

```

import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

data=pd.read_csv('data.csv')

```

Step 2

```

print("Head of the data:")
print(data.head())

print("\nShape of the data:")
print(data.shape)

print("\nDescription of the data:")
print(data.describe())

```

Head of the data:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
0	train	203097	420000.0	6/1/12 0:00	present	
1	train	579905	500000.0	9/1/13 0:00	present	
2	train	810601	325000.0	6/1/14 0:00	present	
3	train	267447	1100000.0	7/1/11 0:00	present	
4	train	343523	200000.0	3/1/14 0:00	3/1/15 0:00	

	Designation	JobCity	Gender	DOB
10percentage \				
0 senior quality engineer	Bangalore	f	2/19/90 0:00	
84.3				
1 assistant manager	Indore	m	10/4/89 0:00	
85.4				
2 systems engineer	Chennai	f	8/3/92 0:00	
85.0				
3 senior software engineer	Gurgaon	m	12/5/89 0:00	
85.6				
4 get	Manesar	m	2/27/91 0:00	
78.0				

	... ComputerScience	MechanicalEngg	ElectricalEngg	TelecomEngg
CivilEngg \				
0 ...	-1	-1	-1	-1
-1				
1 ...	-1	-1	-1	-1
-1				
2 ...	-1	-1	-1	-1
-1				
3 ...	-1	-1	-1	-1
-1				
4 ...	-1	-1	-1	-1
-1				

```

conscientiousness agreeableness extraversion nuerotism \
0          0.9737      0.8128      0.5269      1.35490
1         -0.7335      0.3789      1.2396     -0.10760
2          0.2718      1.7109      0.1637     -0.86820
3          0.0464      0.3448     -0.3440     -0.40780
4         -0.8810     -0.2793     -1.0697      0.09163

openess_to_experience
0          -0.4455
1           0.8637
2           0.6721
3          -0.9194
4          -0.1295

[5 rows x 39 columns]

```

Shape of the data:
(3998, 39)

Description of the data:

	ID	Salary	10percentage	12graduation
12percentage \				
count	3.998000e+03	3.998000e+03	3998.000000	3998.000000
3998.000000				
mean	6.637945e+05	3.076998e+05	77.925443	2008.087544
74.466366				
std	3.632182e+05	2.127375e+05	9.850162	1.653599
10.999933				
min	1.124400e+04	3.500000e+04	43.000000	1995.000000
40.000000				
25%	3.342842e+05	1.800000e+05	71.680000	2007.000000
66.000000				
50%	6.396000e+05	3.000000e+05	79.150000	2008.000000
74.400000				
75%	9.904800e+05	3.700000e+05	85.670000	2009.000000
82.600000				
max	1.298275e+06	4.000000e+06	97.760000	2013.000000
98.700000				

	CollegeID	CollegeTier	collegeGPA	CollegeCityID
CollegeCityTier \				
count	3998.000000	3998.000000	3998.000000	3998.000000
3998.000000				
mean	5156.851426	1.925713	71.486171	5156.851426
0.300400				
std	4802.261482	0.262270	8.167338	4802.261482
0.458489				
min	2.000000	1.000000	6.450000	2.000000
0.000000				

25%	494.000000	2.000000	66.407500	494.000000
0.000000				
50%	3879.000000	2.000000	71.720000	3879.000000
0.000000				
75%	8818.000000	2.000000	76.327500	8818.000000
1.000000				
max	18409.000000	2.000000	99.930000	18409.000000
1.000000				

	ComputerScience	MechanicalEngg	ElectricalEngg	
TelecomEngg	\			
count	3998.000000	3998.000000	3998.000000	
3998.000000				
mean	90.742371	22.974737	16.478739	
31.851176				
std	175.273083	98.123311	87.585634	
104.852845				
min	-1.000000	-1.000000	-1.000000	-
1.000000				
25%	-1.000000	-1.000000	-1.000000	-
1.000000				
50%	-1.000000	-1.000000	-1.000000	-
1.000000				
75%	-1.000000	-1.000000	-1.000000	-
1.000000				
max	715.000000	623.000000	676.000000	
548.000000				

	CivilEngg	conscientiousness	agreeableness	extraversion	\
count	3998.000000	3998.000000	3998.000000	3998.000000	
3998.000000					
mean	2.683842	-0.037831	0.146496	0.002763	
std	36.658505	1.028666	0.941782	0.951471	
min	-1.000000	-4.126700	-5.781600	-4.600900	
25%	-1.000000	-0.713525	-0.287100	-0.604800	
50%	-1.000000	0.046400	0.212400	0.091400	
75%	-1.000000	0.702700	0.812800	0.672000	
max	516.000000	1.995300	1.904800	2.535400	

	nueroticism	openess_to_experience	
count	3998.000000	3998.000000	
3998.000000			
mean	-0.169033	-0.138110	
std	1.007580	1.008075	
min	-2.643000	-7.375700	
25%	-0.868200	-0.669200	
50%	-0.234400	-0.094300	
75%	0.526200	0.502400	
max	3.352500	1.822400	

[8 rows x 27 columns]

