scalable Vector Graphics',
       'svgz': 'Scalable Vector Graphics',
       'tif': 'Tagged Image File Format',
       'tiff': 'Tagged Image File Format'}
```

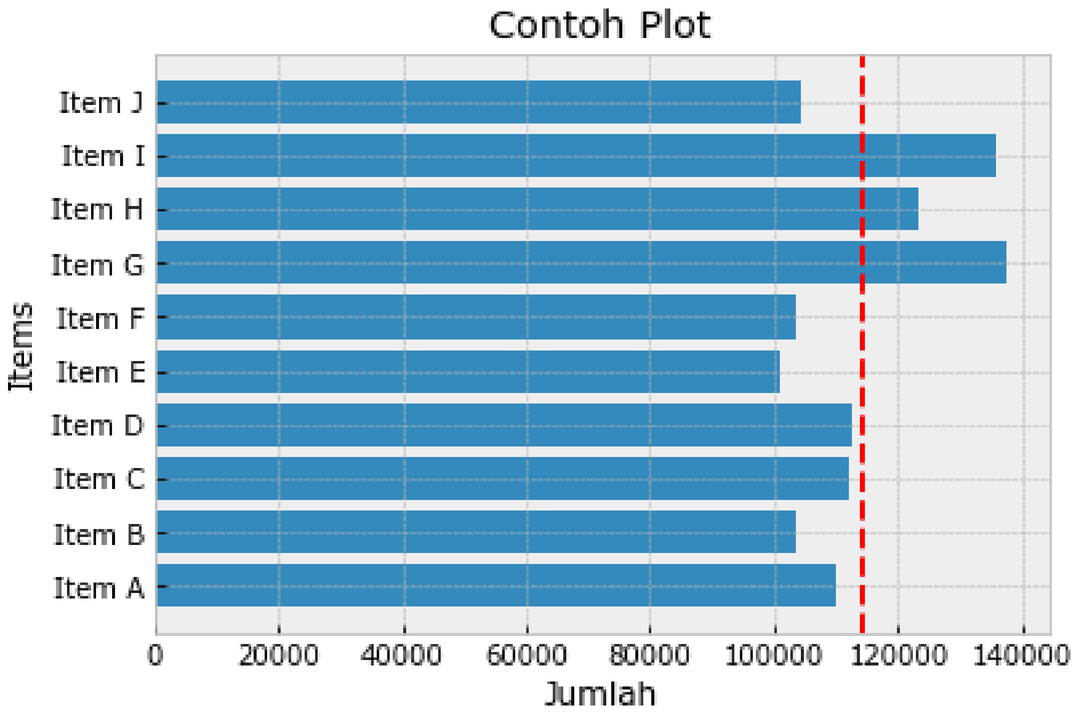
```
[16]: fig, ax = plt.subplots()
      ax.barh(items, count)

      ax.axvline(np.mean(count),
                 ls = '--',
                 color = 'r')

      ax.set(title = 'Contoh Plot',
            xlabel = 'Jumlah',
            ylabel = 'Items')

      fig.savefig('sales.png',
                 transparent = False,
                 dpi = 80)

      plt.show()
```


Contoh Plot
Items
Item J
Item I
Item H
Item G
Item F
Item E
Item D
Item C
Item B
Item A
Jumlah