



Subject: Programming With Python (01CT1309)

Aim: Practical based on Data Visualization with Plotnine

Experiment No: 28

Date:

Enrollment No: 92400133104

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IDE:

Installation

```
pip install plotnine
```

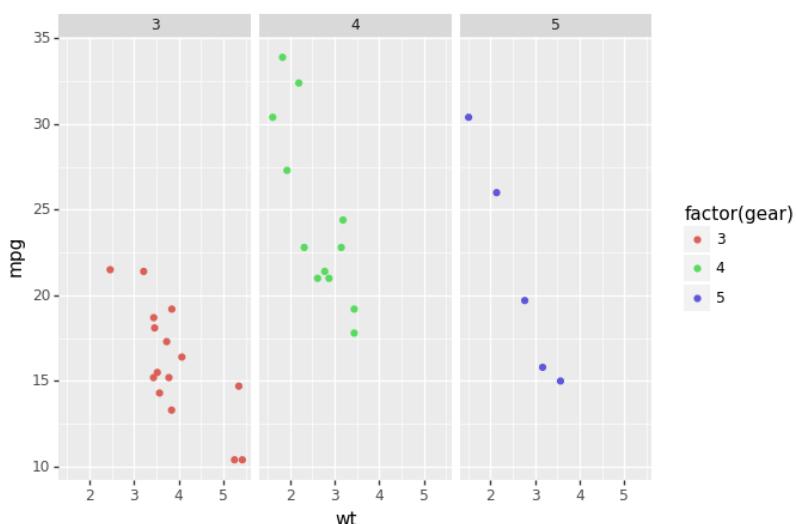
```
from plotnine import *
from plotnine.data import mtcars

print(mtcars.head())
```

```
      name  mpg cyl disp hp ... qsec vs am gear carb
0  Mazda RX4  21.0   6 160.0 110 ... 16.46  0  1    4    4
1  Mazda RX4 Wag 21.0   6 160.0 110 ... 17.02  0  1    4    4
2  Datsun 710  22.8   4 108.0  93 ... 18.61  1  1    4    1
3 Hornet 4 Drive 21.4   6 258.0 110 ... 19.44  1  0    3    1
4 Hornet Sportabout 18.7   8 360.0 175 ... 17.02  0  0    3    2

[5 rows x 12 columns]
```

```
(ggplot(data=mtcars)
+ geom_point(mapping=aes(x="wt", y="mpg", color="factor(gear")))
+ facet_wrap(~gear))
```



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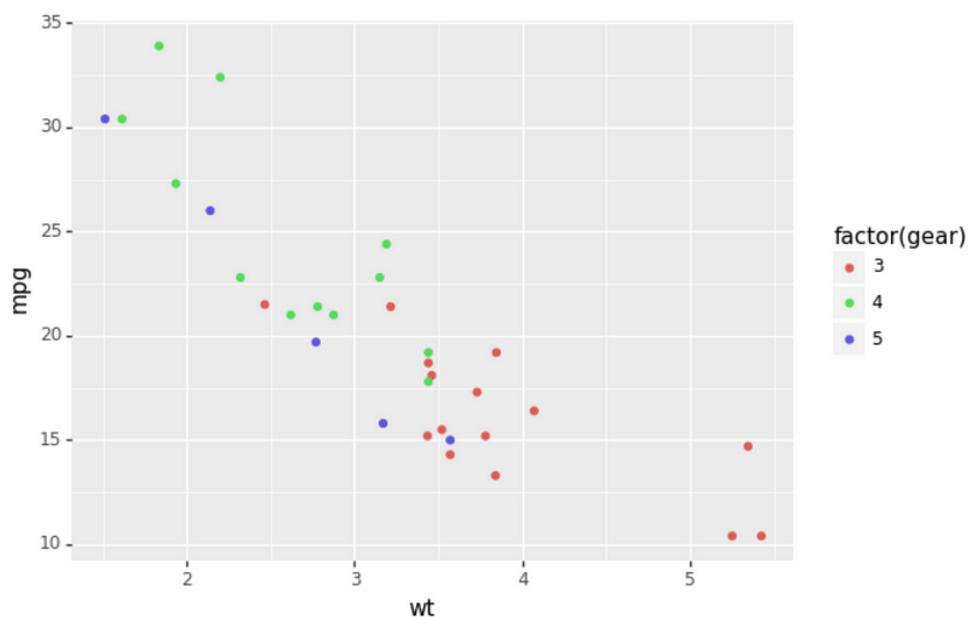
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Understanding the Grammer of Graphics

```
(ggplot(data=mtcars)
+ geom_point(aes("wt", "mpg", color="factor(gear)"))
)
```



```
(ggplot(data=mtcars)
+ geom_point(aes("wt", "mpg", size="factor(gear)"))
)
```

