```
import sqlite3 as lite
%load_ext sql
%sqlite sqlite:///./Crime_Los_Angeles.db
```

```
/ | pwd/data_set/Crime_Los_Angeles.csv
```

```
/home/jovyan
```

```
%cat -n 10
```

```
     1  DR_NO,Date Rptd,DATE OCC,TIME OCC,AREA,AREA NAME,Rpt Dist No,Part 1-2,Crm Cd,Crm Cd Desc,Mocodes,Vict Age,Vict Sex,Vict Descent,Premis Cd,Premis Desc,Weapon Cd,Weapon Desc,Status,Status Desc,Crm Cd 1,Crm Cd 2,Crm Cd 3,Crm Cd 4,LOCATION,Cross Street,LOCATION.1
     2  101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     3  101014576,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     4  101014577,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     5  101014578,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     6  101014579,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     7  101014580,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     8  101014581,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     9  101014582,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
    10  101014583,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
/ | pwd/data_set/Crime_Los_Angeles.csv
```

```
/home/jovyan/data_set/Crime_Los_Angeles.csv
```

```
%cat -n 10
```

```
     1  DR_NO,Date Rptd,DATE OCC,TIME OCC,AREA,AREA NAME,Rpt Dist No,Part 1-2,Crm Cd,Crm Cd Desc,Mocodes,Vict Age,Vict Sex,Vict Descent,Premis Cd,Premis Desc,Weapon Cd,Weapon Desc,Status,Status Desc,Crm Cd 1,Crm Cd 2,Crm Cd 3,Crm Cd 4,LOCATION,Cross Street,LOCATION.1
     2  101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     3  101014576,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     4  101014577,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     5  101014578,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     6  101014579,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     7  101014580,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     8  101014581,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
     9  101014582,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
    10  101014583,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%pwd
```

```
/home/jovyan/data_set
```

```
%ls
```

```
Crime_Los_Angeles.csv
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
```

```
%cat -n 10 | head -1
```

```
     1  DR_NO,Date Rptd,DATE OCC,TIME OCC,AREA,AREA NAME,Rpt Dist No,Part 1-2,Crm Cd,Crm Cd Desc,Mocodes,Vict Age,Vict Sex,Vict Descent,Premis Cd,Premis Desc,Weapon Cd,Weapon Desc,Status,Status Desc,Crm Cd 1,Crm Cd 2,Crm Cd 3,Crm Cd 4,LOCATION,Cross Street,LOCATION.1
```

```
%cat -n 10 | head -1 > 1_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
```

```
%cat 1_Header
```

```
DR_NO,Date Rptd,DATE OCC,TIME OCC,AREA,AREA NAME,Rpt Dist No,Part 1-2,Crm Cd,Crm Cd Desc,Mocodes,Vict Age,Vict Sex,Vict Descent,Premis Cd,Premis Desc,Weapon Cd,Weapon Desc,Status,Status Desc,Crm Cd 1,Crm Cd 2,Crm Cd 3,Crm Cd 4,LOCATION,Cross Street,LOCATION.1
```

```
%cat -n 10 | head -2
```

```
     1  DR_NO,Date Rptd,DATE OCC,TIME OCC,AREA,AREA NAME,Rpt Dist No,Part 1-2,Crm Cd,Crm Cd Desc,Mocodes,Vict Age,Vict Sex,Vict Descent,Premis Cd,Premis Desc,Weapon Cd,Weapon Desc,Status,Status Desc,Crm Cd 1,Crm Cd 2,Crm Cd 3,Crm Cd 4,LOCATION,Cross Street,LOCATION.1
     2  101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 > 2_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
```

```
%cat 2_Header
```

```
DR_NO,Date Rptd,DATE OCC,TIME OCC,AREA,AREA NAME,Rpt Dist No,Part 1-2,Crm Cd,Crm Cd Desc,Mocodes,Vict Age,Vict Sex,Vict Descent,Premis Cd,Premis Desc,Weapon Cd,Weapon Desc,Status,Status Desc,Crm Cd 1,Crm Cd 2,Crm Cd 3,Crm Cd 4,LOCATION,Cross Street,LOCATION.1
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 3_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
```

```
%cat 3_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 4_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
```

```
%cat 4_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 5_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
```

```
%cat 5_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 6_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
```

```
%cat 6_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 7_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
```

```
%cat 7_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 8_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 8_Header*
```

```
%cat 8_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 9_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 8_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 9_Header*
```

```
%cat 9_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 10_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 8_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 9_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 10_Header*
```

```
%cat 10_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 11_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 8_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 9_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 10_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 11_Header*
```

```
%cat 11_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 12_Header
```

```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 8_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 9_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 10_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 11_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 12_Header*
```

```
%cat 12_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330,Burglary from Vehicle,0344,,,,,,,,IC,Invest Cont,330,,,,,,
```

```
%cat -n 10 | head -2 | tail -1 > 13_Header
```

