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Praktikum Data Mining BMI

1. Menampilkan Seluruh Data

```
[3] import pandas as pd
    import matplotlib.pyplot as plt
    import seaborn as sns

    file_path = list(uploaded.keys()) [0]
    data = pd.read_csv(file_path)

    print('Data BMI:')
    print(data)
```

```
Data BMI:
     Gender  Height  Weight  Index
0      Male     174      96      4
1      Male     189      87      2
2    Female     185     110      4
3    Female     195     104      3
4      Male     149      61      3
..      ...     ...     ...    ...
495  Female     150     153      5
496  Female     184     121      4
497  Female     141     136      5
498    Male     150      95      5
499    Male     173     131      5

[500 rows x 4 columns]
```

2. Penggunaan fungsi aggregate untuk mencari nilai rata-rata, jumlah, minimum, dan maksimum

```
[5] stats_by_gender = data.groupby('Gender').agg({
        'Height': ['count', 'mean', 'max', 'min'],
        'Weight': ['count', 'mean', 'max', 'min']
    })

    print("\nStatistik berdasarkan Gender:")
    print(stats_by_gender)
```

```
Statistik berdasarkan Gender:
       Height                      Weight
        count        mean  max  min  count        mean  max min
Gender
Female    255  170.227451  199  140    255  105.698039  160  50
Male      245  169.648980  199  140    245  106.314286  160  50
```

3. Mengubah kolom gender menjadi angka binary yang menunjukkan 0 : Female, dan 1 : Male

```
data['Gender'] = data['Gender'].map({'Female': 0, 'Male':1})

print('\nData setelah gender diubah ke binary:')
print(data)
```

```
Data setelah gender diubah ke binary:
     Gender  Height  Weight  Index
0         1     174      96      4
1         1     189      87      2
2         0     185     110      4
3         0     195     104      3
4         1     149      61      3
..      ...     ...     ...    ...
495       0     150     153      5
496       0     184     121      4
497       0     141     136      5
498       1     150      95      5
499       1     173     131      5

[500 rows x 4 columns]
```

4. Menampilkan grafik berdasarkan gender

```
data['BMI'] = data['Weight'] / (data['Height']/100)**2

plt.figure(figsize=(10, 6))
sns.histplot(data=data, x='BMI', hue='Gender', element='step', stat="density", common_norm=False)
plt.title('Distribusi BMI Berdasarkan Gender')
plt.xlabel('BMI')
plt.ylabel('Kepadatan')
plt.legend(title='Gender', labels=['Female', 'Male'])
plt.show()
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/_base.py:949: FutureWarning: When grouping with a length-1 list-like, you will need to pass a length-1 tuple to get_group in a future version of pandas. Pass `(name,)` instead of `name` to silence this warning.
  data_subset = grouped_data.get_group(pd_key)
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  data_subset = grouped_data.get_group(pd_key)
```

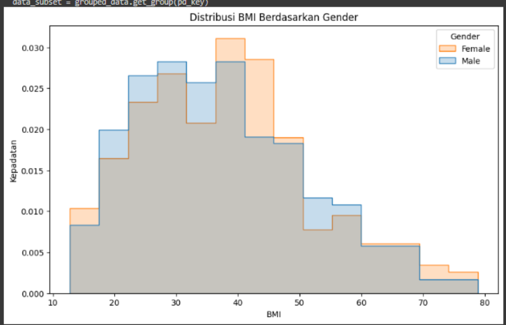

LINK GITHUB PRAKTIKUM 1 : https://github.com/Sabinaaw/PRAKDATAMIN