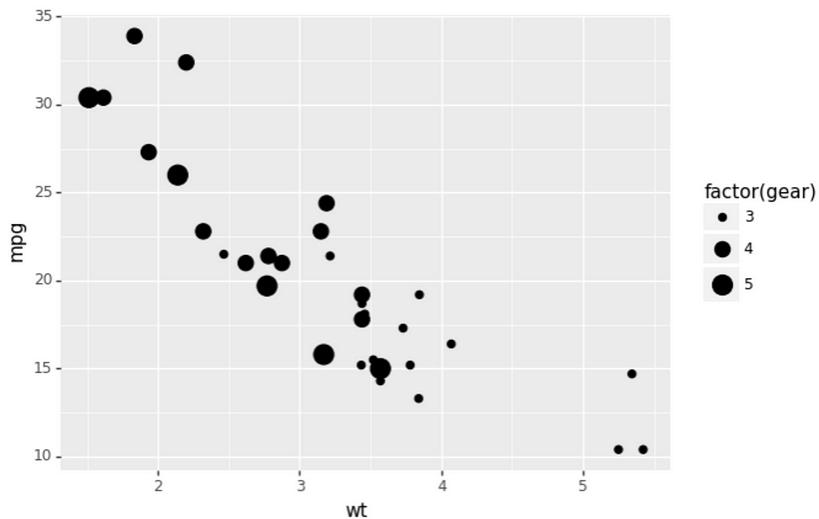
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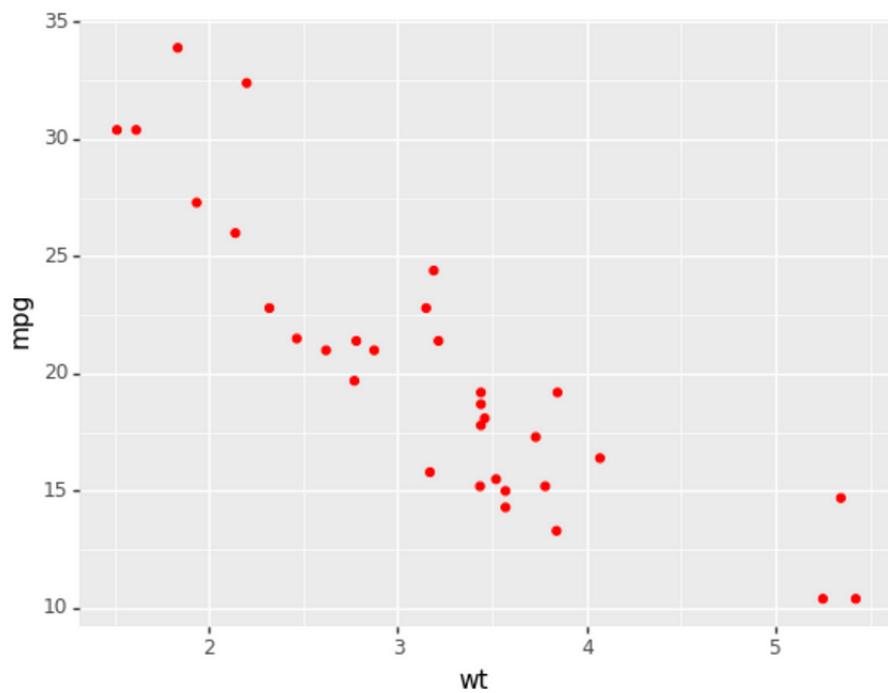
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```
(ggplot(data=mtcars)
+ geom_point(aes("wt", "mpg"), color='red')
)
```





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Post Lab

Visualize the raw data in the economics dataset

```
from plotnine.data import economics  
  
print(economics)
```

```
      date    pce    pop  psavert  uempmed  unemploy
0  1967-07-01  507.4  198712     12.5      4.5      2944
1  1967-08-01  510.5  198911     12.5      4.7      2945
2  1967-09-01  516.3  199113     11.7      4.6      2958
3  1967-10-01  512.9  199311     12.5      4.9      3143
4  1967-11-01  518.1  199498     12.5      4.7      3066
..    ...
569 2014-12-01 12122.0  320201      5.0     12.6      8688
570 2015-01-01 12080.8  320367      5.5     13.4      8979
571 2015-02-01 12095.9  320534      5.7     13.1      8705
572 2015-03-01 12161.5  320707      5.2     12.2      8575
573 2015-04-01 12158.9  320887      5.6     11.7      8549
```

[574 rows x 6 columns]

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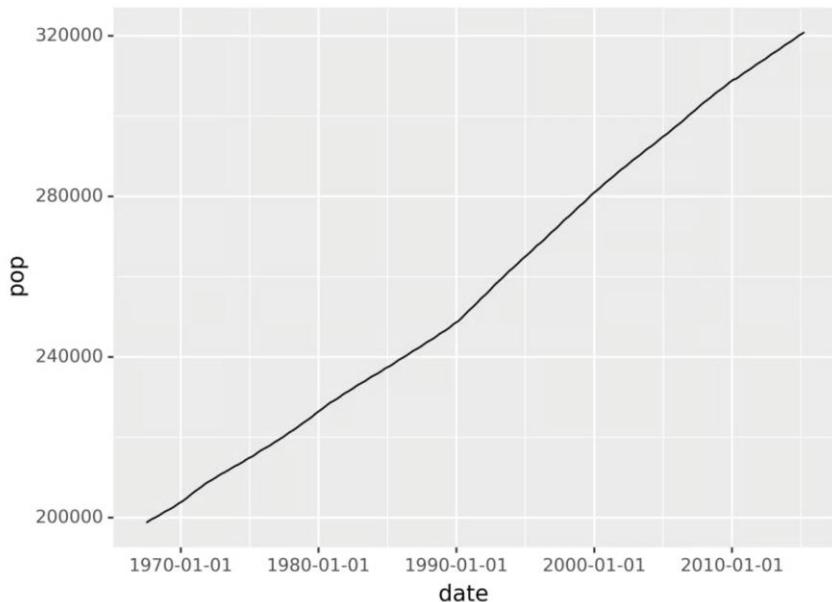
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```
from plotnine.data import economics
from plotnine import ggplot, aes, geom_line
```

```
(  
    ggplot(economics) # What data to use  
    + aes(x="date", y="pop") # What variable to use  
    + geom_line() # Geometric object to use for drawing  
)
```



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```
from_plotnine.data_import mpg
from_plotnine import ggplot, aes, geom_point

ggplot(mpg) + aes(x="class", y="hwy") + geom_point()
```