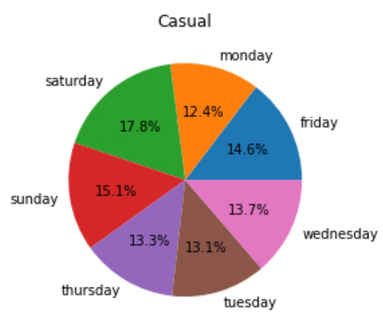
```
%ls -l
```

```
-rwxrwx---+ 1 root root 1.6G Jan 12 17:11 Crime_Los_Angeles.csv*
drwxrwx---+ 2 root root    0 Jan 12 17:11 .ipynb_checkpoints/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.1/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.2/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.3/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.4/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.5/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.6/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.7/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.8/
drwxrwx---+ 2 root root    0 Jan 12 17:11 .qgis_settings.d.backup.9/
-rwxrwx---+ 1 root root   97 Jan 12 17:11 1_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 2_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 3_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 4_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 5_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 6_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 7_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 8_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 9_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 10_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 11_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 12_Header*
-rwxrwx---+ 1 root root  197 Jan 12 17:11 13_Header*
```

```
%cat 13_Header
```

```
101014575,01/01/2010 12:00:00 AM,01/01/2010 12:00:00 AM,1700,10,West Valley,1021,1,330
```

In [90]:
```
plt.pie(df_causal_days['counts'],labels=df_causal_days['days'],autopct='%1.1f%%')
plt.title('Casual')
plt.show()
```



In [91]:
```
df.head(2)
```

Out[91]:

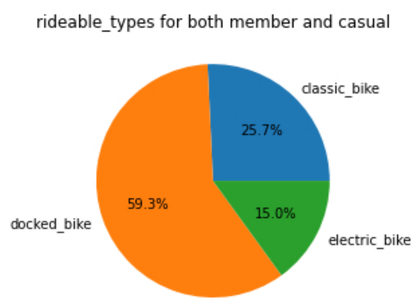
	ride_id	rideable_type	started_at	ended_at	start_station_name	start_station_id	end_station_name	end_station_id	member_casual	day_week_start	duration	distance
0	000001004784CD35	docked_bike	2020-07-22	2020-07-22 15:56:47	Wolcott (Ravenswood) Ave & Montrose Ave	238	Southport Ave & Clybourn Ave	307	casual	wednesday	1824.0	42501.53
1	000002EBE159AE82	electric_bike	2021-06-22	2021-06-22 17:31:34	Clinton St & Jackson Blvd	638	Milwaukee Ave & Grand Ave	13033	member	tuesday	619.0	14982.48

In [113…
```
df1 = pd.Series(df['rideable_type'].value_counts().sort_index())
df1.index = pd.Index(df1.index)
df1 = df1.rename_axis('rideable_type').reset_index(name = 'counts')
df1
```

Out[113…

	rideable_type	counts
0	classic_bike	1205865
1	docked_bike	2776356
2	electric_bike	703344

In [119…
```
plt.pie(df1['counts'],labels = df1['rideable_type'], autopct='%1.1f%%')
plt.title('rideable_types for both member and casual')
plt.show()
```

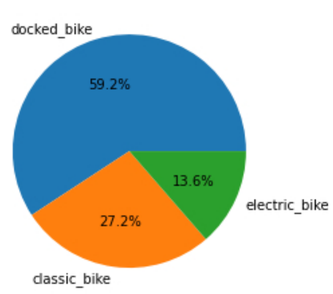


In [122…
```
df2 = pd.Series(df_member['rideable_type'].value_counts())
df2.index = pd.Index(df2.index)
df2 = df2.rename_axis('rideable_type').reset_index(name = 'counts')
df2
```

Out[122…

	rideable_type	counts
0	docked_bike	1727733
1	classic_bike	792599
2	electric_bike	397107

In [124…
```
plt.pie(df2['counts'],labels = df2['rideable_type'],autopct ='%1.1f%%' )
plt.show()
```

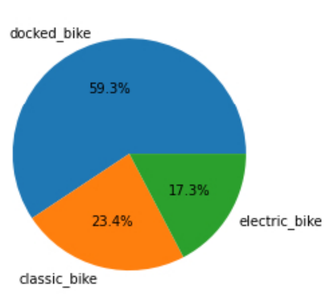


In [125…
```
df3 = pd.Series(df_casual['rideable_type'].value_counts())
df3.index = pd.Index(df3.index)
df3 = df3.rename_axis('rideable_type').reset_index(name = 'counts')
df3
```

Out[125…

	rideable_type	counts
0	docked_bike	1048623
1	classic_bike	413266
2	electric_bike	306237

In [126…
```
plt.pie(df3['counts'],labels = df3['rideable_type'],autopct ='%1.1f%%' )
plt.show()
```



In [ ]: