In [103…

```
import pandas as pd
import numpy as np
from matplotlib import pyplot as plt
from scipy.stats import norm, shapiro, ttest_1samp
import seaborn as sns
from scipy import stats
from numpy import *
```

In [104…

```
# Attributes
attribute = ["Daerah","SumbuUtama","SumbuKecil","Keunikan","AreaBulatan","Diameter",
data = pd.read_csv("../data/Gandum.csv", names = attribute)
data
```

Out[104…

	Daerah	SumbuUtama	SumbuKecil	Keunikan	AreaBulatan	Diameter	KadarAir	Keliling	Bu
1	5781	128.288875	58.470846	0.890095	5954	85.793926	0.674090	316.756	0.72
2	4176	109.348294	49.837688	0.890098	4277	72.918093	0.596231	260.346	0.77
3	4555	114.427991	52.151207	0.890105	4706	76.155145	0.776641	279.606	0.73
4	4141	108.701190	49.457349	0.890499	4236	72.611879	0.633180	260.478	0.76
5	5273	122.747868	55.757848	0.890876	5431	81.937733	0.669842	302.730	0.72
…	…	…	…	…	…	…	…	…	
496	5083	120.083450	54.821580	0.889709	5179	80.447975	0.534827	286.377	0.77
497	4432	112.367050	51.294914	0.889726	4550	75.119889	0.601194	270.823	0.75
498	5020	119.873742	54.718545	0.889740	5104	79.947874	0.528421	285.799	0.77
499	4035	107.311728	48.930802	0.889996	4150	71.676506	0.584698	258.503	0.75
500	3379	99.014789	44.631551	0.892647	3491	65.591741	0.653578	237.593	0.75

500 rows × 11 columns

Soal 1

In [105…

```
ans = {}

for att in attribute:
    temp = {}
    temp["Mean"] = data[att].mean()
    temp["Median"] = data[att].median()
    temp["Modus"] = np.bincount(data[att]).argmax()
    temp["Std"] = data[att].std()
    temp["Var"] = data[att].var()
    temp["Minimum"] = data[att].min()
    temp["Maximum"] = data[att].max()
    temp["Range"] = data[att].max()-data[att].min()
    quartile = data[att].quantile([.25, .5, .75])
    temp["25%"] = quartile[.25]
    temp["50%"] = quartile[.5]
    temp["75%"] = quartile[.75]
    q75, q25 = np.percentile(data[att], [75 ,25])
    temp["IQR"] = q75 - q25
```

```
    temp["Skew"] = data[att].skew()
    temp["Kurtosis"] = data[att].kurtosis()

    ans[att] = temp

ans = pd.DataFrame(ans)
ans
```

Out[105…

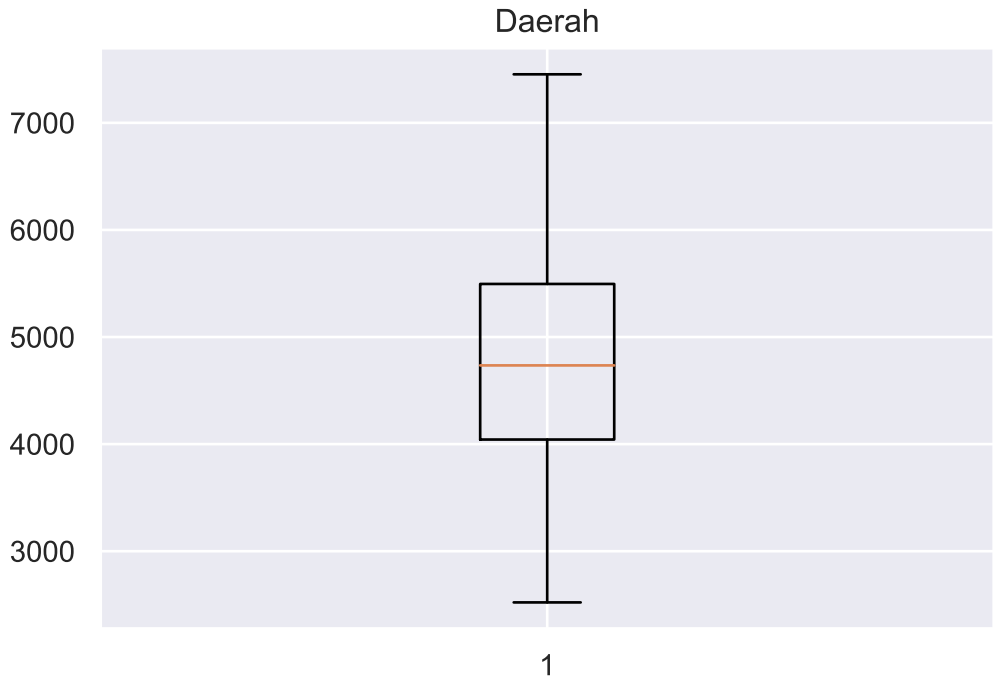
	Daerah	SumbuUtama	SumbuKecil	Keunikan	AreaBulatan	Diameter	KadarAir
Mean	4801.246000	116.045171	53.715246	0.878764	4.937048e+03	77.771158	0.648372
Median	4735.000000	115.405140	53.731199	0.890045	4.857000e+03	77.645277	0.626117
Modus	3992.000000	106.000000	55.000000	0.000000	3.802000e+03	74.000000	0.000000
Std	986.395491	18.282626	4.071075	0.036586	1.011696e+03	8.056867	0.094367
Var	972976.065615	334.254412	16.573650	0.001339	1.023529e+06	64.913111	0.008905
Minimum	2522.000000	74.133114	39.906517	0.719916	2.579000e+03	56.666658	0.409927
Maximum	7453.000000	227.928583	68.977700	0.914001	7.720000e+03	97.413830	0.878899
Range	4931.000000	153.795469	29.071182	0.194085	5.141000e+03	40.747172	0.468972
25%	4042.750000	104.116098	51.193576	0.863676	4.170250e+03	71.745308	0.572632
50%	4735.000000	115.405140	53.731199	0.890045	4.857000e+03	77.645277	0.626117
75%	5495.500000	129.046792	56.325158	0.907578	5.654250e+03	83.648598	0.726633
IQR	1452.750000	24.930694	5.131582	0.043902	1.484000e+03	11.903290	0.154001
Skew	0.238144	0.761529	-0.010828	-1.623472	2.575600e-01	0.002725	0.493661
Kurtosis	-0.434631	4.330534	0.475568	2.917256	-4.096849e-01	-0.466455	-0.740326

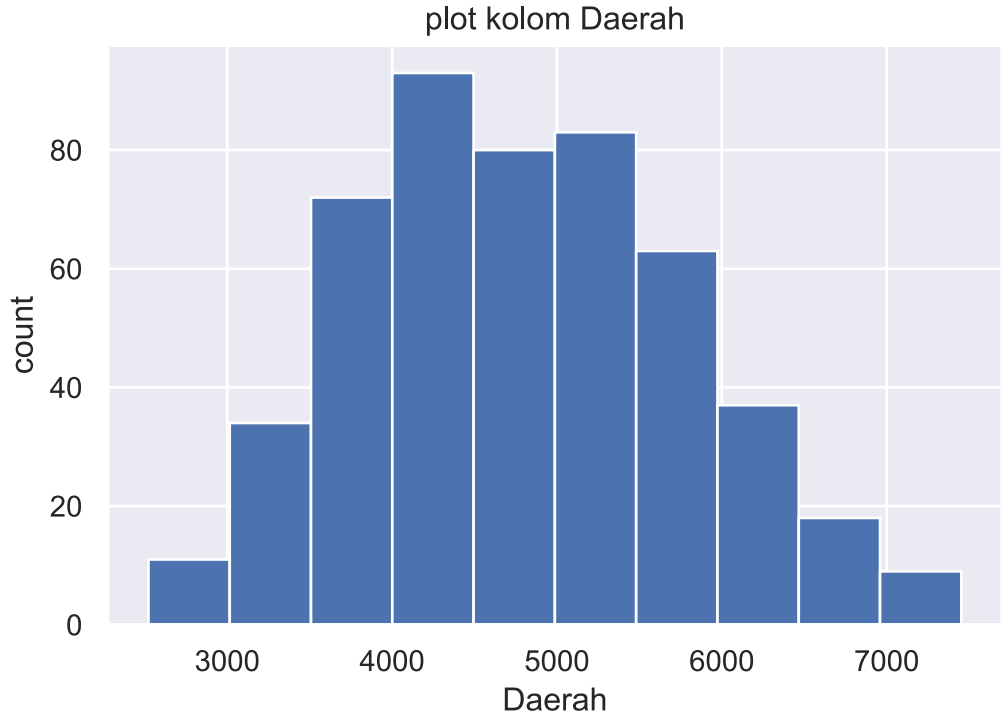
Soal 2

In [106…

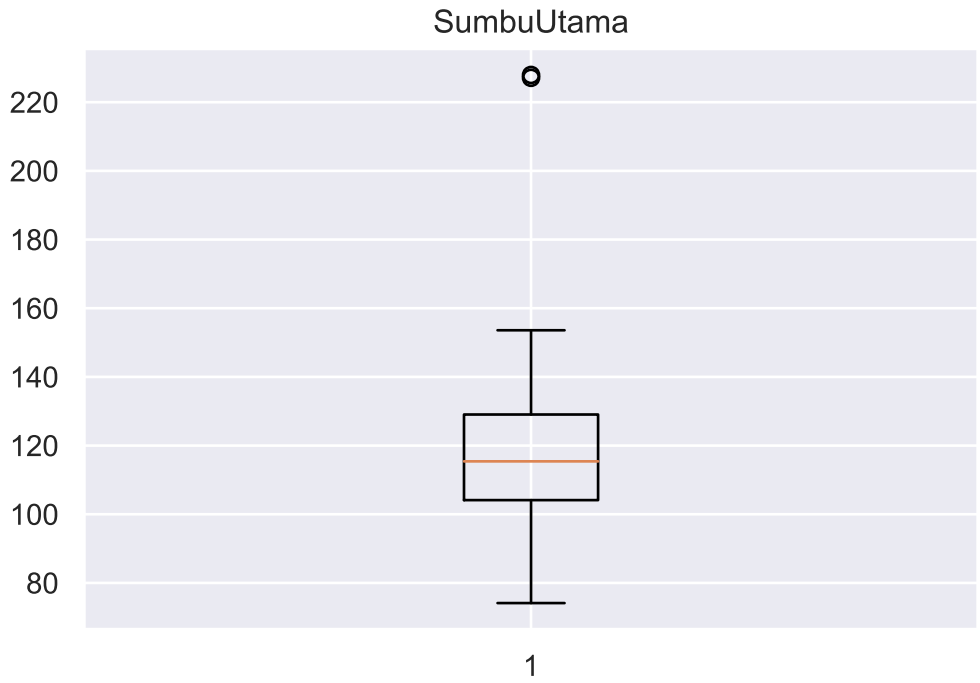
```
penjelasan = [
    "Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar k
    "Dari boxplot dan histogram di kolom SumbuUtama, dapat dilihat bahwa data terseb
    "Dari boxplot dan histogram di kolom SumbuKecil, dapat dilihat bahwa data terseb
    "Dari boxplot dan histogram di kolom Keunikan, dapat dilihat bahwa data tersebar
    "Dari boxplot dan histogram di kolom AreaBulatan, dapat dilihat bahwa data terse
    "Dari boxplot dan histogram di kolom Diameter, dapat dilihat bahwa data tersebar
    "Dari boxplot dan histogram di kolom KadarAir, dapat dilihat bahwa data tersebar
    "Dari boxplot dan histogram di kolom Keliling, dapat dilihat bahwa data tersebar
    "Dari boxplot dan histogram di kolom Bulatan, dapat dilihat bahwa data tersebar
    "Dari boxplot dan histogram di kolom Ransum, dapat dilihat bahwa data tersebar t
]

for att in attribute:
    counter = 0
    if (att == "Kelas"):
        continue

    x_axis = data[att] # kolom yang dituju
    plt.boxplot(x_axis)
    plt.title(att)
    plt.show()
```

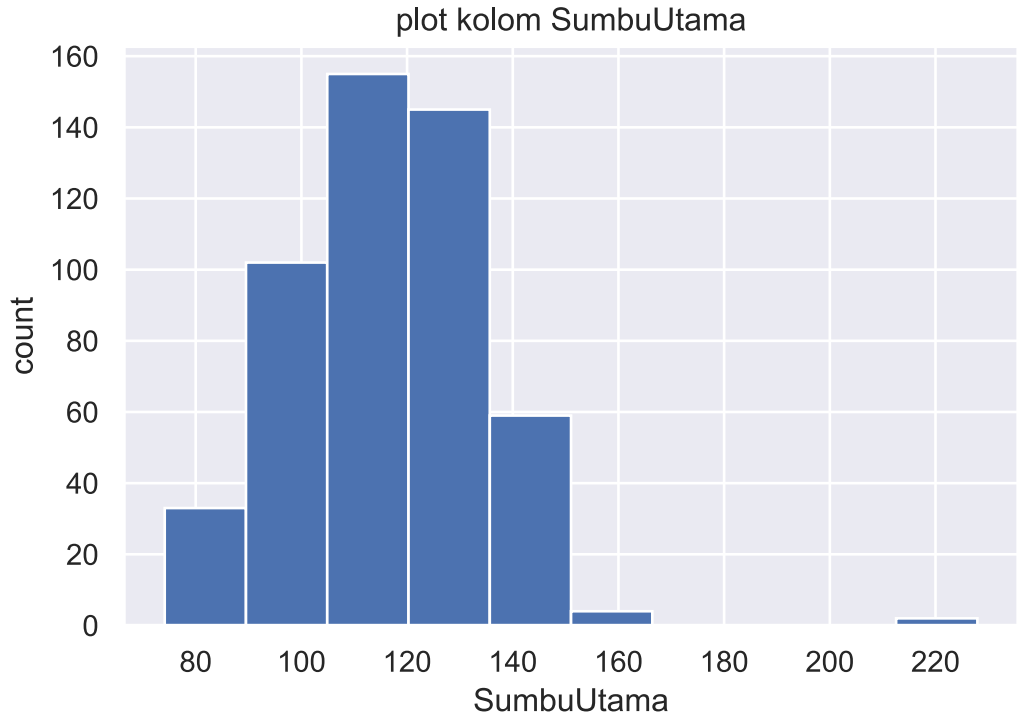
```
    plt.hist(x_axis)
    plt.title("plot kolom "+ att)
    plt.xlabel(att)
    plt.ylabel("count")
    plt.show()

    print(penjelasan[counter])
    counter = counter + 1
    print()
```





Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar kurang merata dengan histogram sedikit condong ke kiri.
Data juga tidak memiliki nilai yang terlalu ekstrem berdasarkan pada boxplot yang ti dak memiliki outlier atau extreme.
Nilai whisker atas dan bawah juga memiliki panjang yang mirip.





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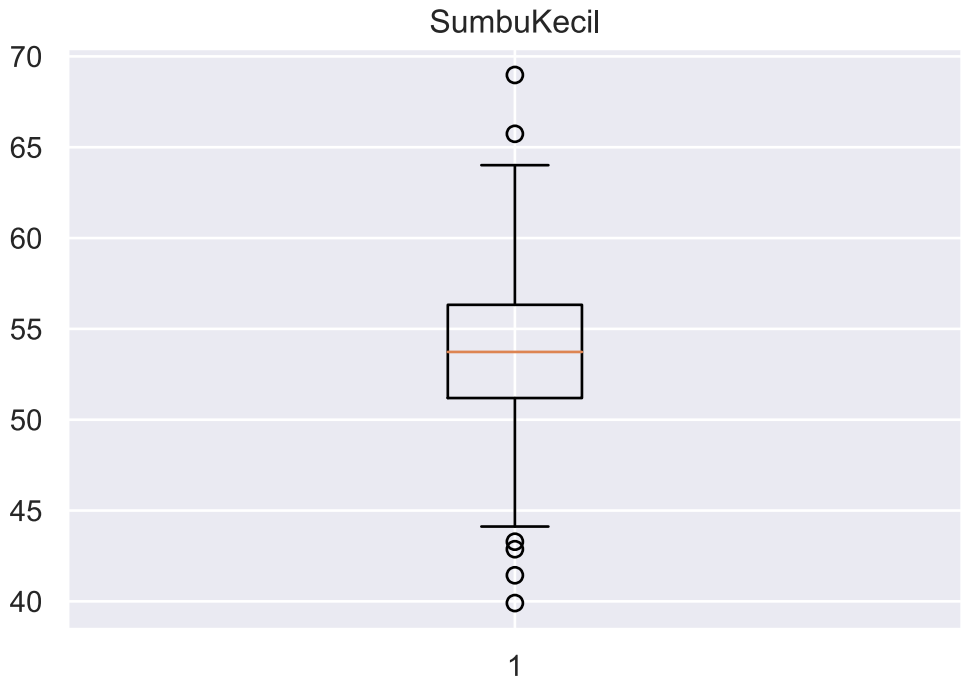

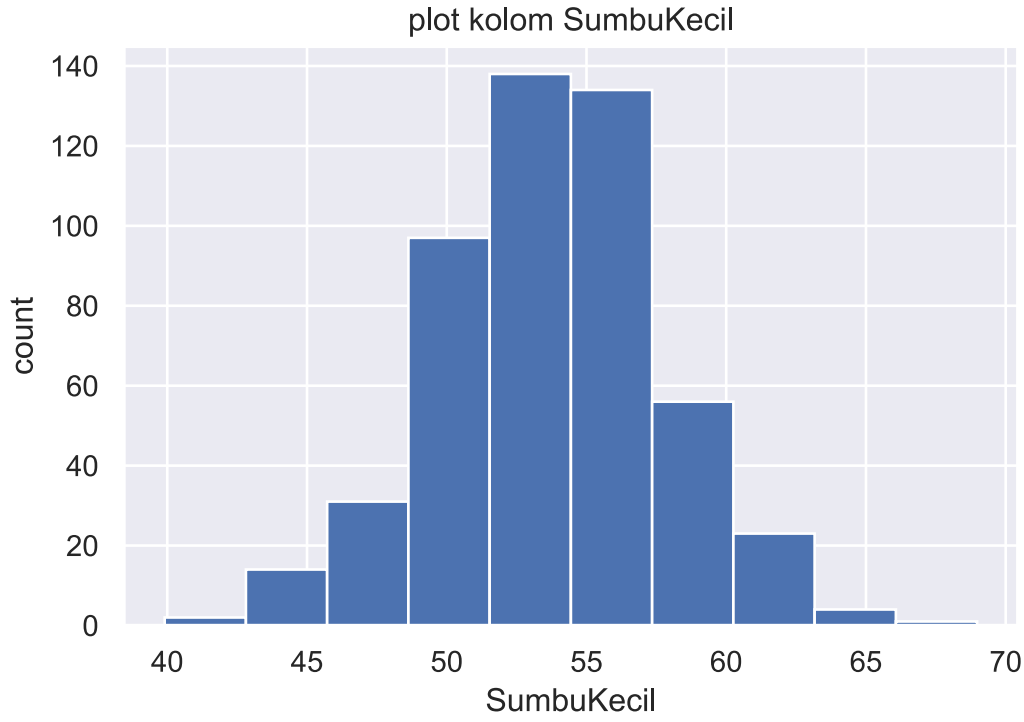

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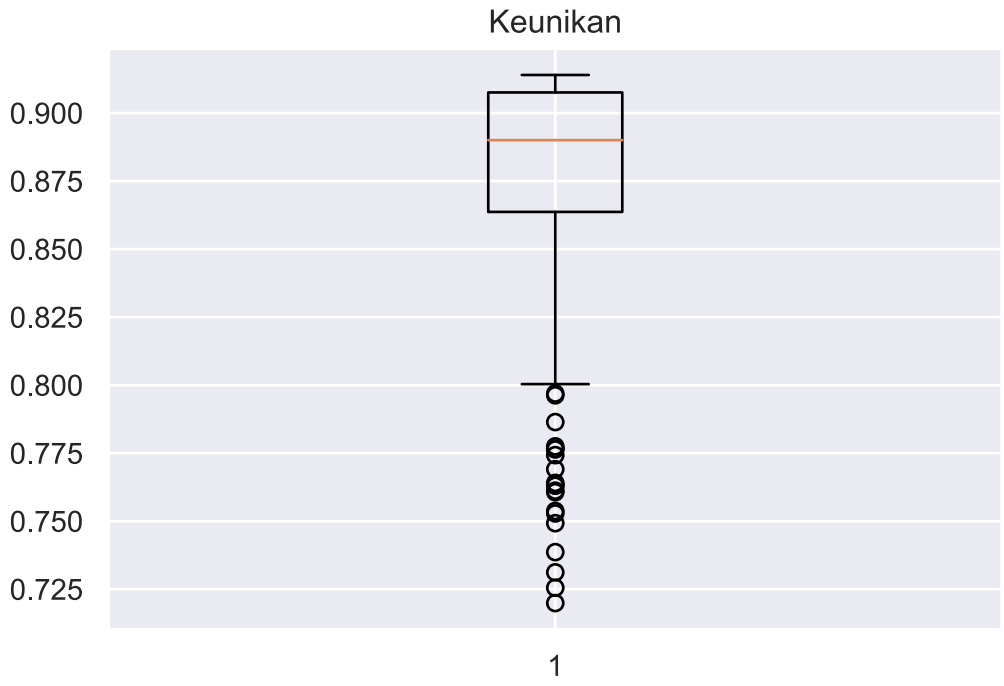

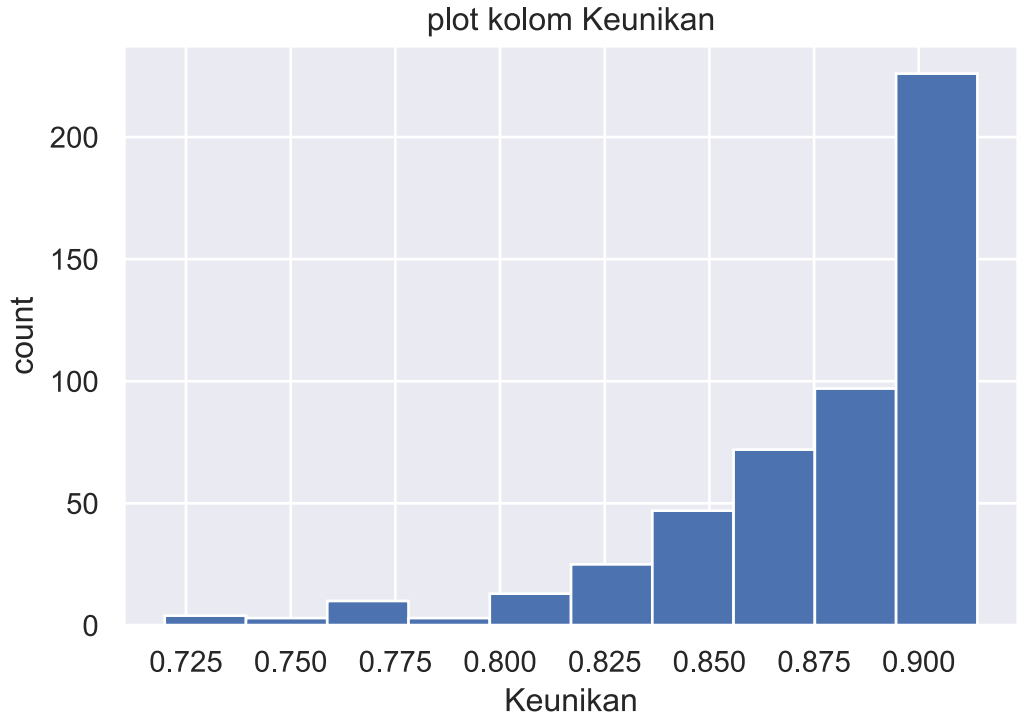

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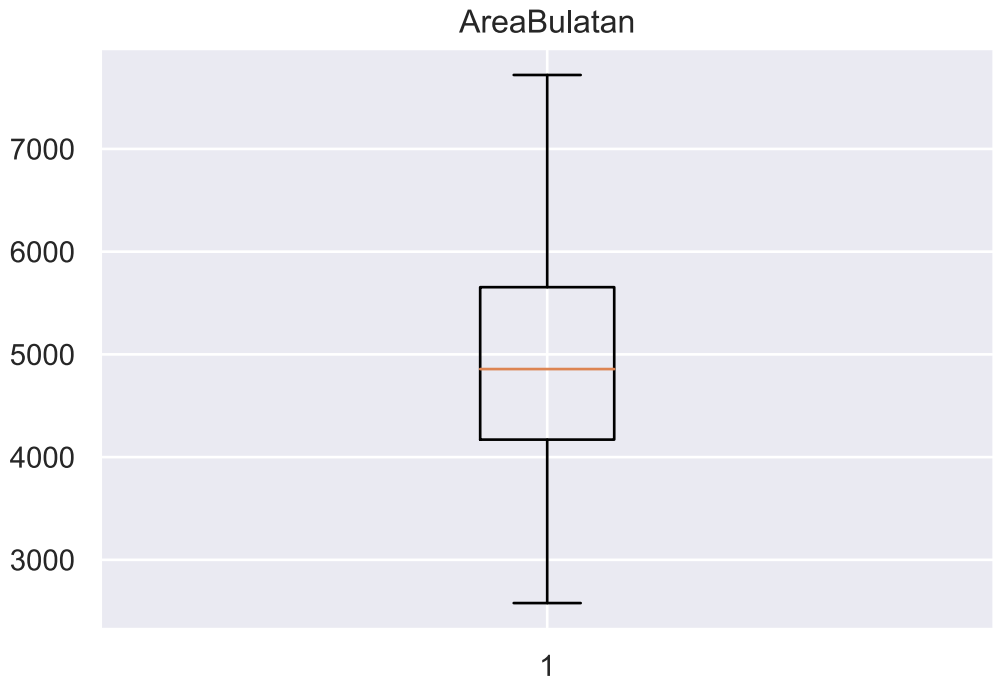

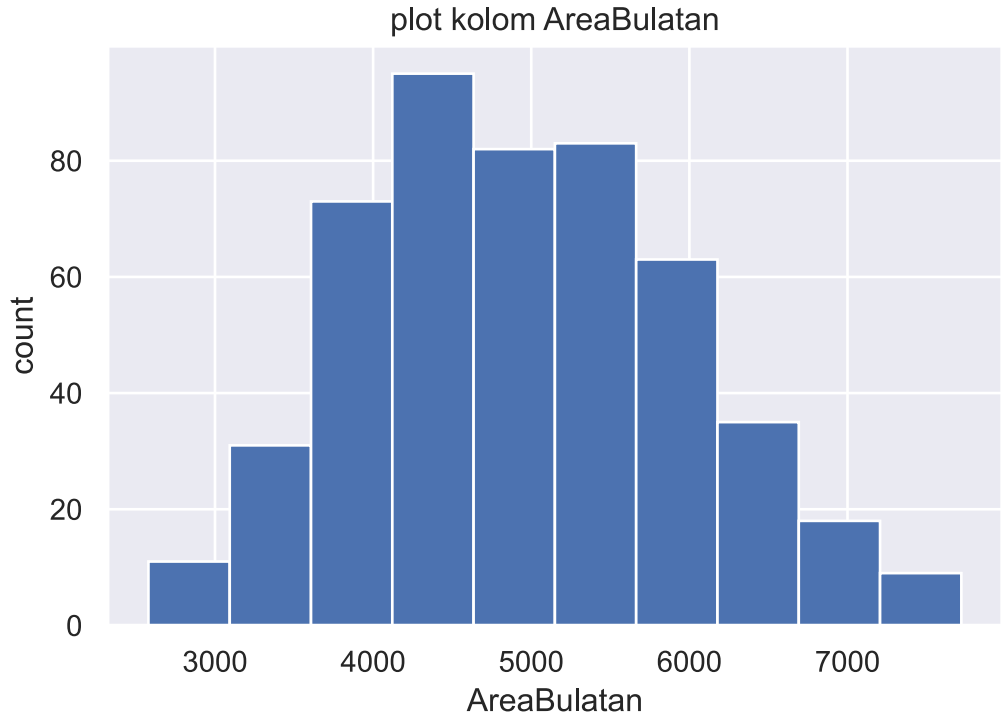

Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar kurang merata dengan histogram sedikit condong ke kiri.
Data juga tidak memiliki nilai yang terlalu ekstrem berdasarkan pada boxplot yang ti dak memiliki outlier atau extreme.
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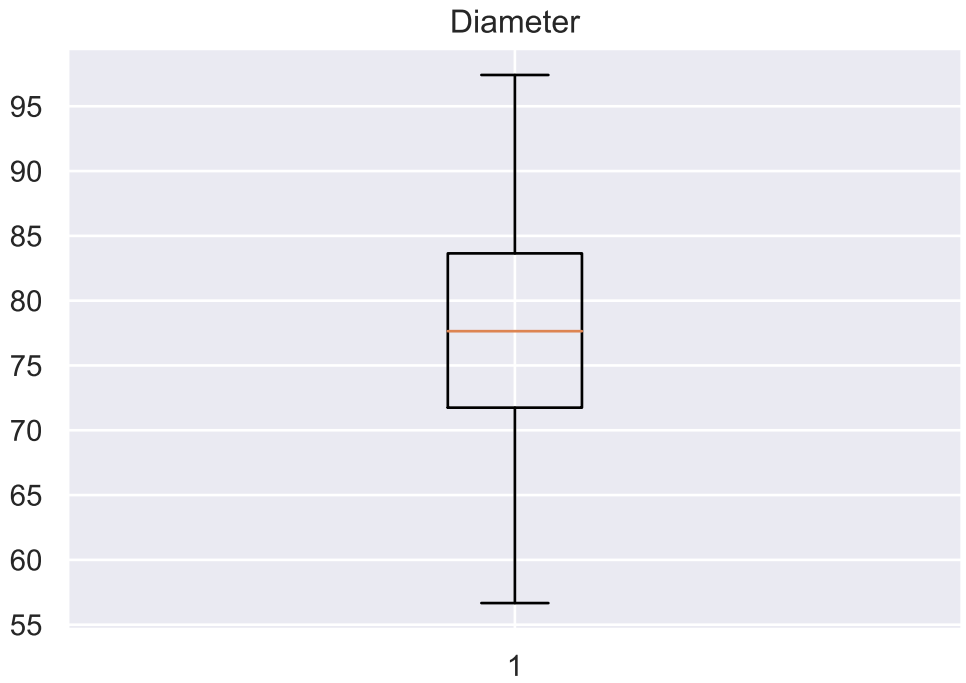
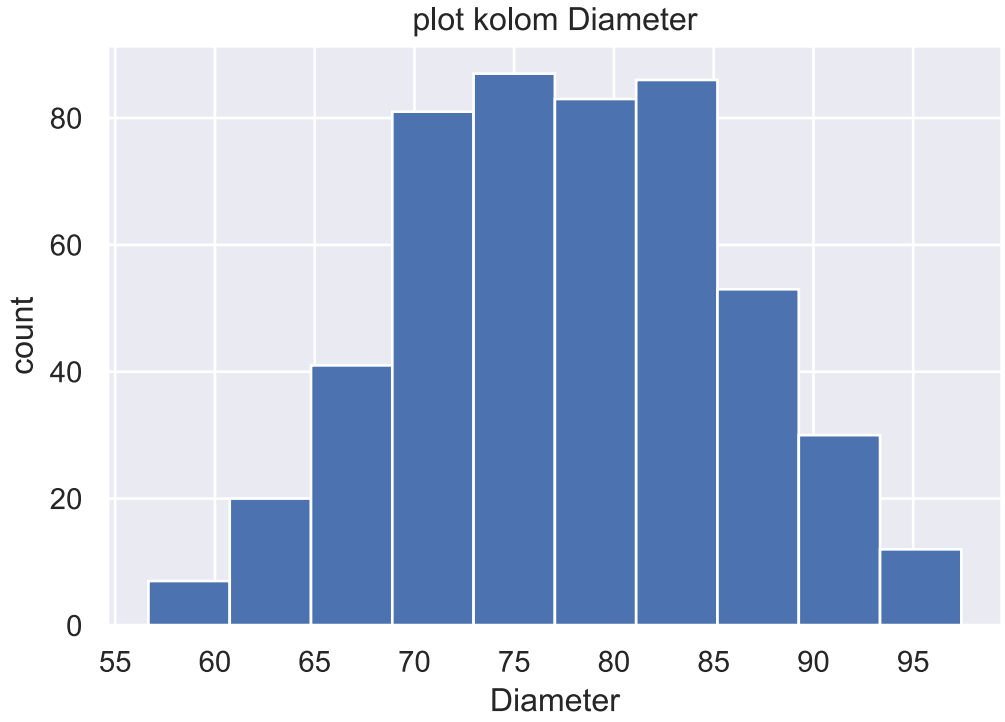
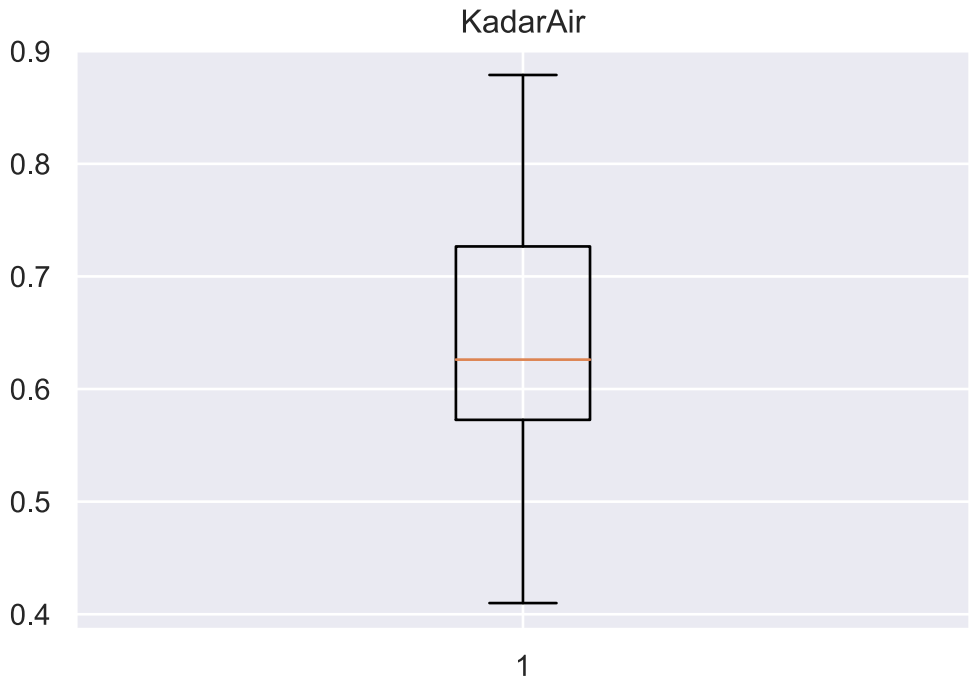
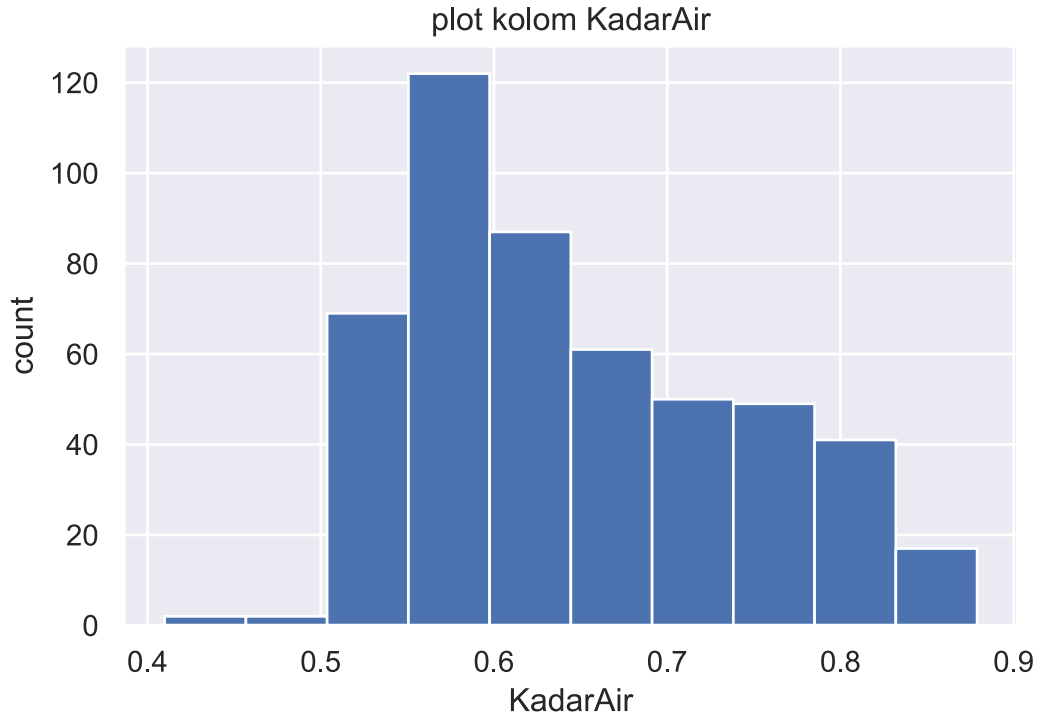




Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar kurang merata dengan histogram sedikit condong ke kiri.
Data juga tidak memiliki nilai yang terlalu ekstrem berdasarkan pada boxplot yang ti dak memiliki outlier atau extreme.
Nilai whisker atas dan bawah juga memiliki panjang yang mirip.





Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar kurang merata dengan histogram sedikit condong ke kiri.
Data juga tidak memiliki nilai yang terlalu ekstrem berdasarkan pada boxplot yang ti dak memiliki outlier atau extreme.
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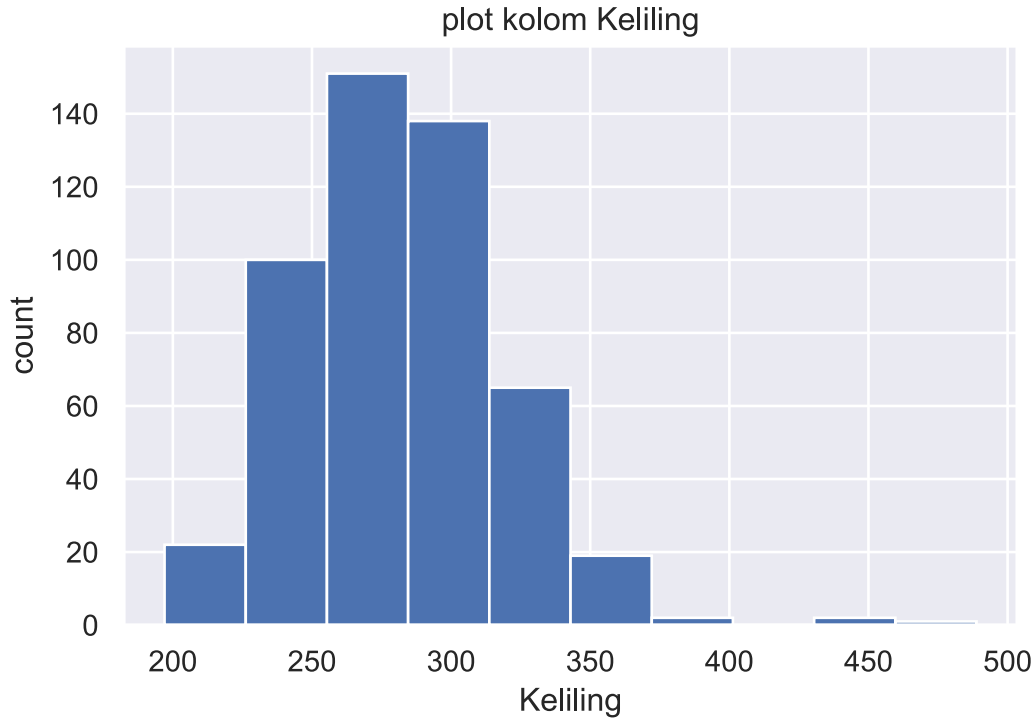

Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar kurang merata dengan histogram sedikit condong ke kiri.
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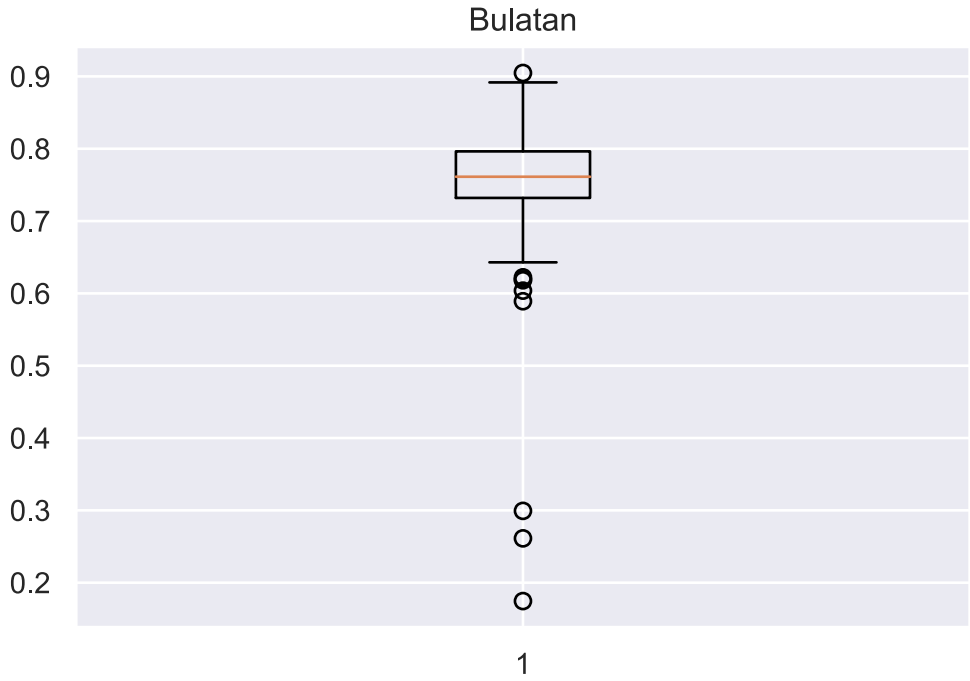

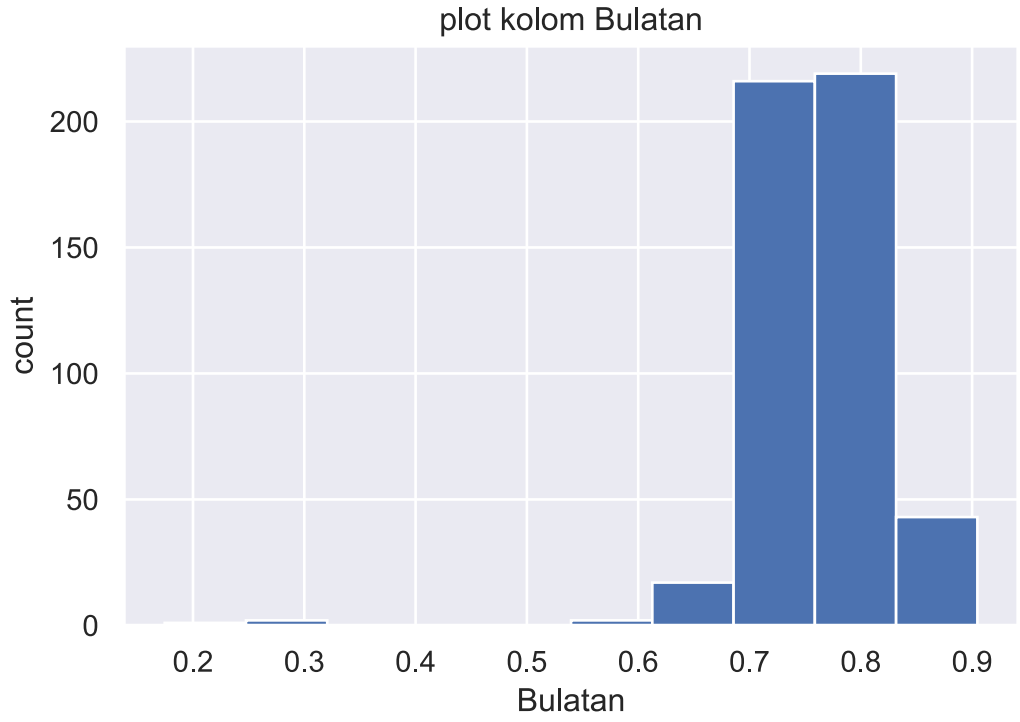

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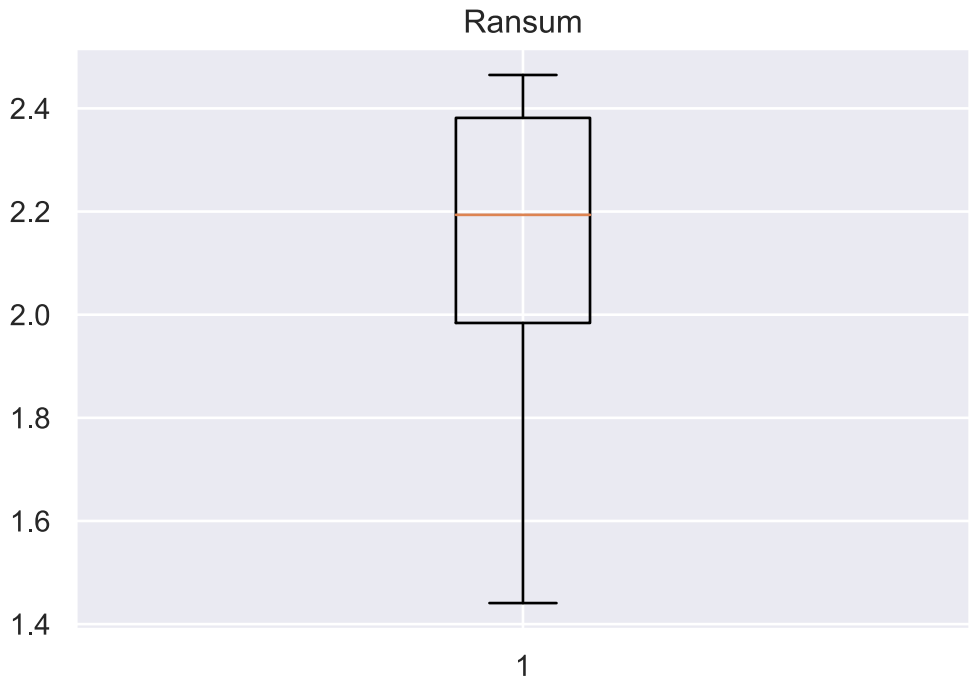
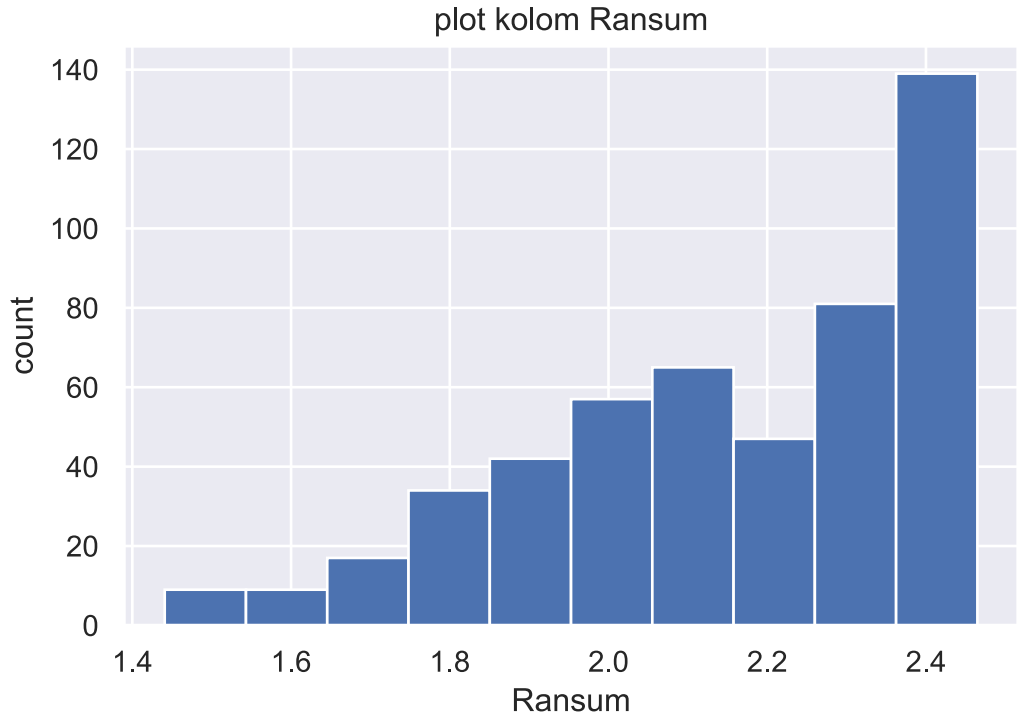




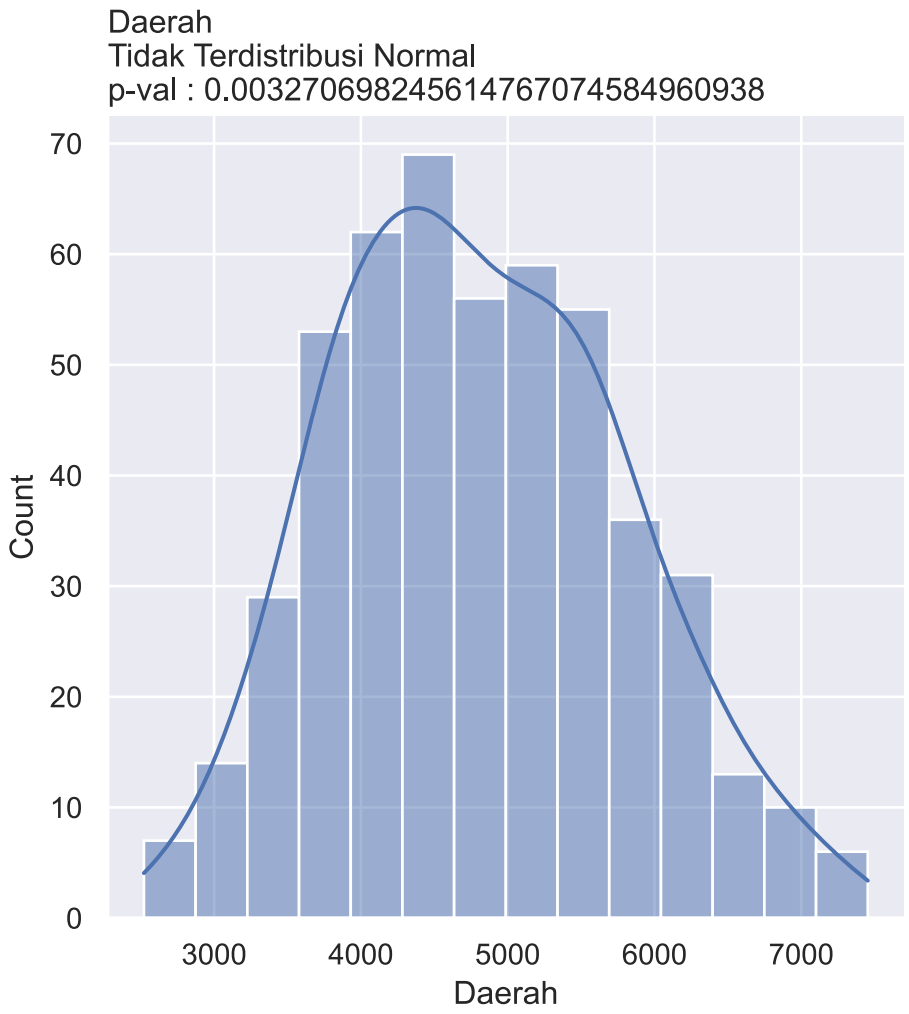
Dari boxplot dan histogram di kolom Daerah, dapat dilihat bahwa data tersebar kurang merata dengan histogram sedikit condong ke kiri.
Data juga tidak memiliki nilai yang terlalu ekstrem berdasarkan pada boxplot yang ti dak memiliki outlier atau extreme.
Nilai whisker atas dan bawah juga memiliki panjang yang mirip.