step 3

```
import seaborn as sns
numerical_columns = data.select_dtypes(include=['int64',
'float64']).columns

for column in numerical_columns:
    plt.figure(figsize=(12, 6))

    # Probability Density Function (PDF) using Kernel Density
    # Estimation (KDE)
    sns.kdeplot(data[column], shade=True)
    plt.title(f'PDF for {column}')
    plt.xlabel(column)
    plt.ylabel('Density')
    plt.show()

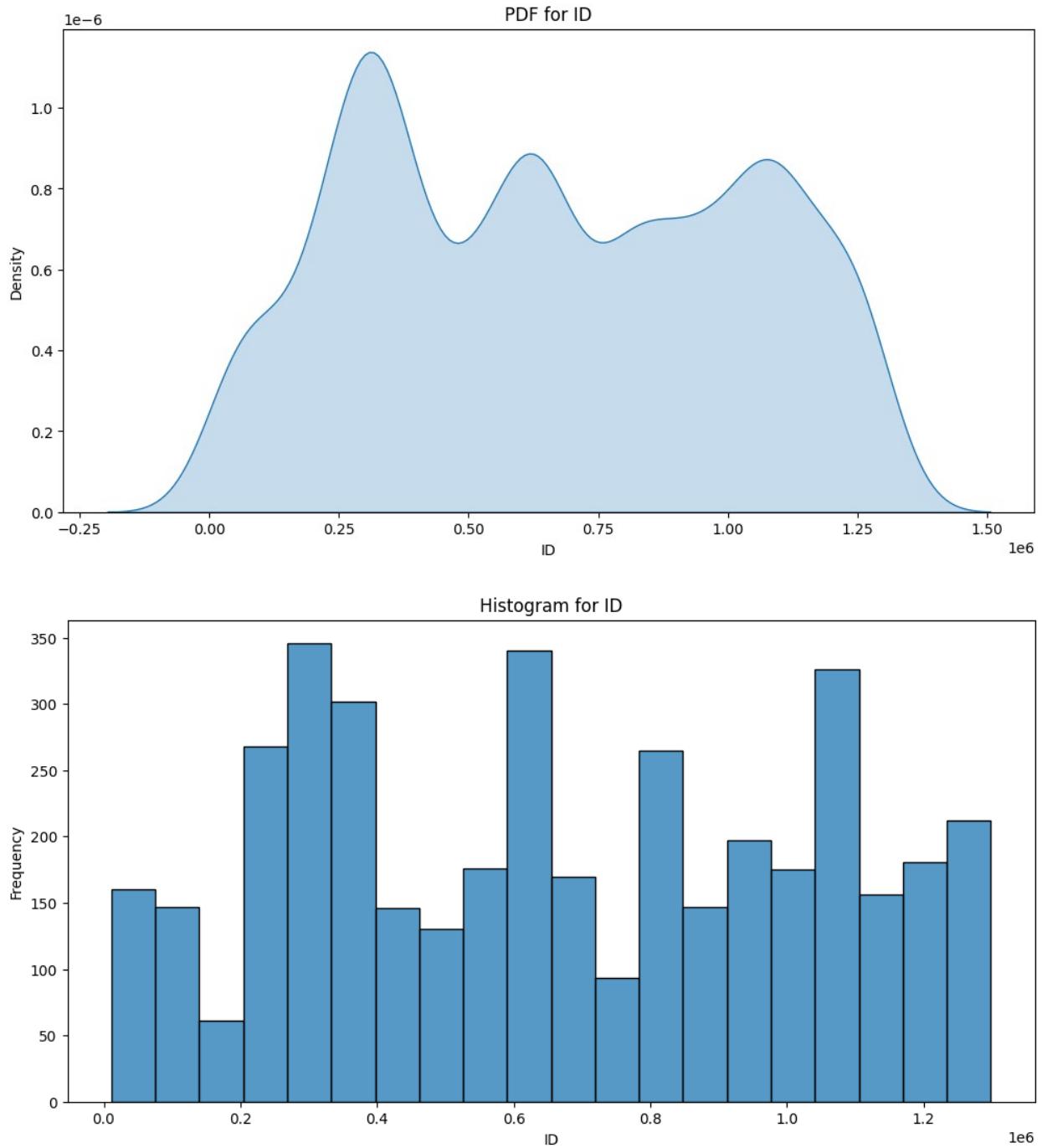
    # Histogram
    plt.figure(figsize=(12, 6))
    sns.histplot(data[column], kde=False, bins=20)
    plt.title(f'Histogram for {column}')
    plt.xlabel(column)
    plt.ylabel('Frequency')
    plt.show()

    # Boxplot
    plt.figure(figsize=(12, 6))
    sns.boxplot(x=data[column])
    plt.title(f'Boxplot for {column}')
    plt.xlabel(column)
    plt.show()

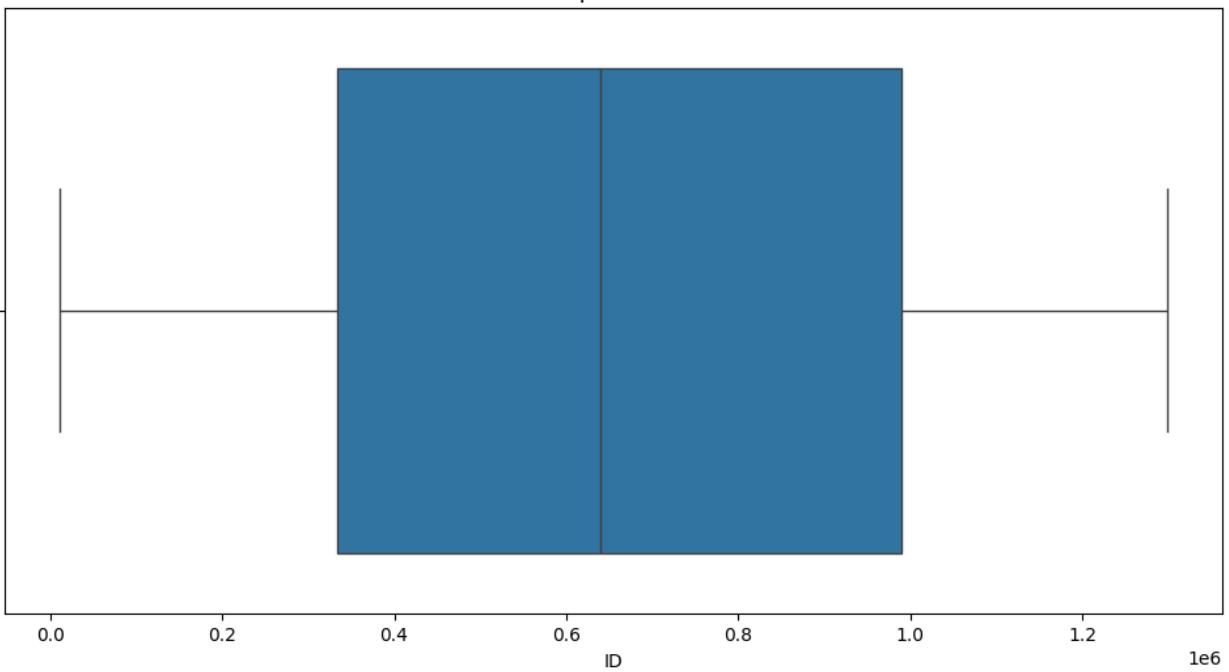
    # Outlier detection
    q1 = data[column].quantile(0.25)
    q3 = data[column].quantile(0.75)
    iqr = q3 - q1
    lower_bound = q1 - 1.5 * iqr
    upper_bound = q3 + 1.5 * iqr
    outliers = data[(data[column] < lower_bound) | (data[column] >
upper_bound)]
    print(f'Outliers in {column}:')
    print(outliers)
    print('\n')

<ipython-input-6-5c2bd027771c>:8: FutureWarning:
`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

sns.kdeplot(data[column], shade=True)
```



Boxplot for ID



Outliers in ID:

Empty DataFrame

Columns: [Unnamed: 0, ID, Salary, DOJ, DOL, Designation, JobCity, Gender, DOB, 10percentage, 10board, 12graduation, 12percentage, 12board, CollegeID, CollegeTier, Degree, Specialization, collegeGPA, CollegeCityID, CollegeCityTier, CollegeState, GraduationYear, English, Logical, Quant, Domain, ComputerProgramming, ElectronicsAndSemicon, ComputerScience, MechanicalEngg, ElectricalEngg, TelecomEngg, CivilEngg, conscientiousness, agreeableness, extraversion, nueroticism, openness_to_experience]

