



**Subject: Programming With Python (01CT1309)**

**Aim:** Practical based on Data Visualization with Plotnine

**Experiment No: 28**

**Date:**

**Enrollment No: 92400133131**

**Aim:** Practical based on Data Visualization with Plotnine

**IDE:**

Installation

```
pip install plotnine
```

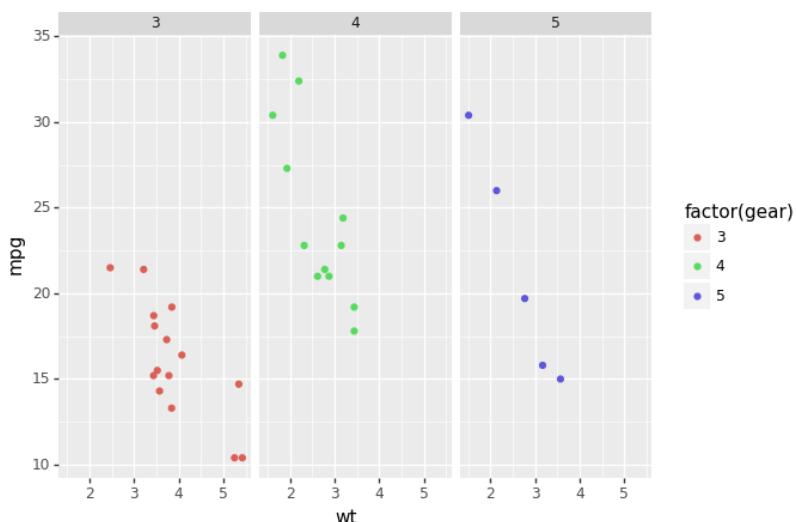
```
from plotnine import *
from plotnine.data import mtcars

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))
```

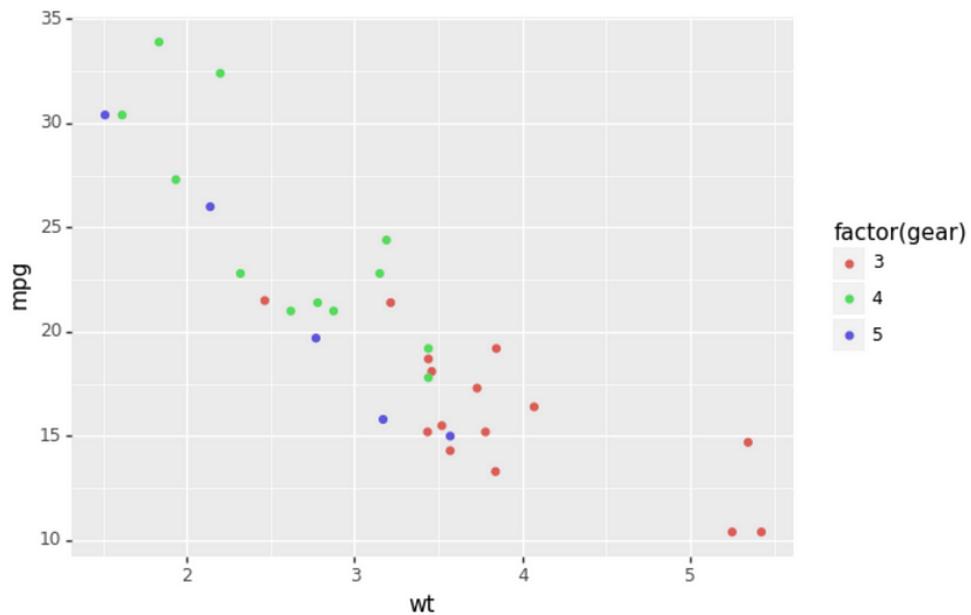


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### Understanding the Grammer of Graphics

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



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



**Marwadi**  
University  
Marwadi Chandarana Group



**Marwadi University**  
**Faculty of Engineering & Technology**  
**Department of Information and Communication Technology**

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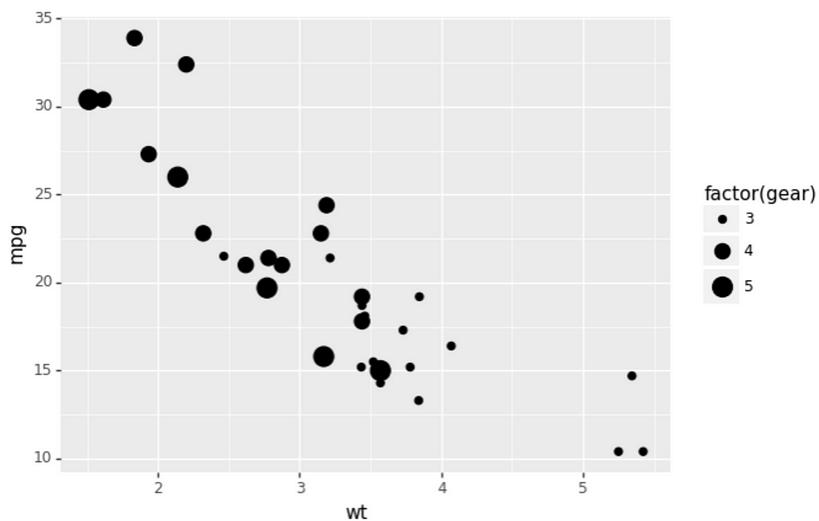
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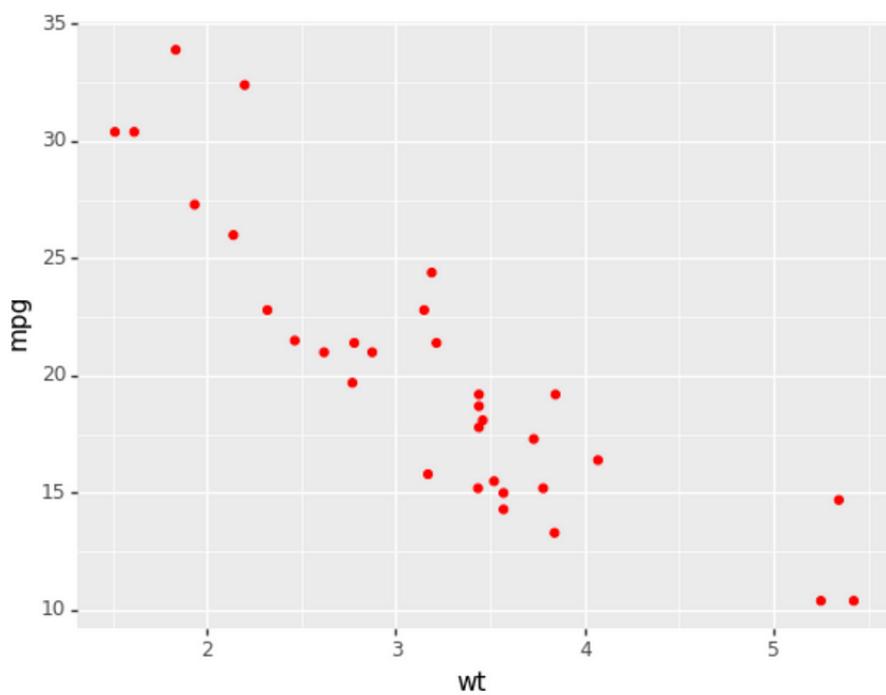
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```
(ggplot(data=mtcars)  
+ geom_point(aes("wt", "mpg"), color='red')  
)
```





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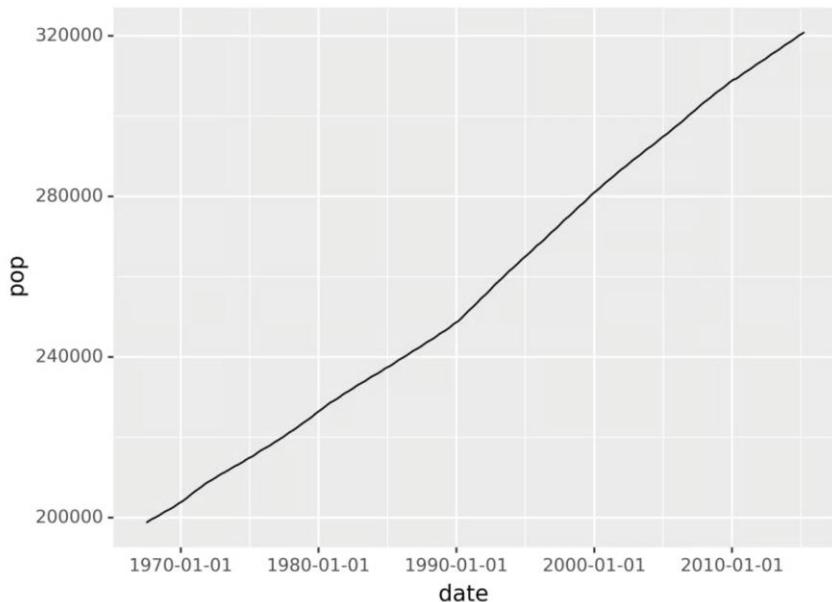
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```
from plotnine.data import economics
from plotnine import ggplot, aes, geom_line
```

```
(  
    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()
```