Soal 3

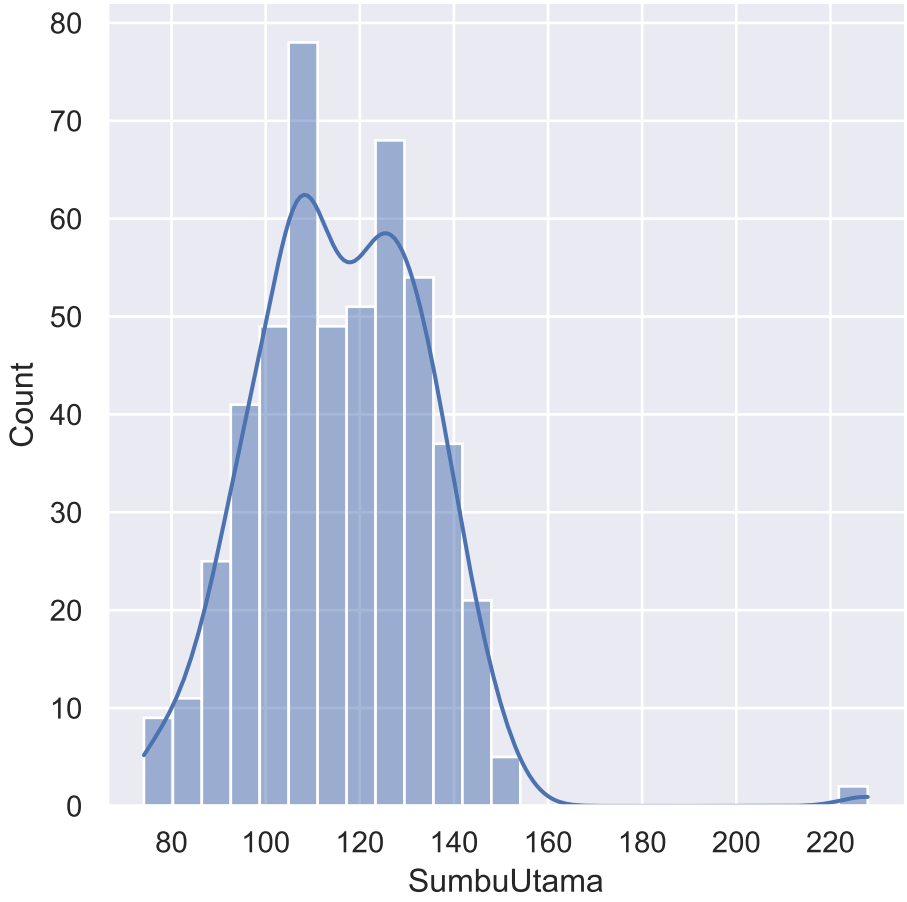
In [107…

```
alpha = 0.05
for att in attribute:
    ax = sns.displot(data[att], kde=True)

    stat, p = shapiro(data[att])

    if (p > alpha):
        plt.title(att + "\n" + "Terdistribusi Normal\n" + "p-val : " + str("%.30f" %
```

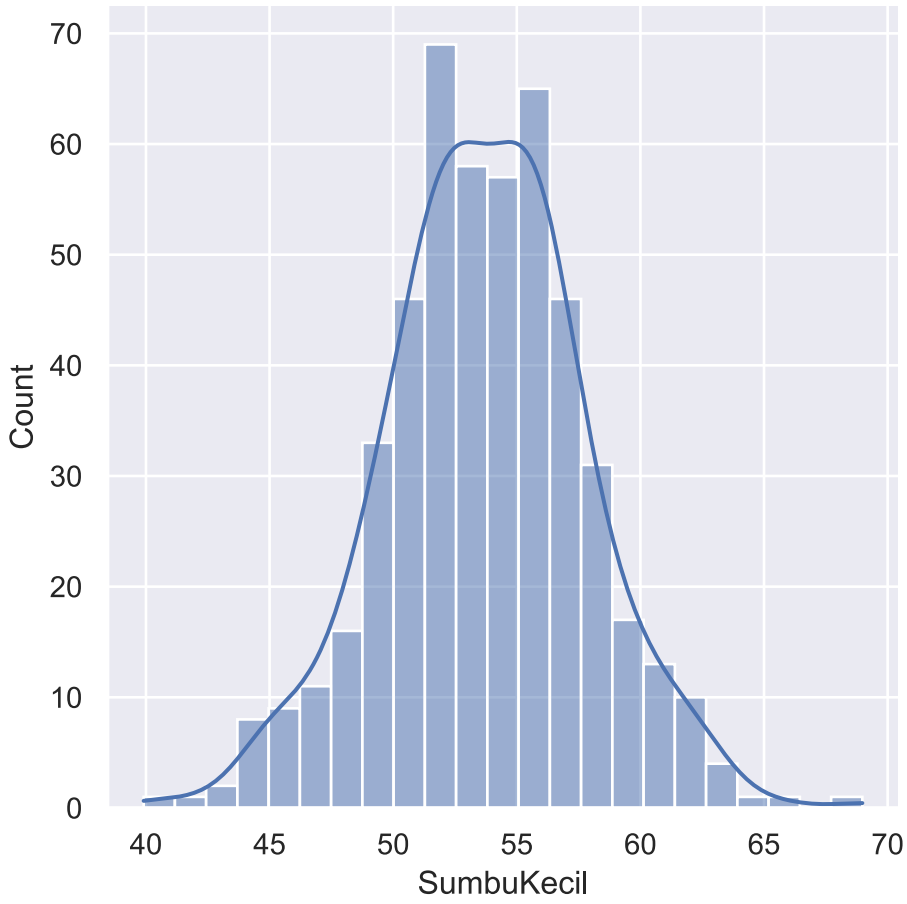
```
    else:
        plt.title(att + "\n" + "Tidak Terdistribusi Normal\n" + "p-val : " + str("%.
```

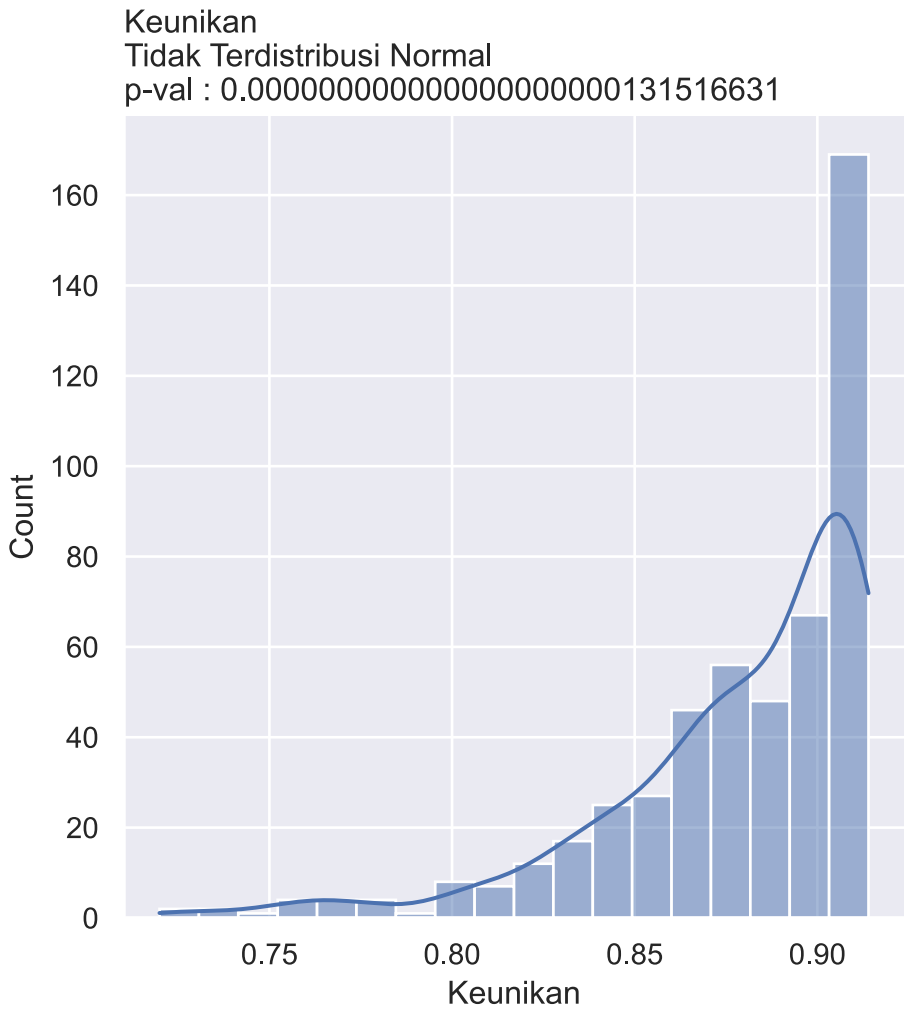


SumbuUtama
Tidak Terdistribusi Normal
p-val : 0.00000000000923620121356938383 9

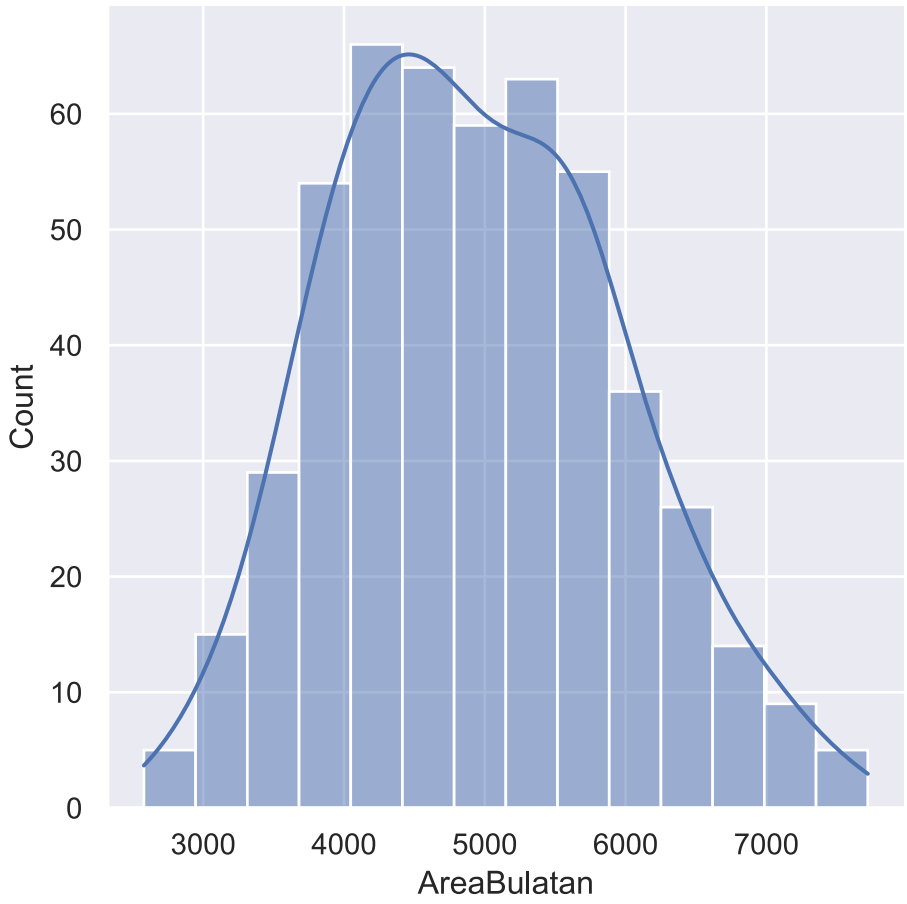


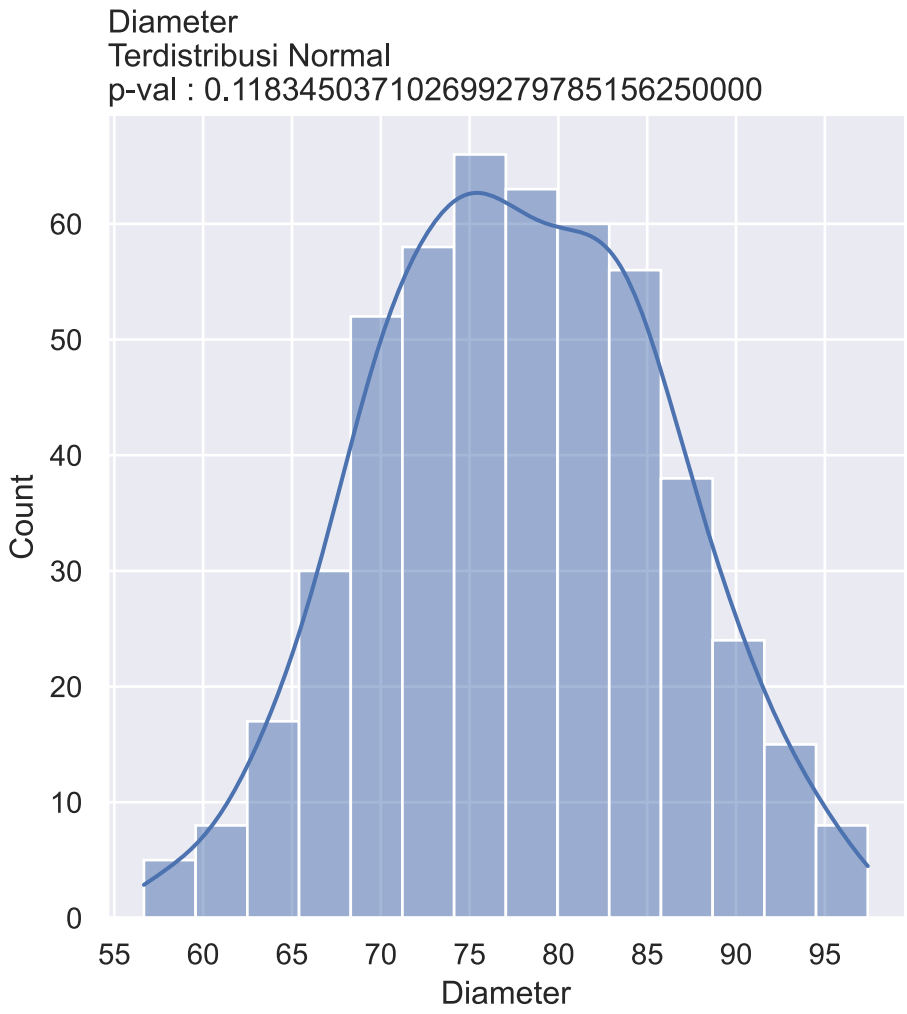
SumbuKecil
Terdistribusi Normal
p-val : 0.42345586419105529785156250000



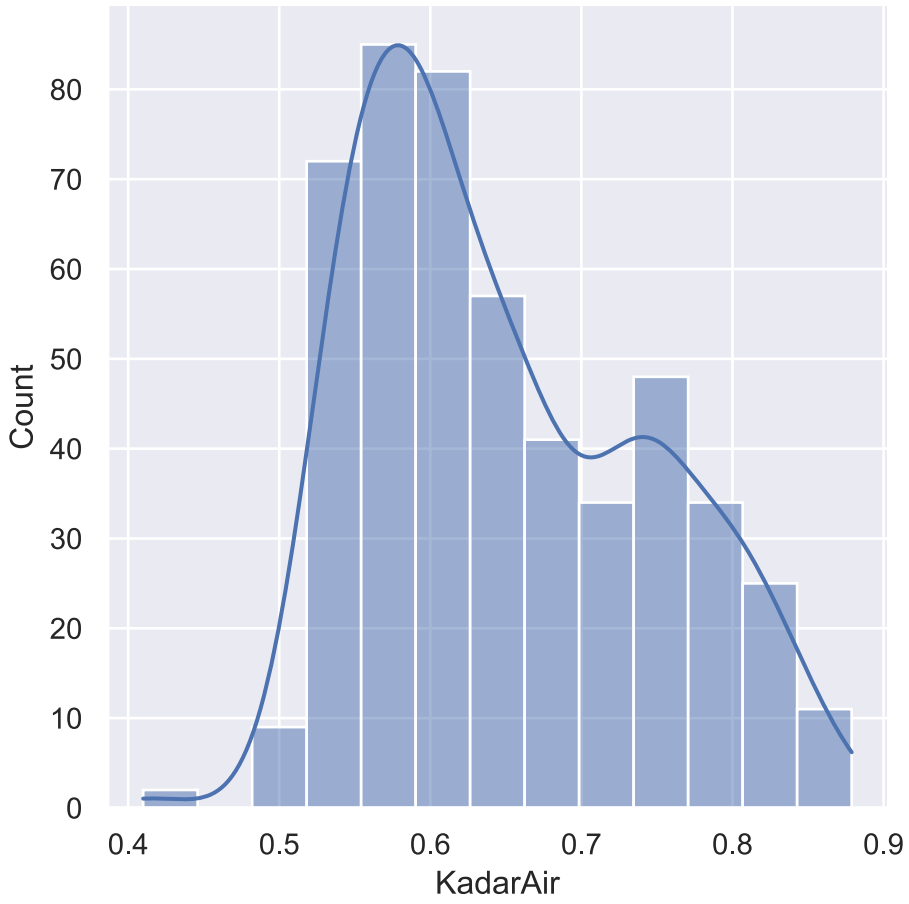

Keunikan
Tidak Terdistribusi Normal
p-val : 0.000000000000000000000131516631
Count
160
140
120
100
80
60
40
20
0
0.75
0.80
0.85
0.90
Keunikan