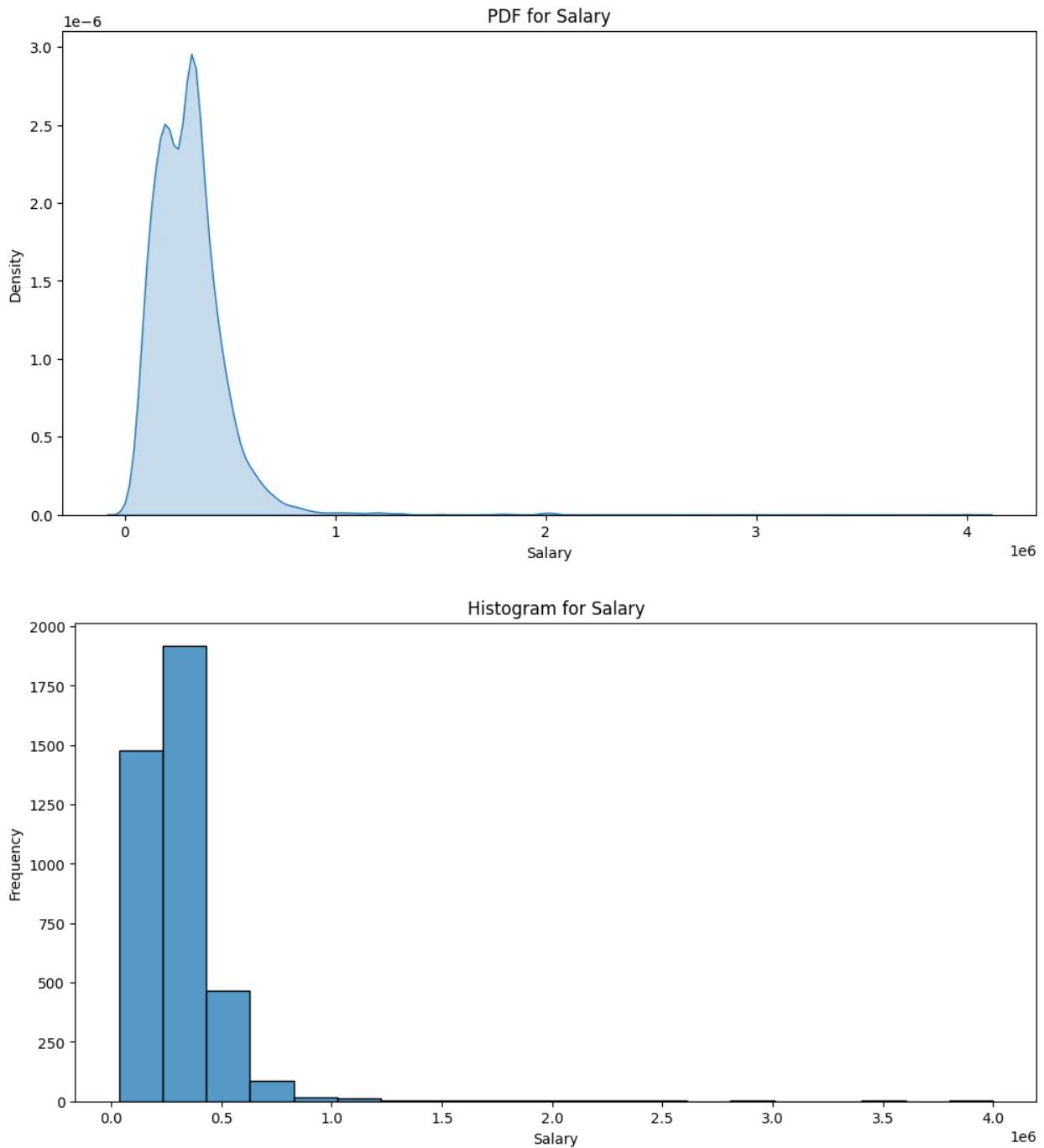
Index: []

[0 rows x 39 columns]

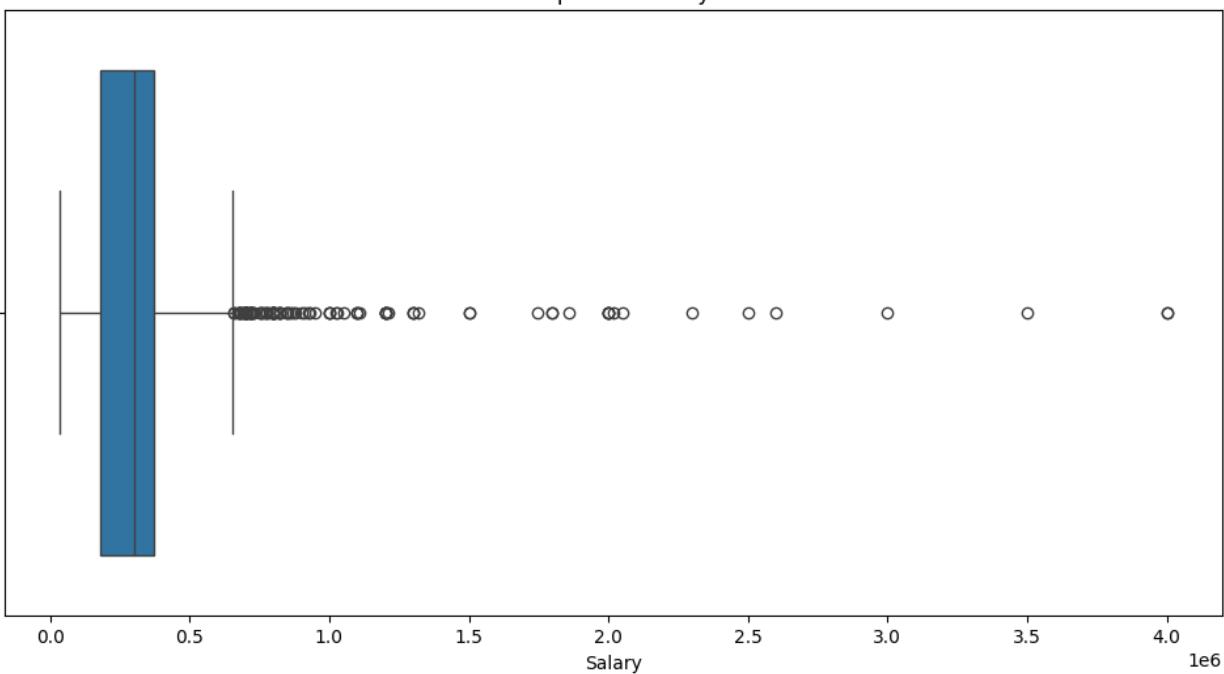
<ipython-input-6-5c2bd027771c>:8: FutureWarning:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

 sns.kdeplot(data[column], shade=True)



Boxplot for Salary



Outliers in Salary:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
3	train	267447	1100000.0	7/1/11 0:00		present	
76	train	361583	800000.0	6/1/12 0:00		present	
92	train	1250429	1500000.0	11/1/14 0:00	7/1/14 0:00		
123	train	312164	1200000.0	7/1/10 0:00	7/1/11 0:00		
128	train	206734	675000.0	11/1/11 0:00		present	
...	
3823	train	918568	775000.0	8/1/14 0:00		present	
3904	train	267121	850000.0	9/1/11 0:00		present	
3912	train	231229	730000.0	7/1/13 0:00		present	
3961	train	230702	700000.0	7/1/11 0:00	9/1/14 0:00		
3992	train	344407	800000.0	4/1/14 0:00	4/1/15 0:00		

		Designation	JobCity	Gender	DOB	\
3	senior	software engineer	Gurgaon	m	12/5/89 0:00	
76		software engineer	Bangalore	m	1/25/91 0:00	
92		application developer	Hyderabad	m	1/4/92 0:00	
123		engineer trainee	Maharajganj	m	4/25/88 0:00	
128	senior	software engineer	Noida	m	11/7/88 0:00	
...	
3823	mechanical	design engineer	Dammam	m	1/12/91 0:00	
3904		operations assistant	Noida	m	1/5/89 0:00	
3912		research scientist	Pune	m	11/15/89 0:00	
3961		planning engineer	Rajpura	m	12/27/87 0:00	
3992		manager	Rajkot	m	6/22/90 0:00	

10percentage ... ComputerScience MechanicalEngg

	ElectricalEngg	\				
3	85.60	...	- 1	- 1	-	-
1						
76	93.44	...	- 1	- 1	-	-
1						
92	79.00	...	346	- 1	-	-
1						
123	59.80	...	- 1	206	-	-
1						
128	60.00	...	- 1	- 1	-	-
1						
...
.						
3823	87.40	...	- 1	469	-	-
1						
3904	83.40	...	- 1	- 1	-	-
1						
3912	84.67	...	- 1	- 1	-	-
1						
3961	84.20	...	- 1	- 1	-	-
1						
3992	73.00	...	- 1	- 1	-	-
1						
	TelecomEngg	CivilEngg	conscientiousness	agreeableness		
extraversion	\					
3	- 1	- 1	0.0464	0.3448	-	-
0.3440						
76	- 1	- 1	-0.4173	0.9688	-	-
0.1988						
92	- 1	- 1	0.4155	0.5454		
0.9322						
123	- 1	- 1	0.2009	1.1248		
1.1074						
128	- 1	- 1	-0.8810	-0.2793	-	-
0.6343						
...
.						
3823	- 1	- 1	-0.8772	-0.1206	-	-
0.1437						
3904	- 1	- 1	-0.8810	0.1888	-	-
0.1988						
3912	- 1	- 1	-1.3447	-1.0593		
0.6720						
3961	- 1	460	-1.3447	0.0328	-	-
2.3759						
3992	- 1	480	0.3555	-0.9033		
0.9623						

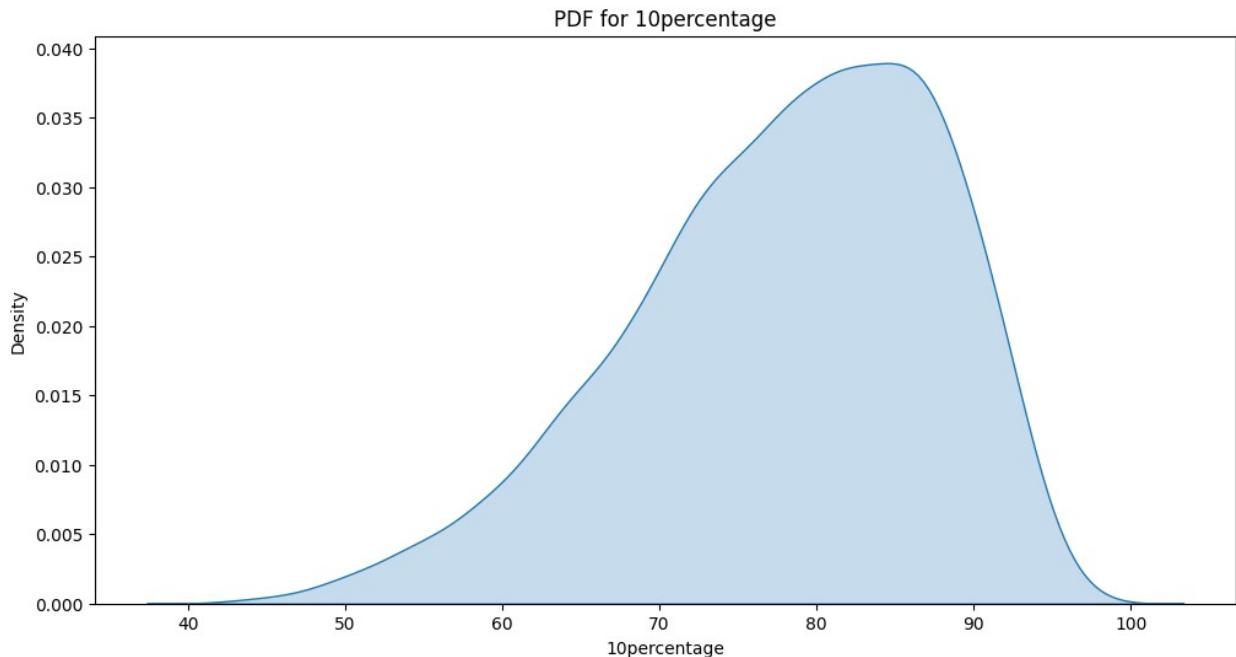
```
    nueroticism  openness_to_experience
3           -0.40780                 -0.9194
76          -0.29020                  0.3049
92          -0.61470                  0.8637
123         -1.11280                  0.9763
128         -0.64280                 -2.9731
...
3823        -0.23440                 -0.0943
3904        -0.05520                 -1.0774
3912         1.00240                 -1.7093
3961        -0.99530                  0.3444
3992         0.64983                 -0.4229
```

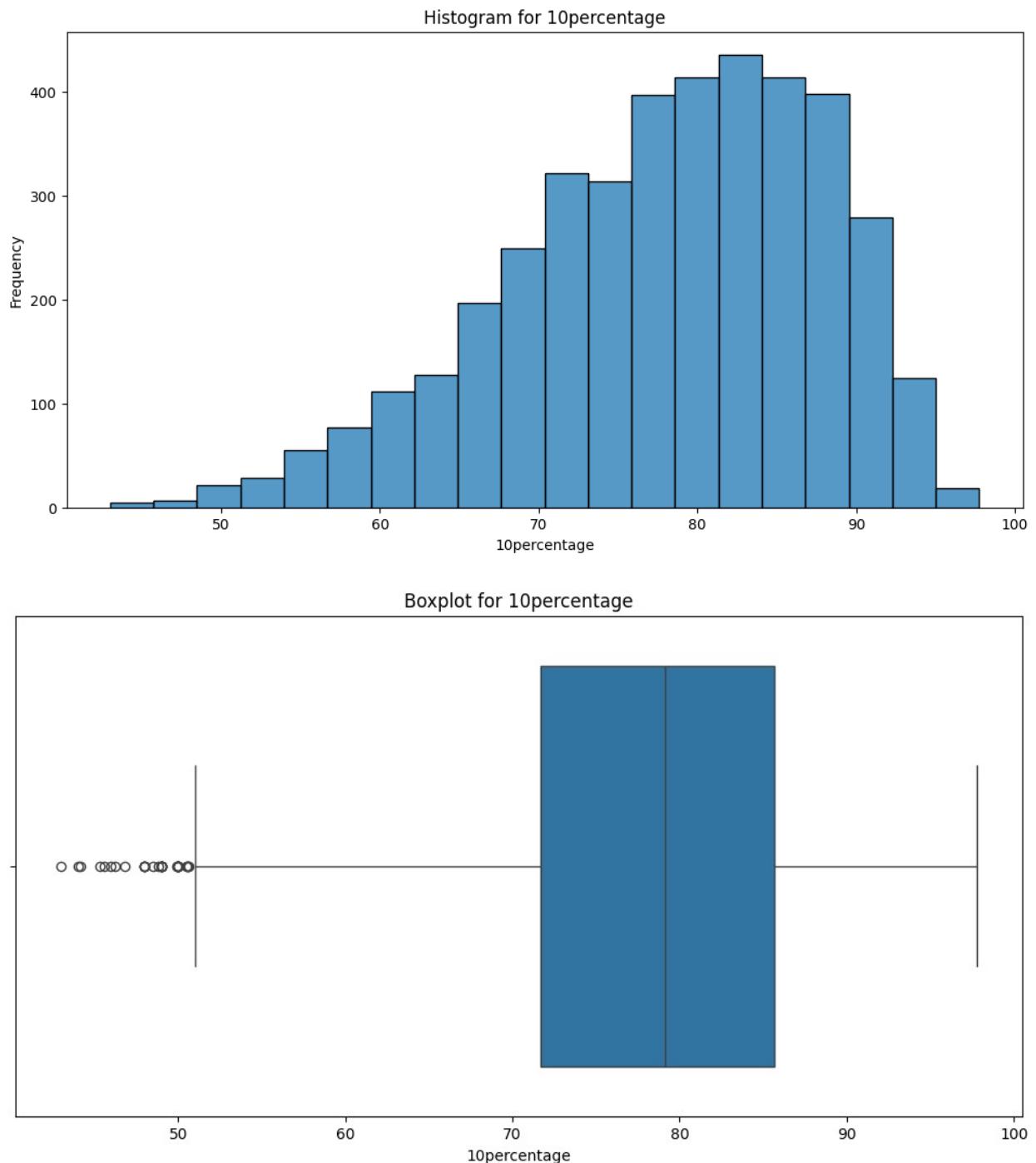
[109 rows x 39 columns]

<ipython-input-6-5c2bd027771c>:8: FutureWarning:

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```
sns.kdeplot(data[column], shade=True)
```





Outliers in 10percentage:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
245	train	984958	285000.0	8/1/14 0:00	4/1/15 0:00	
466	train	1245184	215000.0	1/1/15 0:00	4/1/15 0:00	
490	train	302937	150000.0	7/1/11 0:00	11/1/12 0:00	
491	train	53838	100000.0	5/1/10 0:00	1/1/11 0:00	
502	train	1160766	240000.0	1/1/15 0:00	4/1/15 0:00	

600	train	918414	200000.0	11/1/08 0:00	11/1/12 0:00
613	train	228081	440000.0	5/1/13 0:00	present
898	train	212005	270000.0	3/1/13 0:00	present
919	train	1231953	450000.0	7/1/14 0:00	6/1/15 0:00
1064	train	277260	250000.0	9/1/11 0:00	12/1/14 0:00
1102	train	311098	120000.0	12/1/12 0:00	1/1/15 0:00
1169	train	179878	105000.0	1/1/11 0:00	6/1/11 0:00
1193	train	309190	180000.0	12/1/12 0:00	12/1/13 0:00
1235	train	325701	115000.0	11/1/12 0:00	1/1/13 0:00
1334	train	240133	110000.0	1/1/12 0:00	8/1/12 0:00
1838	train	637345	190000.0	1/1/14 0:00	4/1/15 0:00
1845	train	1251526	150000.0	12/1/14 0:00	present
1955	train	601296	145000.0	8/1/13 0:00	8/1/14 0:00
1976	train	636483	105000.0	5/1/13 0:00	12/1/14 0:00
2037	train	985445	120000.0	11/1/14 0:00	4/1/15 0:00
2215	train	1095080	235000.0	9/1/13 0:00	6/1/14 0:00
2292	train	457936	300000.0	3/1/13 0:00	9/1/14 0:00
2432	train	878844	120000.0	6/1/14 0:00	1/1/15 0:00
2655	train	108902	85000.0	8/1/12 0:00	5/1/13 0:00
2885	train	505714	240000.0	1/1/14 0:00	2/1/15 0:00
2982	train	1251571	180000.0	10/1/14 0:00	5/1/15 0:00
3284	train	267354	120000.0	2/1/12 0:00	10/1/13 0:00
3425	train	1269533	120000.0	1/1/14 0:00	5/1/14 0:00
3690	train	812583	290000.0	1/1/13 0:00	present
3743	train	63887	395000.0	11/1/11 0:00	present

DOB	\	Designation	JobCity	Gender	
245	0:00	technical support engineer	Jaipur	m	10/5/91
466	0:00	software developer	New Delhi	m	10/10/89
490	0:00	design engineer	Pune	m	5/5/89
491	0:00	software developer	Bhubaneshwar	m	6/12/87
502	0:00	electrical field engineer	New Delhi	m	11/4/90
600	0:00	project engineer	Thiruvananthapuram	m	5/27/86
613	0:00	operations manager	Hissar	m	10/25/88
898	0:00	asp.net developer	Noida	m	1/24/89
919	0:00	system engineer	Bangalore	f	7/12/89
1064	0:00	.net developer	New Delhi	m	12/20/87
1102		.net developer	New Delhi	m	9/2/83

0:00					
1169	software trainee	New Delhi	m	2/15/85	
0:00					
1193	network engineer	Noida	m	2/6/86	
0:00					
1235	phone banking officer	Hyderabad	f	7/24/89	
0:00					
1334	electrical engineer	ncr	m	8/6/87	
0:00					
1838	quality analyst	Hyderabad	m	7/3/91	
0:00					
1845	office coordinator	New Delhi	f	11/23/93	
0:00					
1955	.net developer	-1	m	6/23/89	
0:00					
1976	software developer	Bangalore	m	11/21/89	
0:00					
2037	technical support executive	A-64, sec-64, noida	m	6/15/91	
0:00					
2215	sales executive	Noida	m	3/15/92	
0:00					
2292	project engineer	Bangalore	m	9/1/90	
0:00					
2432	java software engineer	Noida	m	3/18/93	
0:00					
2655	software engineer	Pune	m	1/21/87	
0:00					
2885	project coordinator	Jaipur	m	10/19/89	
0:00					
2982	service coordinator	Noida	m	6/4/91	
0:00					
3284	quality analyst	Noida	m	8/5/88	
0:00					
3425	web developer	Pune	m	2/25/90	
0:00					
3690	asp.net developer	Bangalore	m	1/15/85	
0:00					
3743	senior software engineer	-1	m	5/11/85	
0:00					

10percentage	... ComputerScience	MechanicalEngg		
ElectricalEngg	\			
245	50.60	...	315	-1
1				-
466	44.16	...	-1	-1
1				-
490	44.00	...	-1	-1
1				-
491	45.60	...	-1	-1
				-

1					
502	48.00	...	- 1	- 1	
516					
600	49.00	...	- 1	- 1	-
1					
