Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Practical based on Data Visualization with Plotnine	
Experiment No: 28	**Date:**	**Enrollment No: 92400133037**

Aim: Practical based on Data Visualization with Plotnine

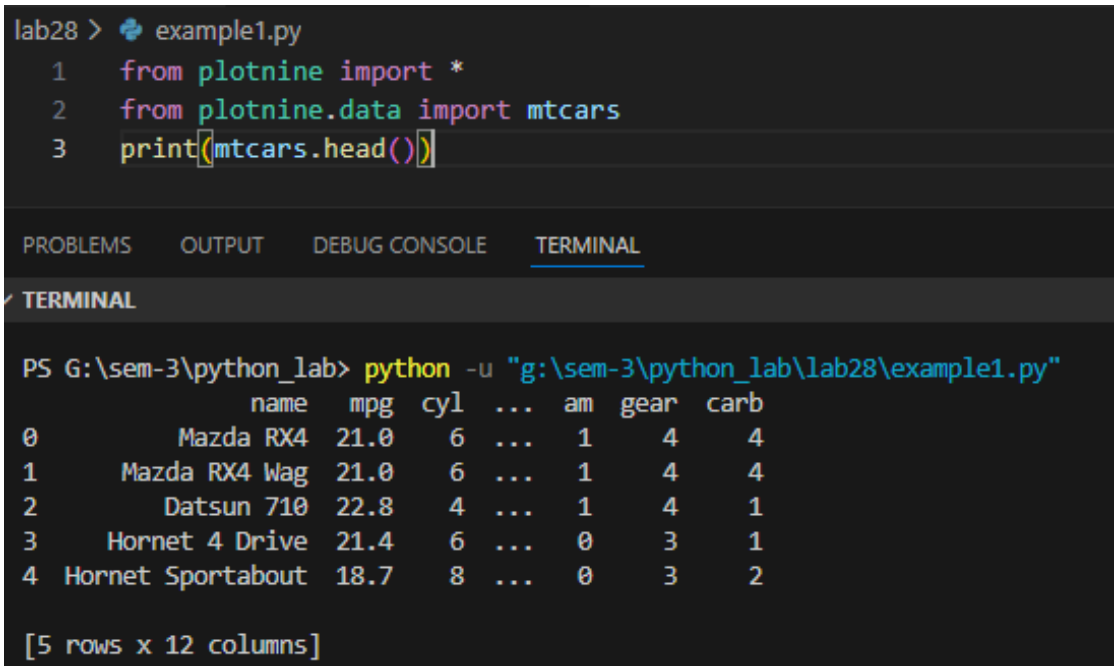
IDE:

Installation

pip install plotnine

from plotnine import *
from plotnine.data import mtcars

print(mtcars.head())



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Understanding the Grammer of Graphics

```
lab28 > example1.py > ...
1   from plotnine import *
2   from plotnine.data import mtcars
3   print(mtcars.head())
4   p1=(ggplot(data=mtcars)
5    + geom_point(mapping=aes(x="wt", y="mpg", color="factor(gear)"))
6    + facet_wrap("~gear"))
7   print(p1)
8   p1.save("G:\sem-3\python_lab\lab28\plot1.png")
9
10  p2=(ggplot(data=mtcars)
11   + geom_point(aes("wt","mpg",color="factor(gear)"))
12  )
13  print(p2)
14  p2.save("G:\sem-3\python_lab\lab28\plot2.png")
15
16  p3=(ggplot(data=mtcars)
17   + geom_point(aes("wt","mpg",size="factor(gear)"))
18  )
19  print(p3)
20  p3.save("G:\sem-3\python_lab\lab28\plot3.png")
21
22  p4=(ggplot(data=mtcars)
23  + geom_point(aes("wt", "mpg"), color='red')
24  )
25  print(p4)
26  p4.save("G:\sem-3\python_lab\lab28\plot4.png")

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
```