AreaBulatan
Tidak Terdistribusi Normal
p-val : 0.0024847122840583324432373046 88

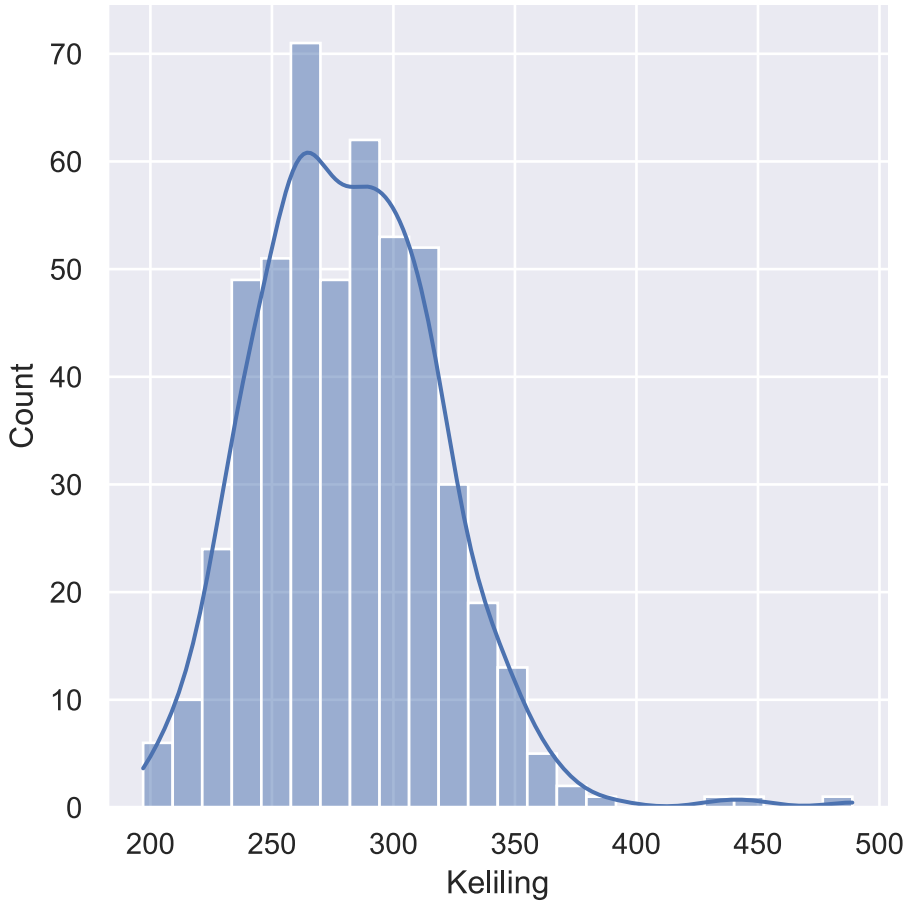


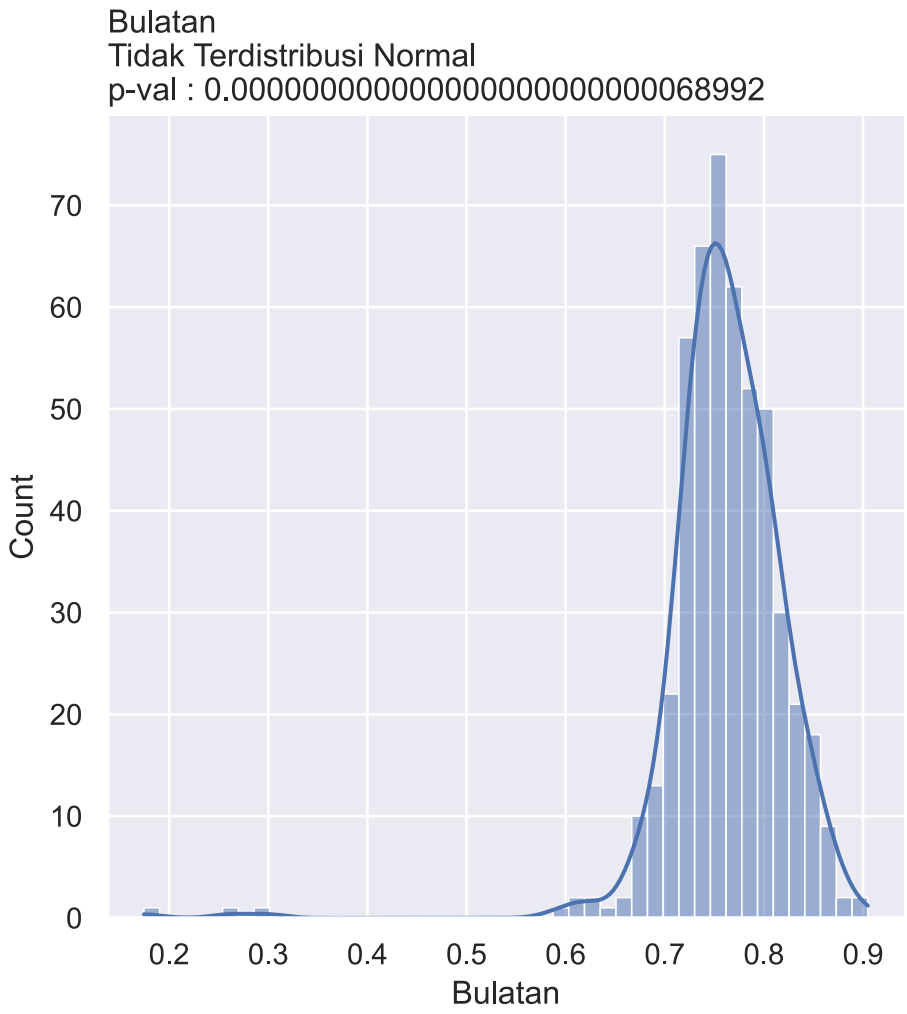

Diameter
Terdistribusi Normal
p-val : 0.11834503710269927978515625000
Count
0
10
20
30
40
50
60
55
60
65
70
75
80
85
90
95
Diameter

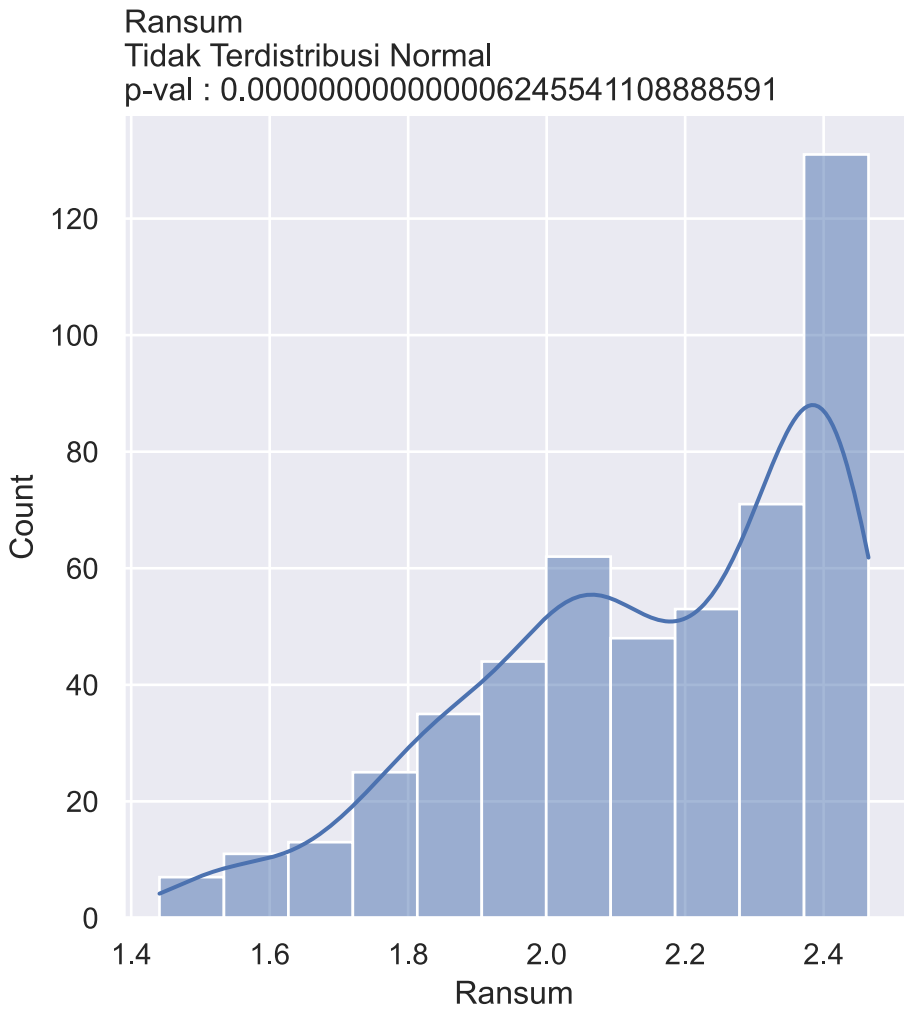
KadarAir
Tidak Terdistribusi Normal
p-val : 0.00000000000195949983669563287 9

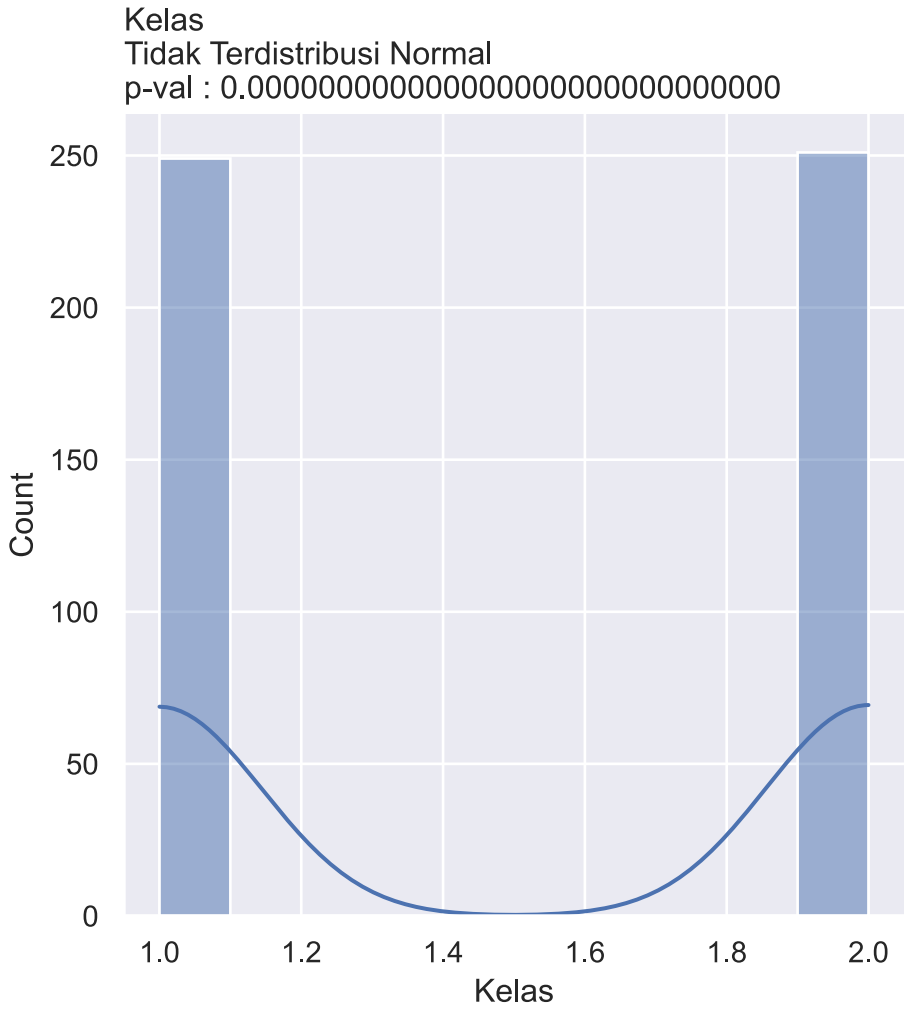


Keliling
Tidak Terdistribusi Normal
p-val : 0.00000000972839409030257229460 4




Bulatan
Tidak Terdistribusi Normal
p-val : 0.000000000000000000000000068992
Count
70
60
50
40
30
20
10
0
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
Bulatan


Ransum
Tidak Terdistribusi Normal
p-val : 0.00000000000000062455411088885 91
120
100
80
60
40
20
0
Count
1.4
1.6
1.8
2.0
2.2
2.4
Ransum



In [108…

```
def showTest(H0, H1, statistiktemp, formula, z_alpha, critical, z, pval):

    crit = "Critical Region : " + critical
    statistik = "Uji statistik " + statistiktemp

    print(H0)
    print(H1)
    print()
    print(statistik)
    print(formula)
    print(z_alpha)
    print(crit)
    print()
    if (z != ""):
        print("Z =", z)
    print("P-values =", pval)
```

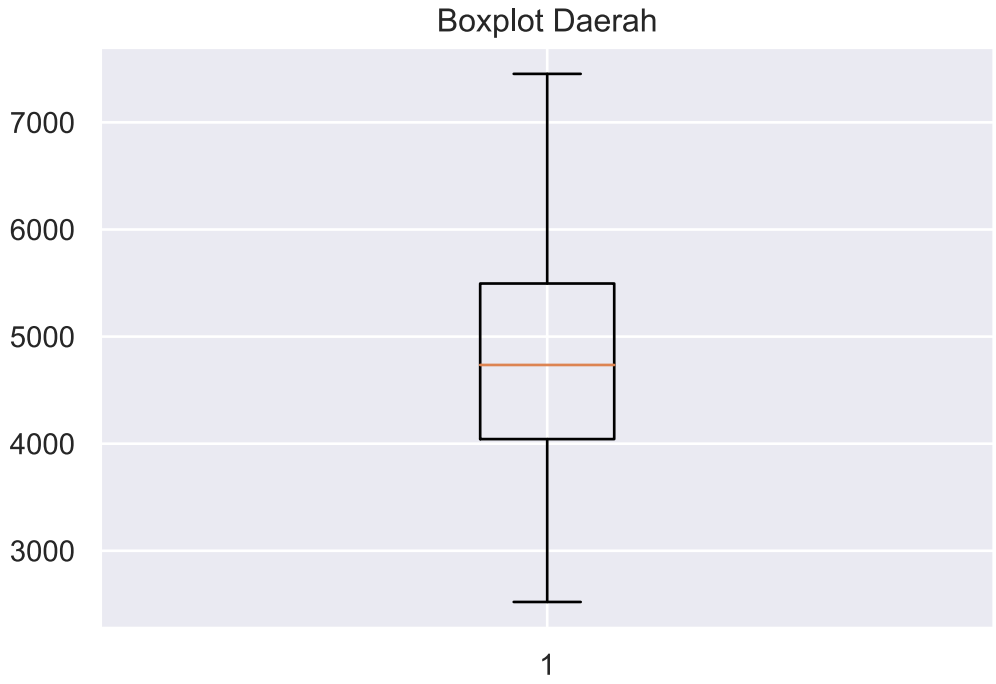
Soal 4.a

In [109…

```
u = 4700
z_alpha = 1.645
avg = data["Daerah"].mean()
std = data["Daerah"].std()
n = len(data.index)
z = (avg - u) / (std/(n**(1/2)))
# print("Z = " + str(z))
pval = norm.sf(abs(z))
```

```
showTest(
    "H0 : u > 4700",
    "H1 : u <= 4700",
    "z test",
    "z = (avg - u) / (std/(n^(1/2)))",
    "z_alpha = 1.645",
    "z > z_alpha",
    z, pval
)


if(z > z_alpha):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")


plt.figure()
plt.boxplot(data["Daerah"])
plt.title("Boxplot Daerah")
plt.show()
```

```
H0 : u > 4700
H1 : u <= 4700

Uji statistik z test
z = (avg - u) / (std/(n^(1/2)))
z_alpha = 1.645
Critical Region : z > z_alpha

Z = 2.2951538242525173
P-values = 0.010862155196799872
Hipotesis H0 ditolak
```



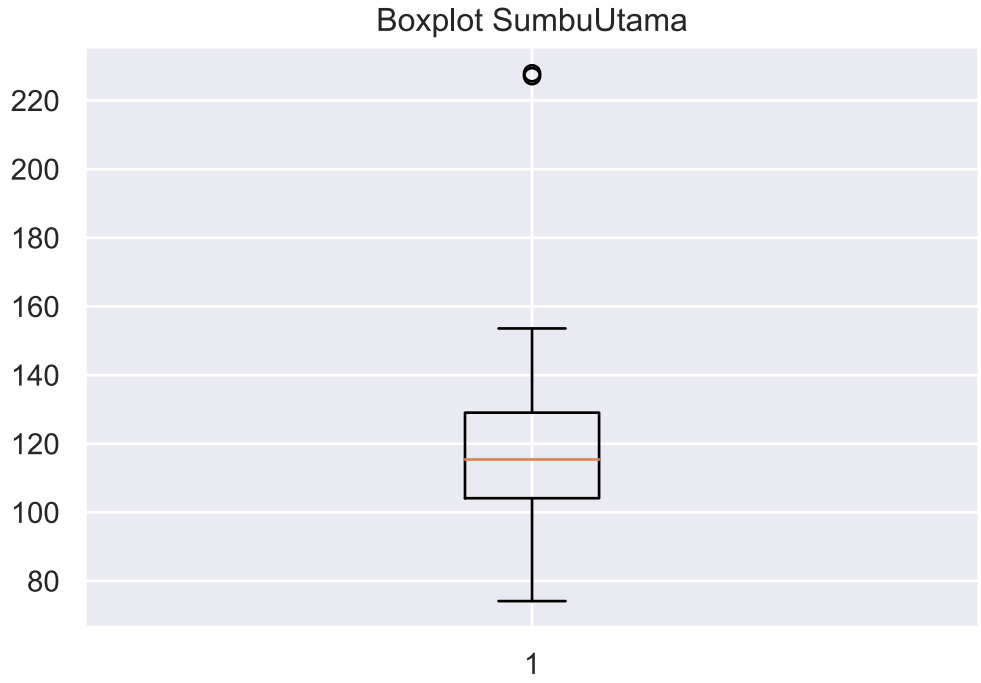
Soal 4.b

In [110…

```
u = 116
z_alphaP2 = 1.960
avg = data["SumbuUtama"].mean()
std = data["SumbuUtama"].std()
n = len(data.index)
```

```
z = (avg - u) / (std/(n**(1/2)))

pval = norm.sf(abs(z))

showTest(
    "H0 : u != 116",
    "H1 : u = 116",
    "z test",
    "z = (avg - u) / (std/(n^(1/2)))",
    "z_alpha/2 = 1.960",
    "z > z_alpha/2 or z < -z_alpha/2",
    z, pval
)

if(z > z_alphaP2 or z < -z_alphaP2):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")


plt.figure()
plt.boxplot(data["SumbuUtama"])
plt.title("Boxplot SumbuUtama")
plt.show()
```

```
H0 : u != 116
H1 : u = 116

Uji statistik z test
z = (avg - u) / (std/(n^(1/2)))
z_alpha/2 = 1.960
Critical Region : z > z_alpha/2 or z < -z_alpha/2

Z = 0.05524712326730106
P-values = 0.477970793648876
Hipotesis H0 diterima
```



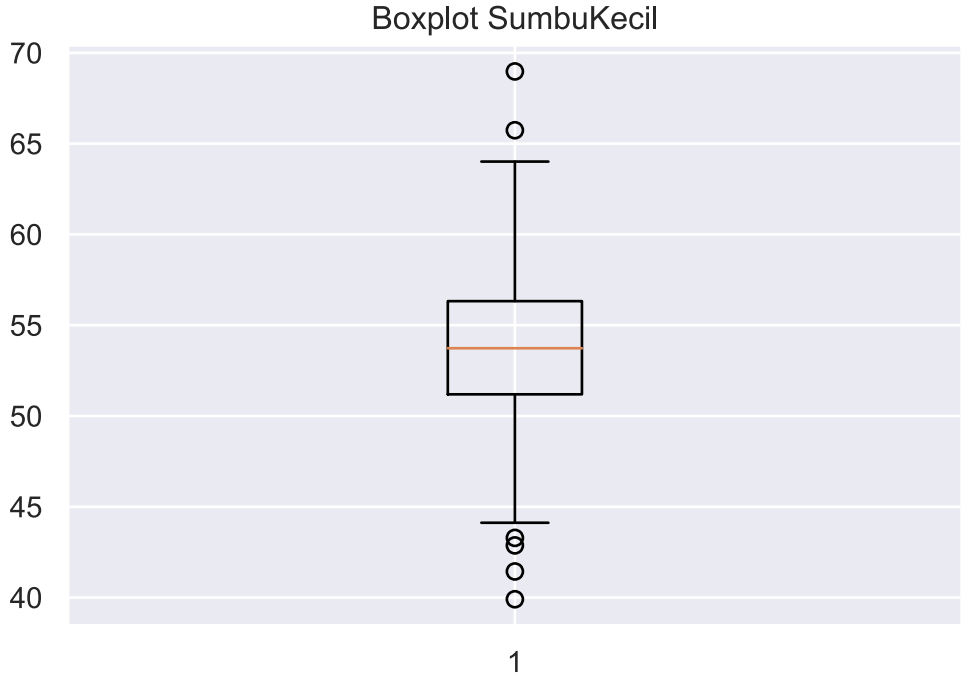
Soal 4.c

In [111…

```
u = 50
t_alpha = 1.729
```

```
dataSK = data.head(20)
avg = dataSK["SumbuKecil"].mean()
std = dataSK["SumbuKecil"].std()
n = len(dataSK.index)
t = (avg - u) / (std/(n**(1/2)))

stat, pval = ttest_1samp(dataSK["SumbuKecil"], 50)

showTest(
    "H0 : u != 50",
    "H1 : u = 50",
    "t test",
    "t = (avg - u) / (std/(n**(1/2)))",
    "t_alpha = 1.645",
    "t > t_alpha",
    "", pval
)
print("t =", t)

if(t > t_alpha):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")


plt.figure()
plt.boxplot(data["SumbuKecil"])
plt.title("Boxplot SumbuKecil")
plt.show()
```

```
H0 : u != 50
H1 : u = 50

Uji statistik t test
t = (avg - u) / (std/(n**(1/2)))
t_alpha = 1.645
Critical Region : t > t_alpha

P-values = 3.3020185644244998e-06
t = 6.478168916968894
Hipotesis H0 ditolak
```

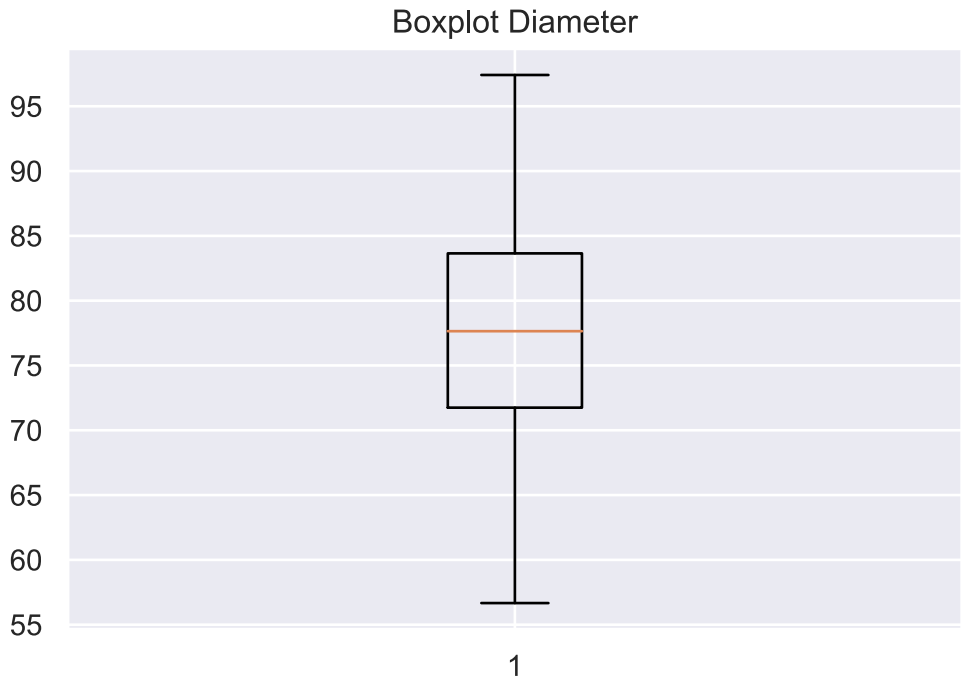


Soal 4.d

In [112…

```
u = 0.15
z_alphaP2 = 1.960
dataD85 = data[data["Diameter"] > 85]
x = len(dataD85.index)
n = len(data.index)
p_hat = x/n
pval = norm.sf(abs(z))
z = (p_hat - u) / ((u*(1-u)/n)**(1/2))

showTest(
    "H0 : u = 0.15",
    "H1 : u != 0.15",
    "z test",
    "z = (p_hat - u) / ((u*(1-u)/n)^(1/2))",
    "z_alpha/2 = 1.960",
    "z > z_alpha/2 or z < -z_alpha/2",
    z, pval
)

if(z < -z_alphaP2 or z > z_alphaP2):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")


plt.figure()
plt.boxplot(data["Diameter"])
plt.title("Boxplot Diameter")
plt.show()
```

```
H0 : u = 0.15
H1 : u != 0.15

Uji statistik z test
z = (p_hat - u) / ((u*(1-u)/n)^(1/2))
z_alpha/2 = 1.960
Critical Region : z > z_alpha/2 or z < -z_alpha/2

Z = 2.755386880774658
P-values = 0.477970793648876
Hipotesis H0 ditolak
```



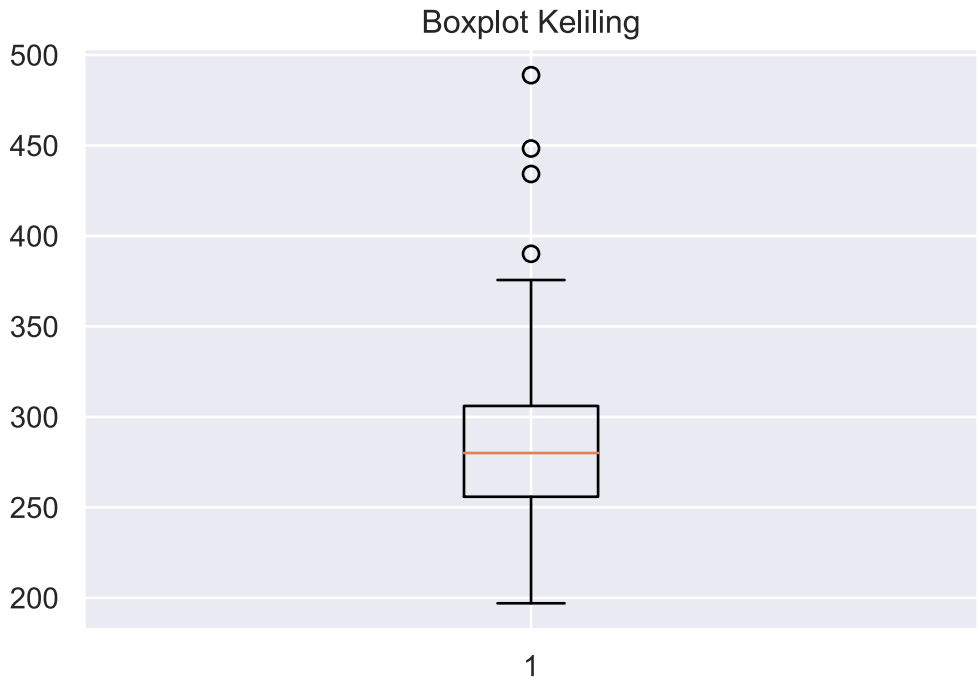
Soal 4.e

In [113…

```
u = 0.05
z_alpha = 1.645
dataK100 = data[data["Keliling"] < 100]
x = len(dataK100.index)
n = len(data.index)
p_hat = x/n
z = (p_hat - u) / ((u*(1-u)/n)**(1/2))
# print("Z = " + str(z))

pval = norm.sf(abs(z))

showTest(
    "H0 : u < 0.05",
    "H1 : u >= 0.05",
    "z test",
    "z = (p_hat - u) / ((u*(1-u)/n)^(1/2))",
    "z_alpha = 1.645",
    "z > z_alpha",
    z, pval
)

if(z > z_alpha):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")


plt.figure()
plt.boxplot(data["Keliling"])
plt.title("Boxplot Keliling")
plt.show()

# print("P-values = " + str(pval))
```

```
H0 : u < 0.05
H1 : u >= 0.05
```

```
Uji statistik z test
z = (p_hat - u) / ((u*(1-u)/n)^(1/2))
z_alpha = 1.645
Critical Region : z > z_alpha

Z = -5.129891760425771
P-values = 1.4495441414387716e-07
Hipotesis H0 diterima
```



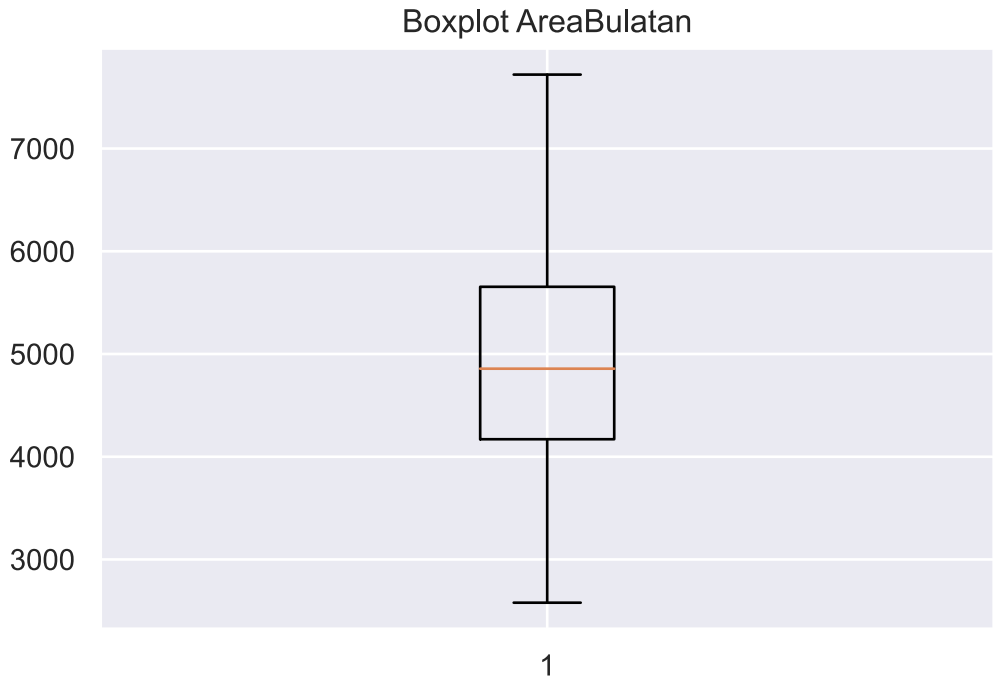
Soal 5.a

In [114…

```
col = "AreaBulatan"
data1 = data[col][0:250]
data2 = data[col][250:500]

z_alphaP2 = 1.960

n1 = len(data1)
n2 = len(data2)

sd1 = data1.std()
sd2 = data2.std()

X1 = data1.mean()
X2 = data2.mean()

mudiff = 0

z = (X1 - X2) / (sqrt( ((sd1**2)/n1) + ((sd2**2)/n2) ))
pval = 2*(norm.sf(abs(z)))

showTest(
    "H0 : u = u0",
    "H1 : u != u0",
    "z test",
    "z = (X1 - X2) / (sqrt( ((sd1^2)/n1) + ((sd2^2)/n2) ))",
    "z_alpha/2 = 1.960",
    "z > z_alpha/2 or z < -z_alpha/2",
    z, pval
)
```

```
if(z < -z_alphaP2 or z > z_alphaP2):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")

plt.figure()
plt.boxplot(data[col])
plt.title("Boxplot " + col)
plt.show()
```

```
H0 : u = u0
H1 : u != u0

Uji statistik z test
z = (X1 - X2) / (sqrt( ((sd1^2)/n1) + ((sd2^2)/n2) ))
z_alpha/2 = 1.960
Critical Region : z > z_alpha/2 or z < -z_alpha/2

Z = 17.013036648485464
P-values = 6.574024595618948e-65
Hipotesis H0 ditolak
```



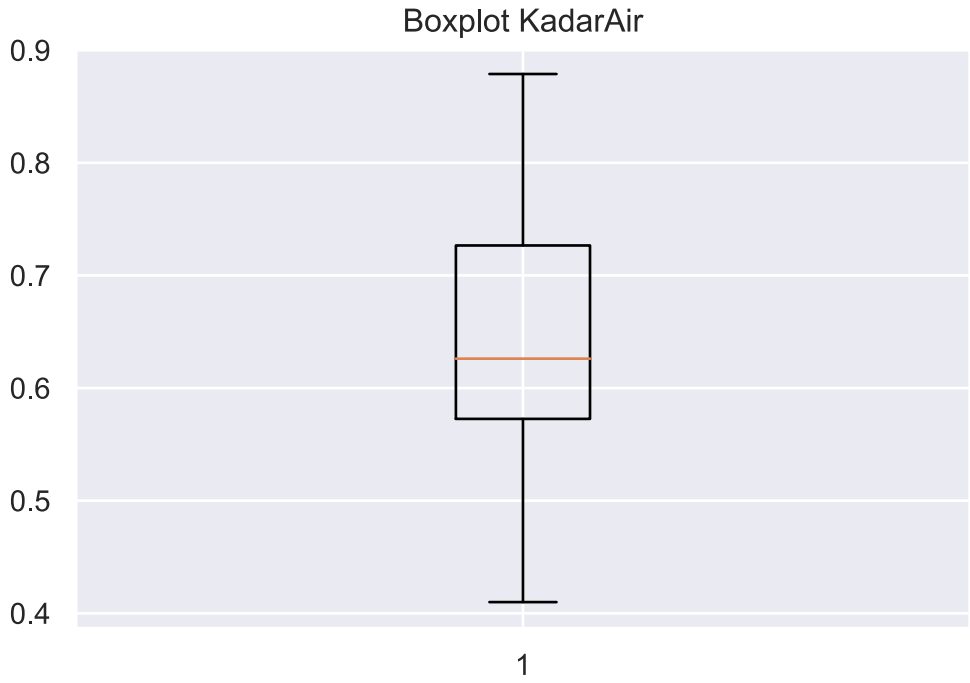
Soal 5.b

In [115…

```
# H0 : |u1 = u2 + 0.2|
# H1 : |u1 > u2 + 0.2|
col = "KadarAir"
dataKA1 = data[col][0:250]
dataKA2 = data[col][250:500]

z_alphaP2 = 1.282

nKA1 = len(dataKA1)
nKA2 = len(dataKA2)

sdKA1 = dataKA1.std()
sdKA2 = dataKA2.std()

xKA1 = dataKA1.mean()
```

```
xKA2 = dataKA2.mean()


z = (xKA1 - xKA2) / (sqrt( ((sdKA1**2)/nKA1) + ((sdKA2**2)/nKA2) ))

pval = 2*(norm.sf(abs(z)))

showTest(
    "H0 : u = u0 + 0.2",
    "H1 : u != u0 + 0.2",
    "z test",
    "z = (X1 - X2) / (sqrt( ((sd1^2)/n1) + ((sd2^2)/n2) ))",
    "z_alpha/2 = 1.960",
    "z > z_alpha/2 or z < -z_alpha/2",
    z, pval
)

if(z > z_alphaP2 or z < -z_alphaP2):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")

plt.figure()
plt.boxplot(data[col])
plt.title("Boxplot " + col)
plt.show()
```

```
H0 : u = u0 + 0.2
H1 : u != u0 + 0.2

Uji statistik z test
z = (X1 - X2) / (sqrt( ((sd1^2)/n1) + ((sd2^2)/n2) ))
z_alpha/2 = 1.960
Critical Region : z > z_alpha/2 or z < -z_alpha/2

Z = -3.0164987047810152
P-values = 0.002557123103289445
Hipotesis H0 ditolak
```

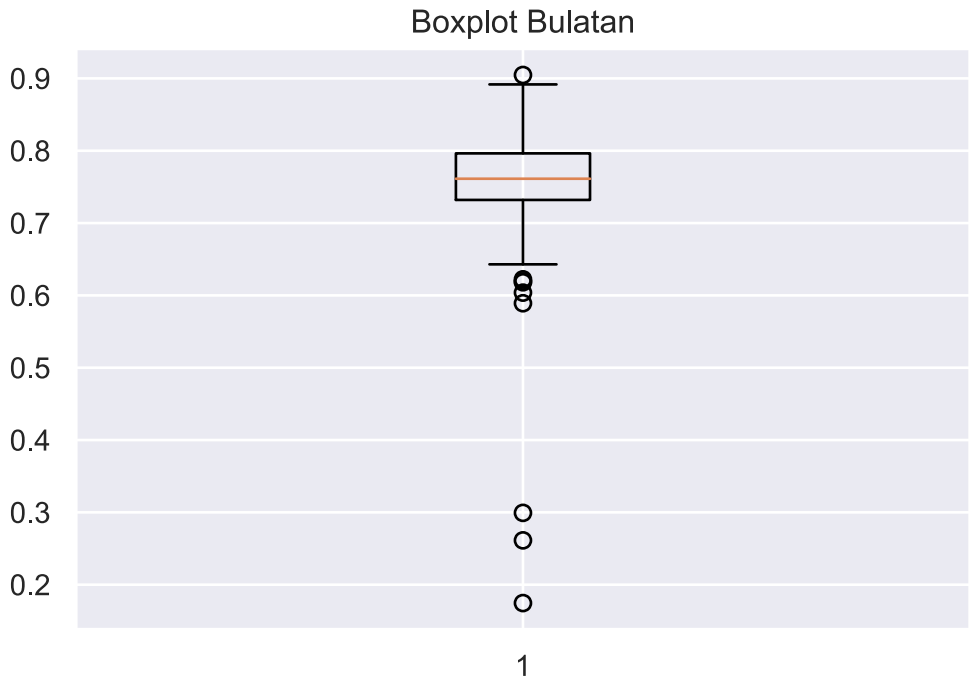


Soal 5.c

In [116…

```
col = "Bulatan"

data1 = data[col][0:20]
data2 = data[col][479:500]

z_alphaP2 = 2.093

n1 = len(data1)
n2 = len(data2)

sd1 = data1.std()
sd2 = data2.std()

X1 = data1.mean()
X2 = data2.mean()

z = (X1 - X2) / (sqrt( ((sd1**2)/n1) + ((sd2**2)/n2) ))
pval = 2*(norm.sf(abs(z)))

showTest(
    "H0 : u = u0",
    "H1 : u != u0",
    "z test",
    "z = (X1 - X2) / (sqrt( ((sd1^2)/n1) + ((sd2^2)/n2) ))",
    "z_alpha/2 = 2.093",
    "z > z_alpha/2 or z < -z_alpha/2",
    z, pval
)

if(z > z_alphaP2 or z < -z_alphaP2):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")

plt.figure()
plt.boxplot(data[col])
plt.title("Boxplot " + col)
plt.show()
```

```
H0 : u = u0
H1 : u != u0

Uji statistik z test
z = (X1 - X2) / (sqrt( ((sd1^2)/n1) + ((sd2^2)/n2) ))
z_alpha/2 = 2.093
Critical Region : z > z_alpha/2 or z < -z_alpha/2

Z = -3.4577735622078336
P-values = 0.0005446589606626397
Hipotesis H0 ditolak
```



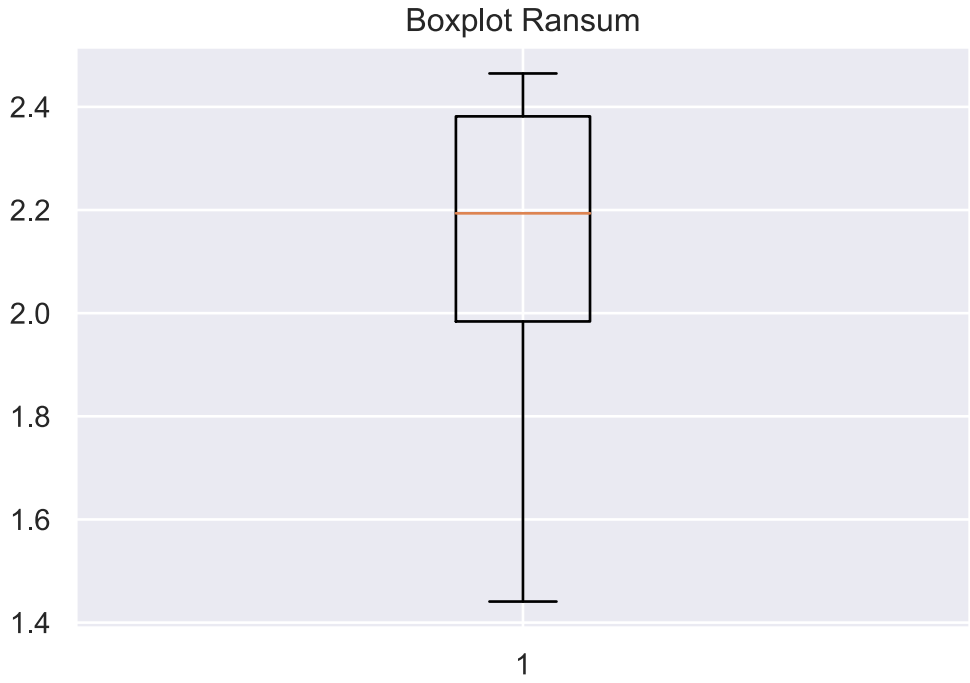
Soal 5.d

In [117…

```
col = "Ransum"
data1 = data[col][0:250]
data2 = data[col][250:500]

data1 = data1[data1 > 2]
data2 = data2[data2 > 2]

z_alphaP2 = 1.960

n1 = 250
n2 = 250

x1 = len(data1)
x2 = len(data2)

p1 = x1/n1
p2 = x2/n2

pBar = (x1 + x2) / (n1 + n2)

z = (p1 - p2) / (sqrt( pBar*(1-pBar) * ((1/n1) + (1/n2)) ))

pval = 2*(norm.sf(abs(z)))

showTest(
    "H0 : P1 <= P2",
    "H1 : P1 > P2",
    "z test",
    "z = (p1 - p2) / (sqrt( pBar*(1-pBar) * ((1/n1) + (1/n2)) ))",
    "z_alpha/2 = 1.960",
    "z > z_alpha/2 or z < -z_alpha/2",
    z, pval
)

if(z > z_alphaP2 or z < -z_alphaP2):
    print("Hipotesis H0 ditolak")
else:
```

```
    print("Hipotesis H0 diterima")

plt.figure()
plt.boxplot(data[col])
plt.title("Boxplot " + col)
plt.show()
```

```
H0 : P1 <= P2
H1 : P1 > P2

Uji statistik z test
z = (p1 - p2) / (sqrt( pBar*(1-pBar) * ((1/n1) + (1/n2)) ))
z_alpha/2 = 1.960
Critical Region : z > z_alpha/2 or z < -z_alpha/2

Z = 13.397486455610238
P-values = 6.254573593207953e-41
Hipotesis H0 ditolak
```



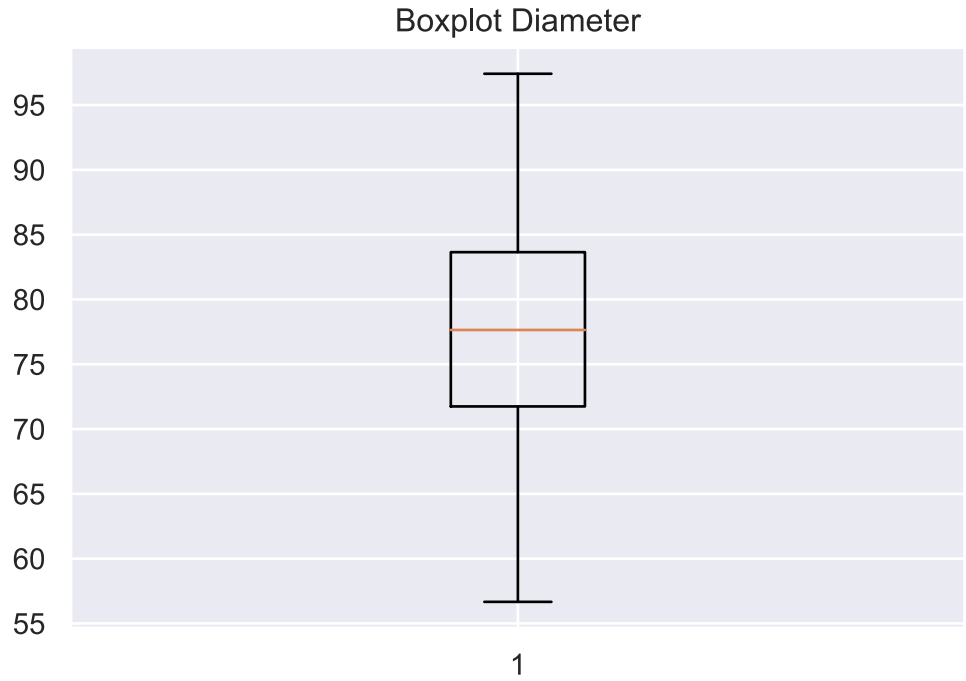
Soal 5.e

In [118…

```
col = "Diameter"
data1 = data[col][0:250]
data2 = data[col][250:500]

f_alphaP2 = 1

var1 = data1.var()
var2 = data2.var()

f = var1/var2

dfn = len(data1) -1
dfd = len(data2) -1

pval = 1-stats.f.cdf(f, dfn, dfd)

showTest(
    "H0 : u = u0",
    "H1 : u != u0",
    "F test",
```

```
    "F = var1 / var2",
    "f_alpha/2 = 1",
    "P-values > 0.05 ",
    "", pval
)

print("F =", f)

if(pval <= 0.05):
    print("Hipotesis H0 ditolak")
else:
    print("Hipotesis H0 diterima")

plt.figure()
plt.boxplot(data[col])
plt.title("Boxplot " + col)
plt.show()
```

```
H0 : u = u0
H1 : u != u0

Uji statistik F test
F = var1 / var2
f_alpha/2 = 1
Critical Region : P-values > 0.05

P-values = 0.26278959201893937
F = 1.083878022042188
Hipotesis H0 diterima
```



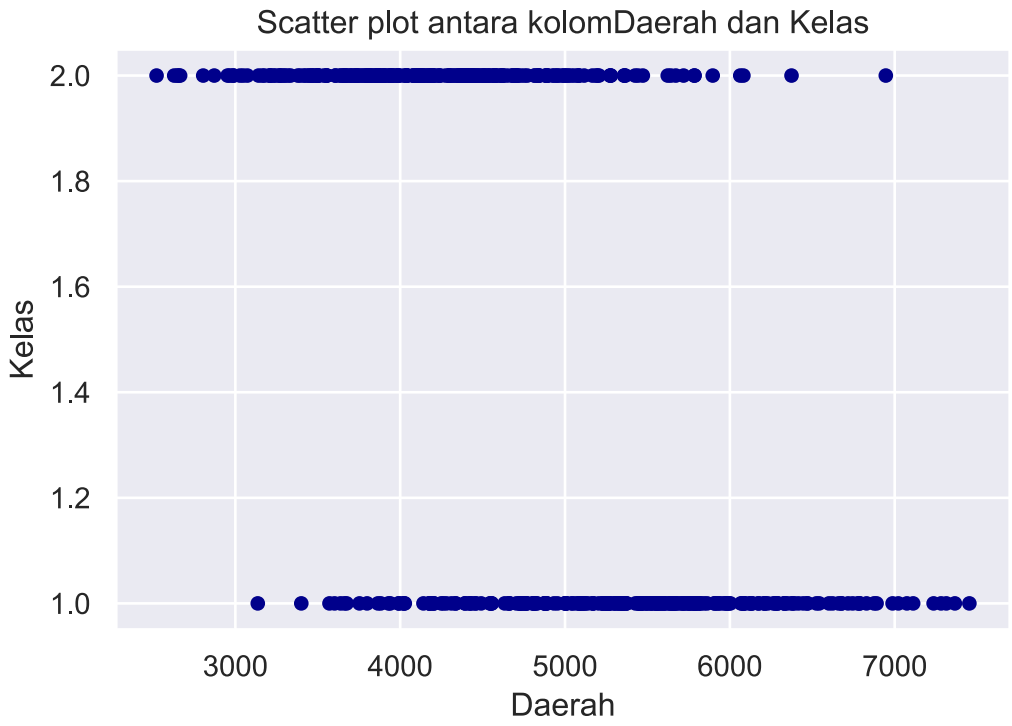
Soal 6

In [119…

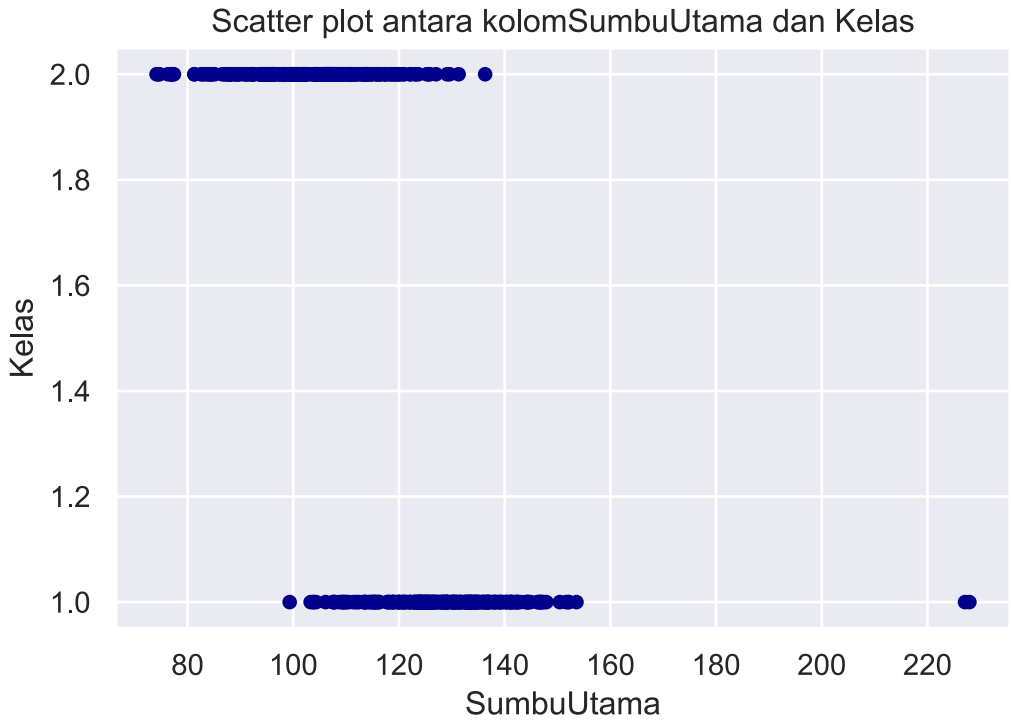
```
for att in attribute:
    if (att == "Kelas"):
        continue

    column_1 = data[att]
    column_2 = data["Kelas"]
    correlation = column_1.corr(column_2)
    print("Korelasi antara", att, "dan Kelas")
    print(correlation)
```

```
    corrTitle = "Scatter plot antara kolom"+ att+ " dan Kelas"
    data.plot.scatter(x=att, y='Kelas', title= corrTitle, color='DarkBlue')
    plt.show()
    print()
```