613	48.00	...	- 1	- 1	-
1					
898	49.00	...	- 1	- 1	-
1					
919	48.80	...	500	- 1	-
1					
1064	49.00	...	- 1	- 1	-
1					
1102	49.00	...	- 1	- 1	-
1					
1169	48.50	...	- 1	- 1	-
1					
1193	48.00	...	- 1	- 1	-
1					
1235	50.60	...	- 1	- 1	-
1					
1334	43.00	...	- 1	- 1	-
1					
1838	50.00	...	253	- 1	-
1					
1845	49.00	...	- 1	- 1	-
1					
1955	45.33	...	- 1	- 1	-
1					
1976	46.24	...	- 1	- 1	-
1					
2037	48.00	...	346	- 1	-
1					
2215	50.50	...	407	- 1	-
1					
2292	50.00	...	- 1	- 1	-
1					
2432	50.00	...	438	- 1	-
1					
2655	50.66	...	- 1	- 1	-
1					
2885	46.80	...	- 1	- 1	-
1					
2982	50.00	...	284	- 1	-
1					
3284	50.00	...	- 1	- 1	-
1					
3425	50.00	...	- 1	- 1	-
1					

3690	46.00	...	-1	-1	-
1					
3743	49.90	...	-1	-1	-
1					
	TelecomEngg	CivilEngg	conscientiousness	agreeableness	
	extraversion	\			
245	-1	-1	-0.0154	0.2124	-
0.1437					
466	-1	-1	0.2718	0.8784	
0.0100					
490	286	-1	-0.5100	0.0328	
0.6984					
491	-1	-1	0.6646	0.3448	-
1.0697					
502	-1	-1	-0.5236	-1.1196	
0.1637					
600	-1	-1	-1.1644	-1.9521	-
1.0659					
613	-1	-1	0.0464	0.6568	-
0.0537					
898	-1	-1	-0.8810	-1.5273	-
0.3440					
919	-1	-1	0.9900	0.3789	
1.0859					
1064	-1	-1	0.8192	0.1888	-
0.3440					
1102	-1	-1	1.2828	0.8128	
0.6720					
1169	-1	-1	-2.1175	-3.0874	-
2.6662					
1193	313	-1	-0.1082	-0.1232	
0.3817					
1235	-1	-1	-0.4173	0.1888	-
0.1988					
1334	-1	-1	0.9737	0.6568	
0.5269					
1838	286	-1	-0.1590	-0.1206	
0.3174					
1845	292	-1	-0.3027	1.2114	
0.1637					
1955	-1	-1	-1.7389	-0.2871	-
0.7026					
1976	-1	-1	0.8463	0.3789	
0.6248					
2037	-1	-1	-1.3080	-1.7856	
0.0100					
2215	-1	-1	0.7027	0.0459	
0.3174					

2292	-1	-1	0.5100	0.0328	-
0.0537					
2432	-1	-1	0.4155	-0.6504	
0.3034					
2655	-1	-1	1.2828	-1.3713	
0.8171					
2885	-1	-1	-1.3447	-0.2793	-
0.4891					
2982	-1	-1	1.5644	0.8784	
0.6248					
3284	-1	-1	-0.4173	-1.3713	
0.9042					
3425	-1	-1	-0.0154	-0.1206	-
0.2974					
3690	-1	-1	0.2718	-0.1206	-
0.6048					
3743	-1	-1	0.8192	1.1248	
0.6720					
nueroticism openness_to_experience					
245	-1.24860		1.2470		
466	-0.10760		0.4805		
490	-0.56440		0.6603		
491	0.29730		-0.9194		
502	0.01920		-1.0872		
600	0.52620		-1.4356		
613	-0.05520		0.6603		
898	0.53230		-0.9194		
919	0.65300		0.4805		
1064	-0.76030		0.8183		
1102	-1.70040		-0.2875		
1169	0.06230		-3.4471		
1193	-0.40780		-1.0774		
1235	0.88483		-0.1295		
1334	0.88480		-0.1295		
1838	0.01920		0.2889		
1845	0.39950		1.2470		
1955	0.52620		-1.1291		
1976	1.28690		0.4805		
2037	0.01920		-2.3937		
2215	0.27270		0.2889		
2292	0.88480		0.8183		
2432	0.65300		-0.4392		
2655	0.88480		0.5024		
2885	1.50180		-0.9194		
2982	0.90660		0.8637		
3284	1.55780		0.3444		
3425	-0.61470		-0.4776		
3690	-0.86820		-0.2859		

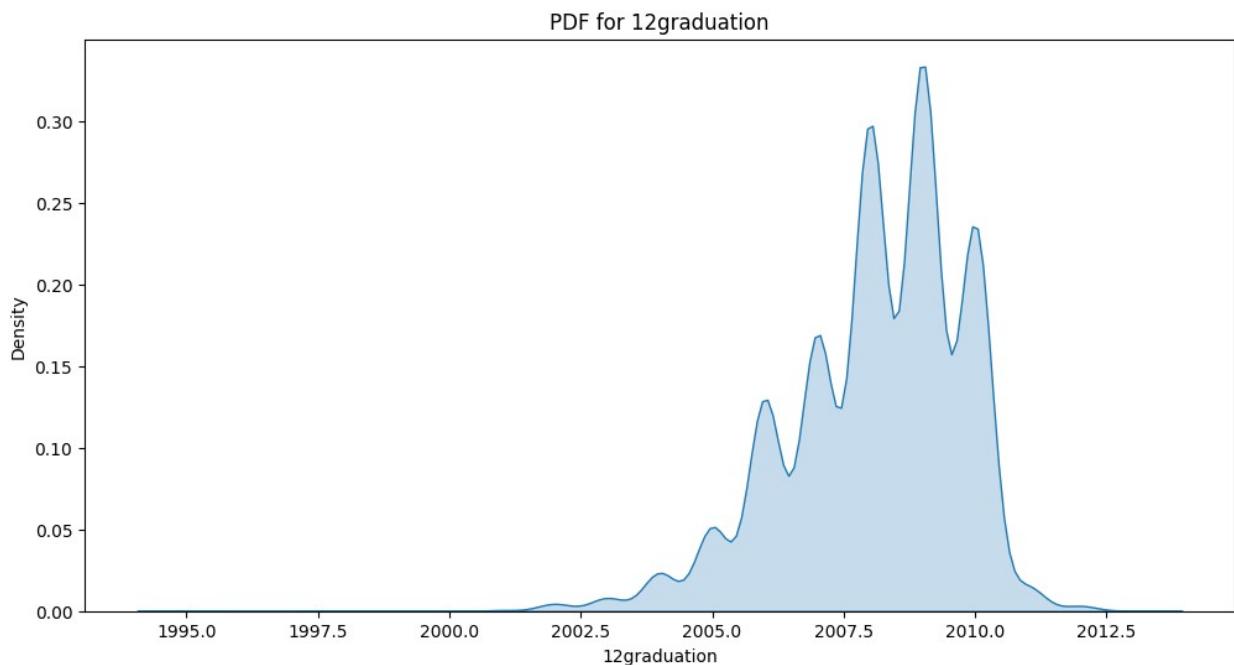
```
3743      0.06230      1.1343
```

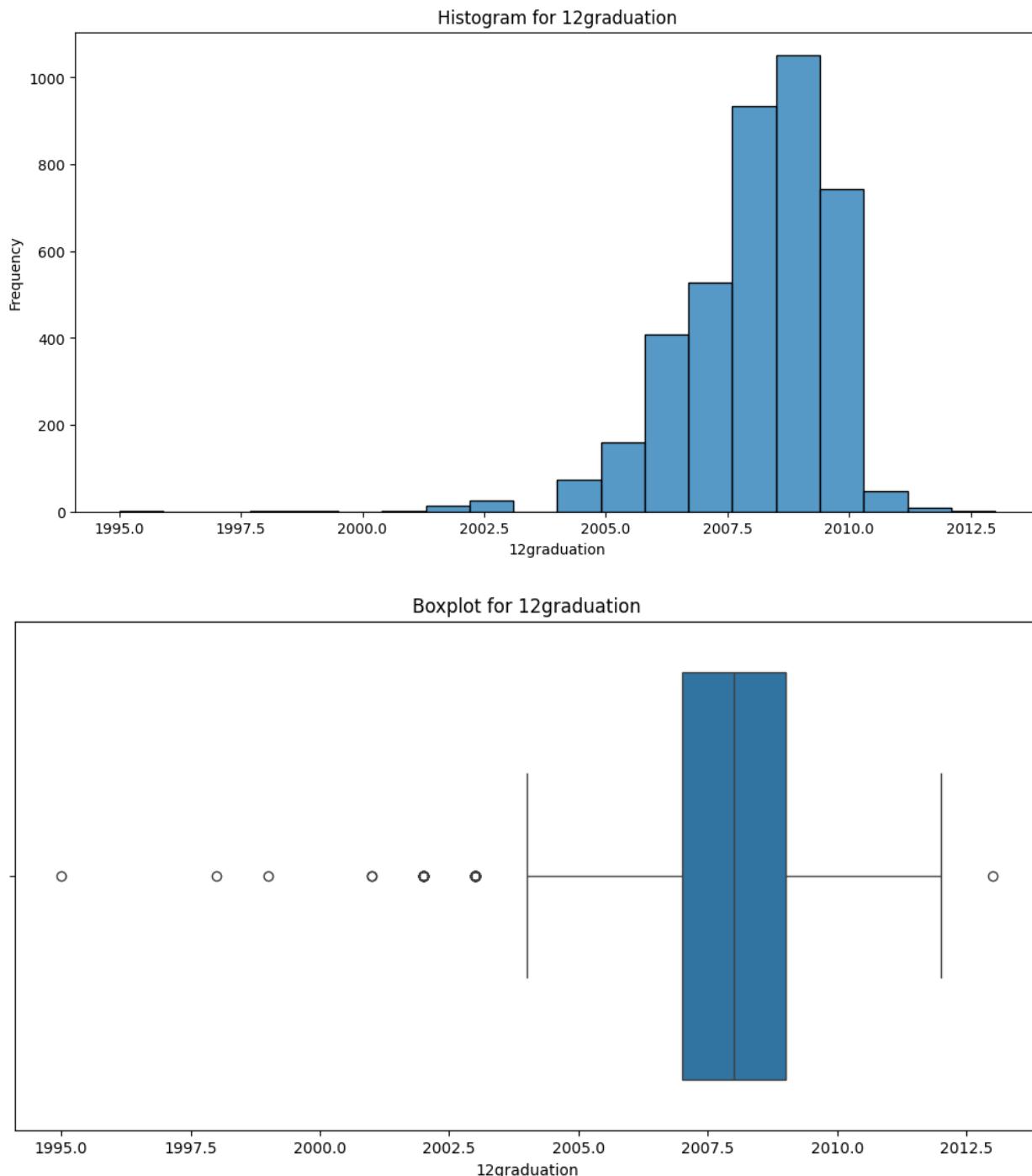
```
[30 rows x 39 columns]
```

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```





Outliers in 12graduation:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
59	train	536053	1200000.0	9/1/09 0:00	4/1/13 0:00		
193	train	231253	550000.0	8/1/11 0:00	4/1/15 0:00		
528	train	289374	250000.0	5/1/11 0:00	9/1/13 0:00		
584	train	203323	430000.0	4/1/10 0:00	present		
600	train	918414	200000.0	11/1/08 0:00	11/1/12 0:00		

670	train	50670	160000.0	2/1/10 0:00	2/1/13 0:00
712	train	114364	400000.0	11/1/10 0:00	9/1/13 0:00
772	train	1000456	320000.0	7/1/13 0:00	2/1/15 0:00
828	train	54579	195000.0	4/1/10 0:00	12/1/11 0:00
890	train	134985	310000.0	9/1/10 0:00	2/1/15 0:00
1083	train	243897	400000.0	1/1/12 0:00	present
1169	train	179878	105000.0	1/1/11 0:00	6/1/11 0:00
1178	train	266342	320000.0	5/1/11 0:00	9/1/13 0:00
1404	train	626059	700000.0	6/1/13 0:00	present
1420	train	59151	200000.0	1/1/10 0:00	1/1/13 0:00
1502	train	678819	200000.0	5/1/13 0:00	7/1/13 0:00
1528	train	257095	110000.0	8/1/10 0:00	10/1/11 0:00
1866	train	107707	150000.0	10/1/10 0:00	3/1/12 0:00
1873	train	635518	325000.0	3/1/14 0:00	4/1/15 0:00
1883	train	36817	100000.0	5/1/11 0:00	4/1/12 0:00
1927	train	57430	180000.0	10/1/11 0:00	4/1/13 0:00
1982	train	232481	2500000.0	4/1/12 0:00	present
2009	train	40772	650000.0	7/1/10 0:00	2/1/13 0:00
2217	train	249696	180000.0	10/1/12 0:00	9/1/14 0:00
2358	train	78940	420000.0	10/1/10 0:00	2/1/14 0:00
2409	train	48796	680000.0	5/1/10 0:00	11/1/14 0:00
2606	train	50601	300000.0	2/1/10 0:00	5/1/13 0:00
2674	train	78728	240000.0	7/1/10 0:00	1/1/11 0:00
2746	train	53546	330000.0	11/1/10 0:00	2/1/12 0:00
2747	train	78777	750000.0	9/1/10 0:00	1/1/14 0:00
3015	train	38335	720000.0	7/1/10 0:00	present
3193	train	480729	120000.0	6/1/07 0:00	6/1/09 0:00
3237	train	264334	460000.0	10/1/11 0:00	12/1/14 0:00
3278	train	32034	300000.0	4/1/11 0:00	4/1/14 0:00
3292	train	104065	185000.0	8/1/13 0:00	present
3308	train	287976	250000.0	8/1/11 0:00	11/1/12 0:00
3322	train	190911	700000.0	6/1/11 0:00	present
3337	train	258677	300000.0	9/1/10 0:00	6/1/14 0:00
3431	train	215845	280000.0	7/1/11 0:00	12/1/12 0:00
3516	train	332810	65000.0	2/1/07 0:00	3/1/08 0:00
3655	train	35346	445000.0	3/1/12 0:00	1/1/15 0:00
3690	train	812583	290000.0	1/1/13 0:00	present
3743	train	63887	395000.0	11/1/11 0:00	present
3796	train	230511	240000.0	4/1/12 0:00	4/1/13 0:00
3921	train	38441	300000.0	1/1/11 0:00	11/1/11 0:00

Designation	JobCity	Gender
software engineer	Bangalore	m 10/30/77
software developer	Mumbai	m 7/19/86
design engineer	New Delhi	m 5/29/86

584 0:00	lead engineer	Bangalore	m	11/3/86
600 0:00	project engineer	Thiruvananthapuram	m	5/27/86
670 0:00	project engineer	Bangalore	f	11/3/85
712 0:00	programmer analyst	Kochi/Cochin	m	2/8/86
772 0:00	java developer	Baroda	m	4/18/86
828 0:00	technical recruiter	- 1	m	7/1/86
890 0:00	software developer	Kolkata	m	10/23/83
1083 0:00	assistant professor	New Delhi	f	2/23/83
1169 0:00	software trainee	New Delhi	m	2/15/85
1178 0:00	software engineer	Hyderabad	m	5/10/86
1404 0:00	senior software engineer	Noida	m	5/16/85
1420 0:00	administrative support	Bhubaneswar	f	6/1/85
1502 0:00	sales executive	New Delhi	m	1/10/83
1528 0:00	desktop support engineer	Chennai	m	5/6/81
1866 0:00	java software engineer	Ahmedabad	m	5/2/85
1873 0:00	software engineer	pune	f	11/25/91
1883 0:00	seo executive	Noida	m	1/3/85
1927 0:00	software engineer	hyderabad	m	10/20/86
1982 0:00	software test engineer	- 1	m	9/21/84
2009 0:00	assistant manager	Noida	m	9/3/84
2217 0:00	.net developer	kolkata	m	5/16/86
2358 0:00	software engineer	Noida	m	7/1/85
2409 0:00	software engineer	Bangalore	m	7/25/84
2606 0:00	software engineer	Bangalore	m	7/22/82
2674	rf engineer	- 1	m	2/21/86

0:00					
2746	software engineer	Pune	m	10/29/84	
0:00					
2747	senior software engineer	Bangalore	m	10/25/87	
0:00					
3015	civil engineer	patna	m	11/17/85	
0:00					
3193	software engineer	Hyderabad	m	6/18/86	
0:00					
3237	software engineer	Bangalore	m	4/8/85	
0:00					
3278	software developer	New Delhi	m	1/25/82	
0:00					
3292	test engineer	Bangalore	m	11/26/84	
0:00					
3308	engineer	Aurangabad	m	6/7/85	
0:00					
3322	senior software developer	-1	m	11/1/86	
0:00					