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

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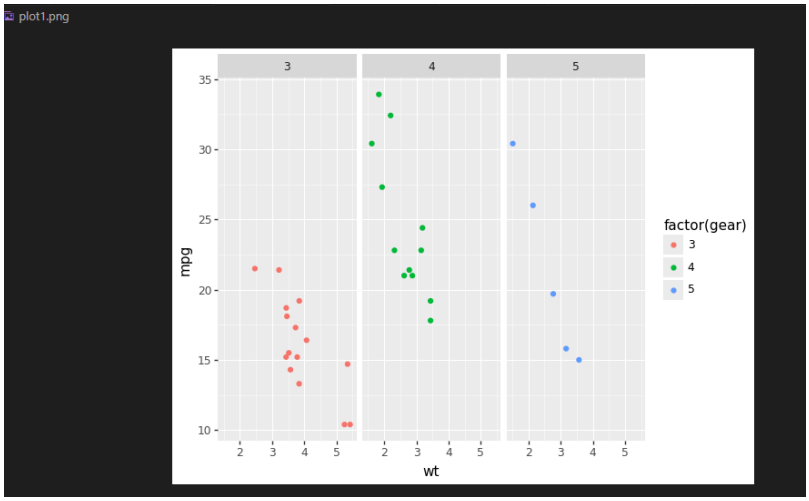
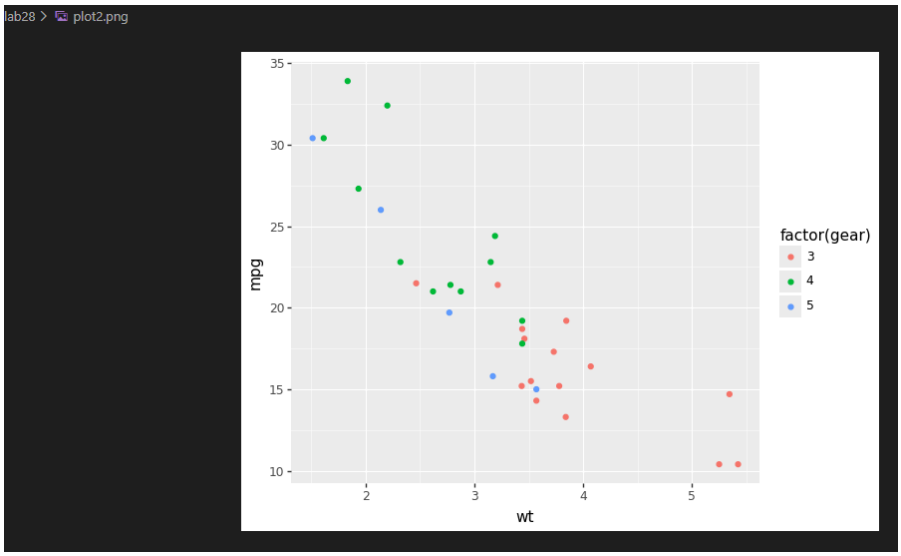



```
(ggplot(data=mtcars)
 + geom_point(aes("wt", "mpg", color="factor(gear)"))
)
```




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

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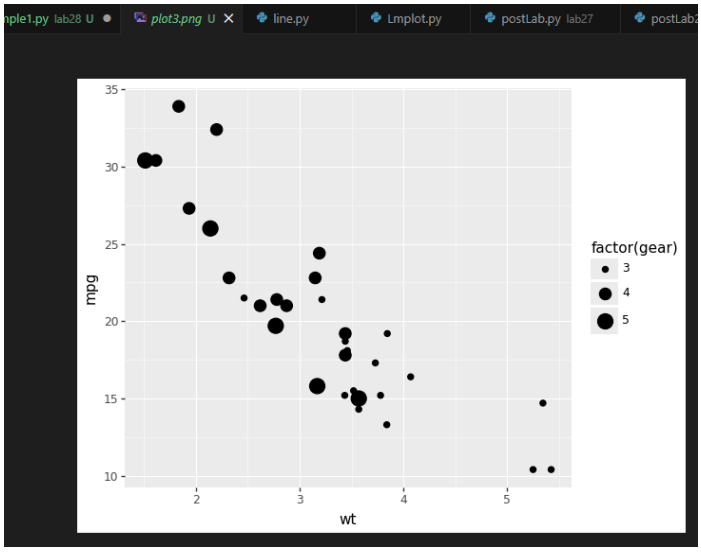
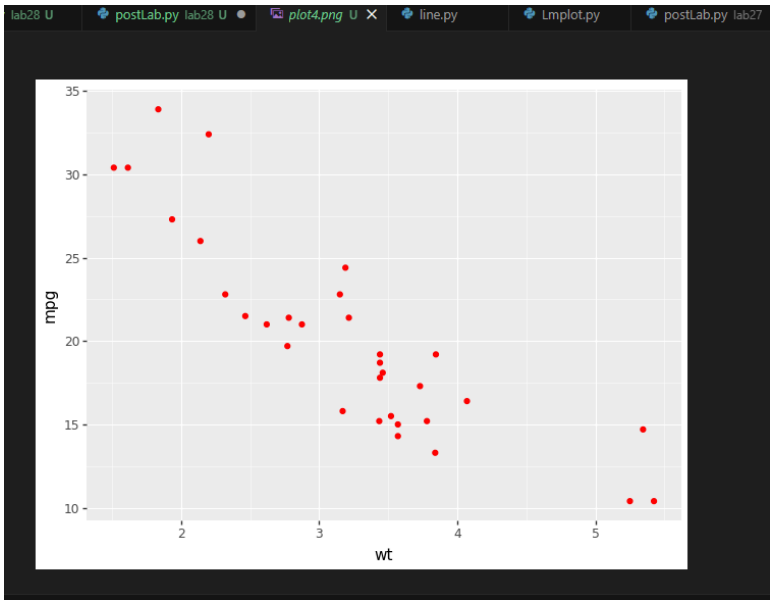



```
(ggplot(data=mtcars)
+ geom_point(aes("wt", "mpg"), color='red')
)
```