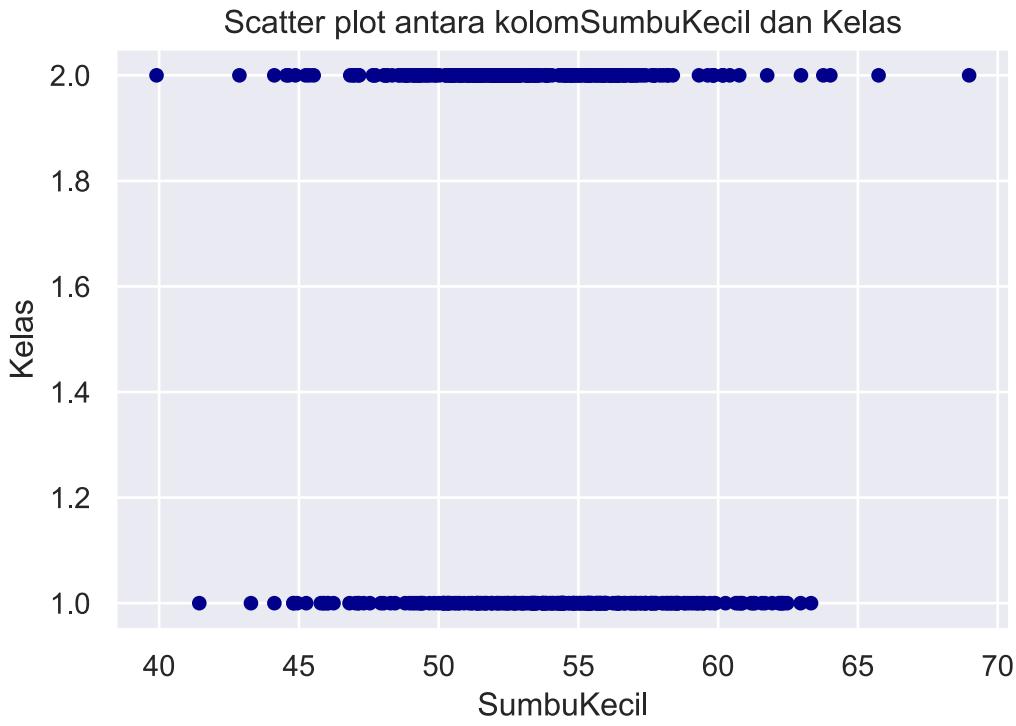
```
Korelasi antara Daerah dan Kelas
-0.6027466517416662
```



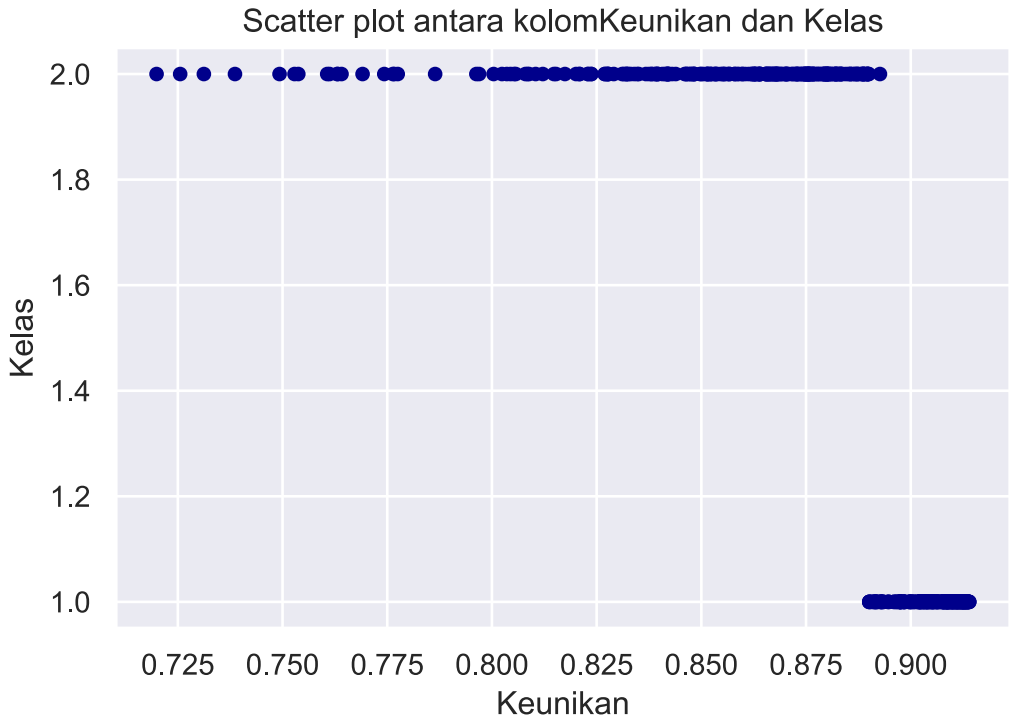

```
Korelasi antara SumbuUtama dan Kelas
-0.7130906104204593
```



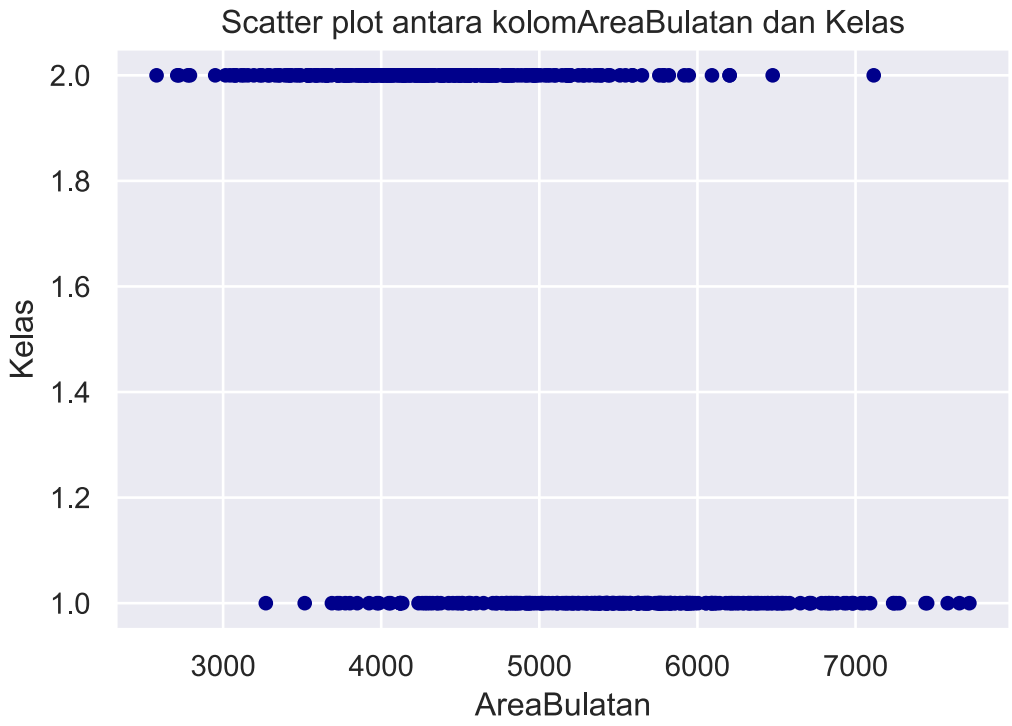

```
Korelasi antara SumbuKecil dan Kelas
-0.15297517335535027
```



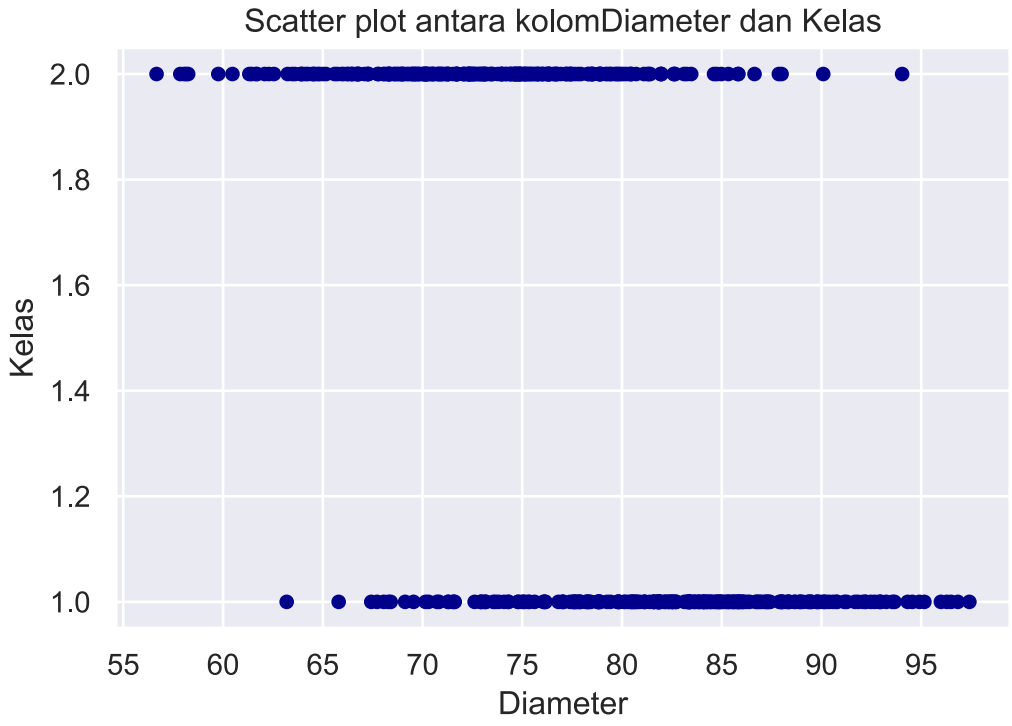

```
Korelasi antara Keunikan dan Kelas
-0.7304563686511922
```



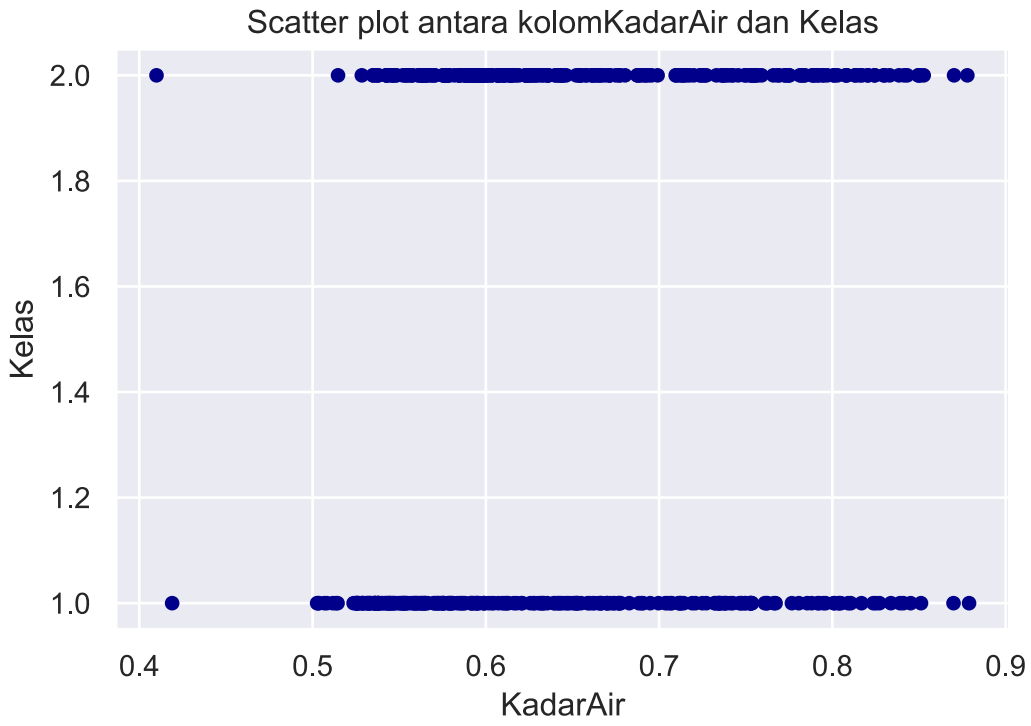

```
Korelasi antara AreaBulatan dan Kelas
-0.6073125434153751
```



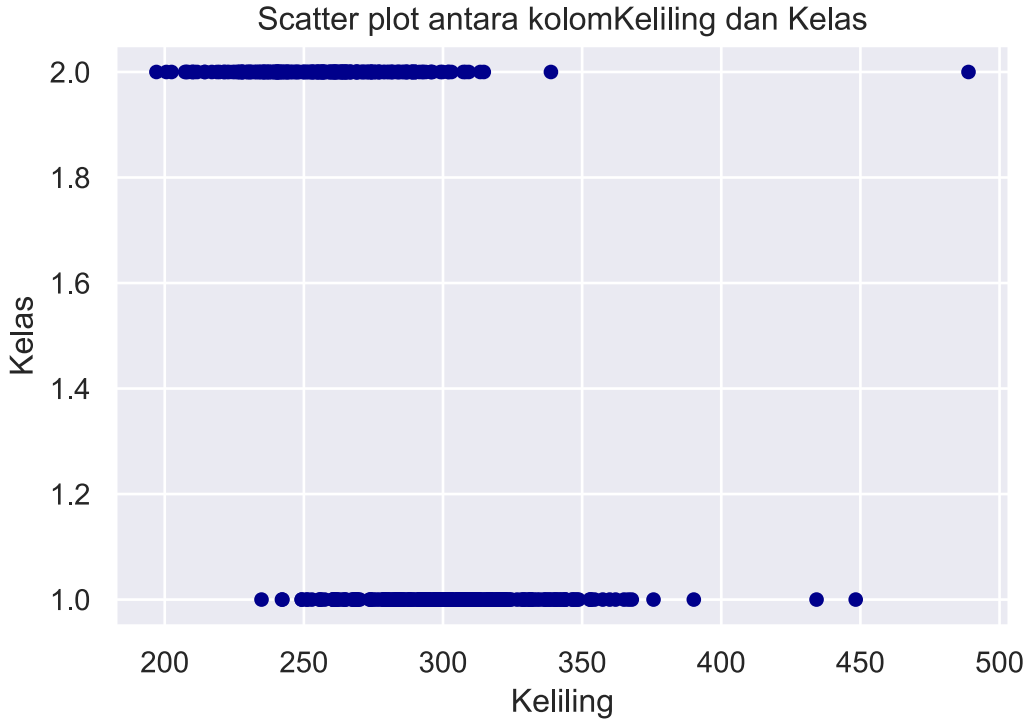

```
Korelasi antara Diameter dan Kelas
-0.6025356896618813
```



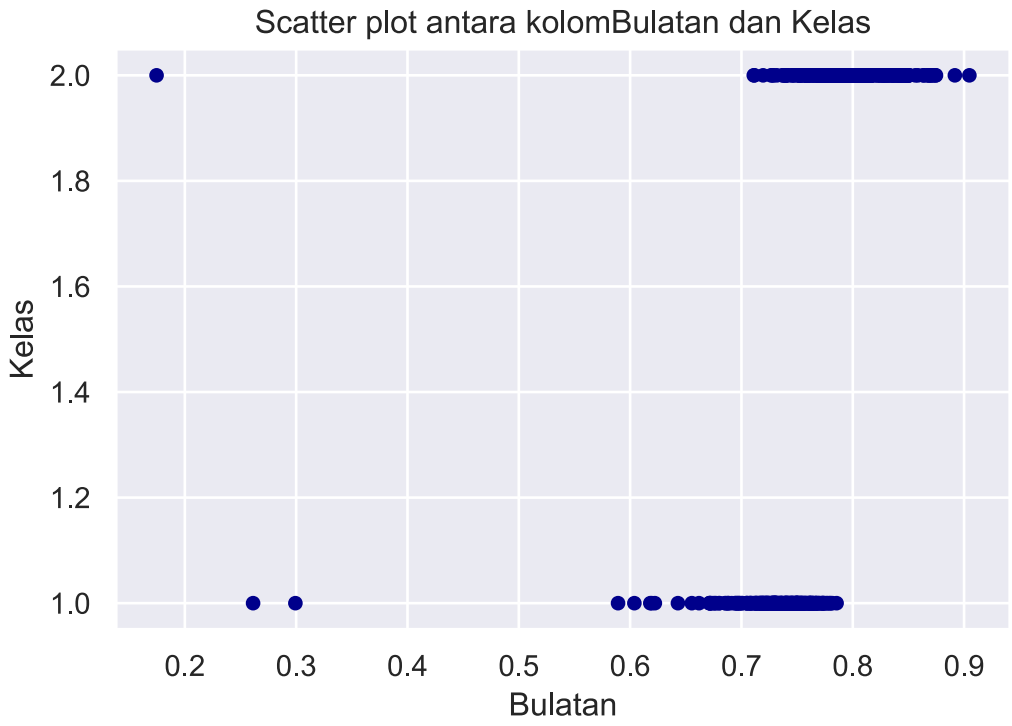

```
Korelasi antara KadarAir dan Kelas
0.13434422605727642
```




```
Korelasi antara Keliling dan Kelas
-0.6348607454756858
```




```
Korelasi antara Bulatan dan Kelas
0.5450045317240076
```




```
Korelasi antara Ransum dan Kelas
-0.8399038681287493
```