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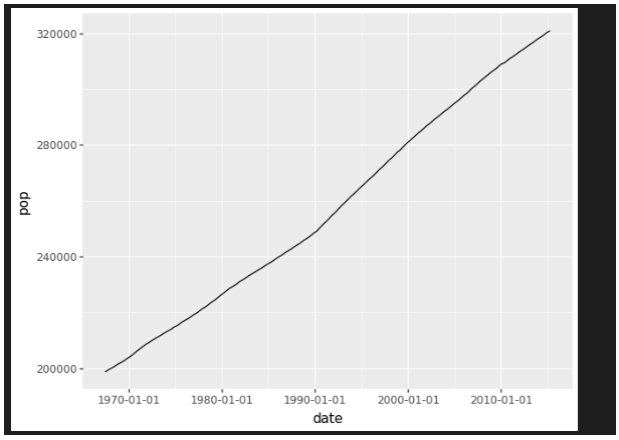
Post Lab

Visualize the raw data in the economics dataset
Visualize the raw data in the mpg dataset

```
lab28 > postLab.py > ...
1   from plotnine.data import economics
2   from plotnine import ggplot, aes, geom_line
3   print(economics)
4   pl1=(
5       ggplot(economics)
6       + aes(x="date", y="pop")
7       + geom_line()
8   )
9   print(pl1)
10  pl1.save(r"G:\sem-3\python_lab\lab28\plotLab1.png")
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
TERMINAL
PS G:\sem-3\python_lab> python -u "g:\sem-3\python_lab\lab28\postLab.py"
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]
<ggplot: (640 x 480)>
```



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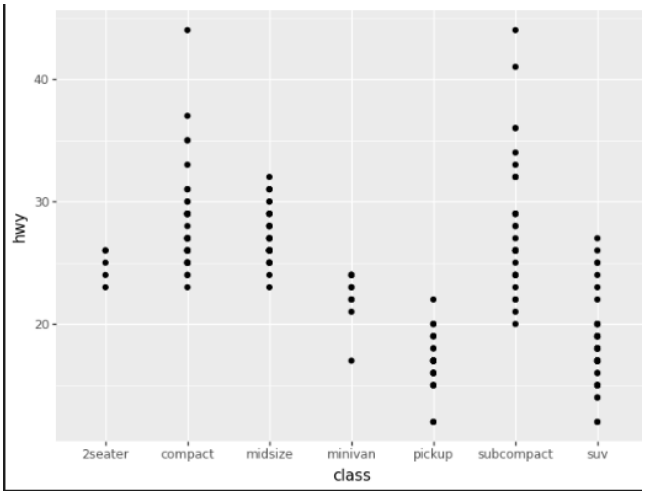
```
lab28 > postLab2.py > ...
1  from plotnine.data import mpg
2  from plotnine import ggplot, aes, geom_point
3
4  pl2=ggplot(mpg) + aes(x="class", y="hwy") + geom_point()
5  print(pl2)
6  pl2.save(r"G:\sem-3\python_lab\lab28\plotLab2.png")
```



GITHUB LINK:
https://github.com/Heer972005/Python_Lab