3337	system administrator	Hyderabad	m	6/21/84	
0:00					
3431	field engineer	muzzafarpur	m	1/18/87	
0:00					
3516	programmer	Hyderabad	f	5/15/85	
0:00					
3655	application developer	New Delhi	m	2/23/85	
0:00					
3690	asp.net developer	Bangalore	m	1/15/85	
0:00					
3743	senior software engineer	-1	m	5/11/85	
0:00					
3796	web developer	Greater Noida	m	4/14/85	
0:00					
3921	data analyst	Bangalore	m	11/19/84	
0:00					

	10percentage	... ComputerScience	MechanicalEngg		
ElectricalEngg	\				
59	72.00	...	-1	366	-
1					
193	82.20	...	-1	-1	-
1					
528	77.00	...	-1	473	-
1					
584	61.00	...	-1	-1	-
1					
600	49.00	...	-1	-1	-
1					
670	75.04	...	-1	-1	-

1						
712	91.00	...		-1	-1	-
1						
772	65.80	...	407		-1	-
1						
828	64.83	...		-1	-1	-
1						
890	75.00	...		-1	-1	-
1						
1083	70.00	...		-1	-1	-
1						
1169	48.50	...		-1	-1	-
1						
1178	67.67	...		-1	-1	-
1						
1404	75.60	...		-1	-1	-
1						
1420	68.00	...		-1	-1	-
1						
1502	68.00	...		-1	-1	-
1						
1528	58.90	...		-1	-1	-
1						
1866	80.14	...		-1	-1	-
1						
1873	80.46	...	500		-1	-
1						
1883	57.88	...		-1	-1	-
1						
1927	68.00	...		-1	-1	-
1						
1982	65.00	...		-1	-1	-
1						
2009	75.00	...		-1	-1	-
1						
2217	51.00	...		-1	-1	-
1						
2358	65.20	...		-1	-1	-
1						
2409	77.00	...		-1	-1	-
1						
2606	64.43	...		-1	-1	-
1						
2674	53.60	...		-1	-1	-
1						
2746	71.83	...		-1	-1	-
1						
2747	66.50	...		-1	-1	-
1						

3015	82.00	...	-1	-1	-
1					
3193	83.50	...	-1	-1	-
1					
3237	72.60	...	-1	-1	-
1					
3278	75.20	...	-1	-1	-
1					
3292	87.58	...	-1	-1	-
1					
3308	63.20	...	-1	-1	-
1					
3322	69.33	...	-1	-1	-
1					
3337	74.00	...	-1	-1	-
1					
3431	75.00	...	-1	-1	-
1					
3516	65.67	...	-1	-1	-
1					
3655	70.00	...	-1	-1	-
1					
3690	46.00	...	-1	-1	-
1					
3743	49.90	...	-1	-1	-
1					
3796	75.10	...	-1	-1	-
1					
3921	62.00	...	-1	-1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion \					
59	-1	400	-0.3014	-0.4353	-
0.9245					
193	206	-1	-1.3447	0.6568	
0.3817					
528	-1	-1	-0.4173	-0.5913	
0.0914					
584	-1	-1	-0.8810	0.6568	
0.6720					
600	-1	-1	-1.1644	-1.9521	-
1.0659					
670	-1	-1	0.3555	-0.7473	-
0.1988					
712	-1	-1	0.8192	1.4368	-
0.0537					
772	-1	-1	-0.7335	-0.4536	
0.4711					

828	-1	-1	0.2009	0.5008
0.8171				
890	-1	-1	-0.4173	-0.1232
0.0537				-
1083	393	-1	-1.8083	0.3448
1.3599				-
1169	-1	-1	-2.1175	-3.0874
2.6662				-
1178	-1	-1	-0.1082	1.1248
0.9623				
1404	-1	-1	0.9900	1.2114
0.6248				
1420	-1	-1	0.9737	0.9688
1.5428				
1502	-1	-1	0.5591	1.5444
0.1437				-
1528	-1	-1	-1.3447	-1.2153
1.1074				
1866	-1	-1	0.5100	1.2808
0.8171				
1873	-1	-1	1.2772	0.7119
0.1637				
1883	-1	-1	-0.4173	-2.1513
0.5269				
1927	-1	-1	1.4374	-0.5913
1.1074				
1982	-1	-1	0.6646	0.8128
0.3817				
2009	-1	-1	-0.2628	-0.2793
0.3440				-
2217	-1	-1	0.2009	-1.2153
0.7794				-
2358	-1	-1	0.2009	0.0328
1.2525				
2409	-1	-1	0.0464	0.5008
0.0537				-
2606	-1	-1	-0.7264	0.1888
0.7794				-
2674	-1	-1	-0.1082	1.4368
1.2525				
2746	-1	-1	-0.2628	0.0328
1.5051				-
2747	-1	-1	-0.5719	1.2808
0.2366				
3015	-1	300	0.6646	-0.1232
0.2366				
3193	-1	-1	-1.4992	-0.7863
2.0131				-
3237	-1	-1	0.5100	0.9688

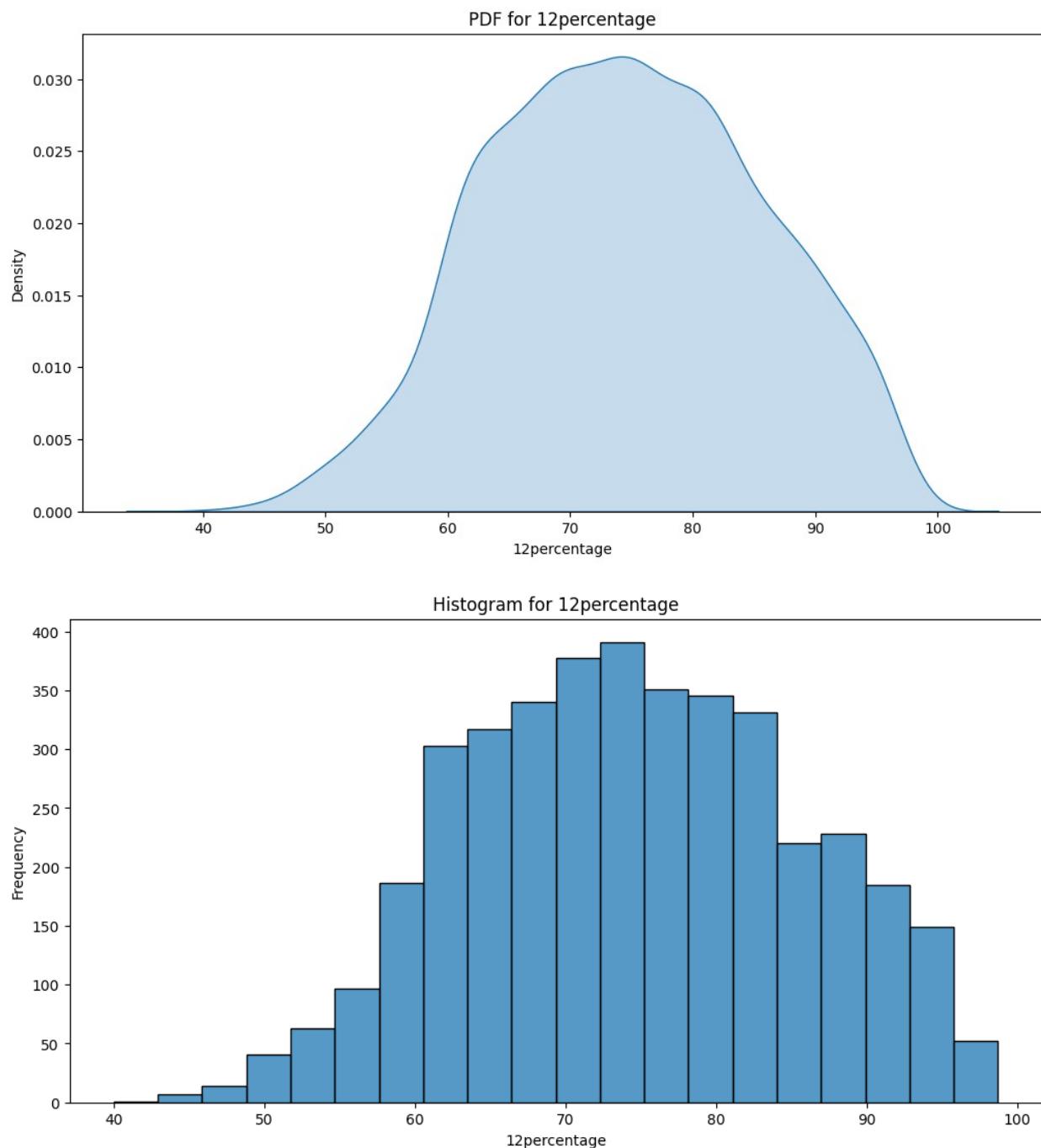
1.6880					
3278	-1	-1	-1.6538	-0.9033	-
0.7794					
3292	-1	-1	-0.5719	-0.1232	-
0.0537					
3308	420	-1	-1.3447	1.1248	
0.6720					
3322	-1	-1	0.0464	0.9688	
0.3817					
3337	-1	-1	-0.8810	0.0328	-
1.5051					
3431	-1	-1	0.6646	-0.2793	-
0.0537					
3516	-1	-1	0.8192	0.2668	-
0.5980					
3655	-1	-1	0.0464	0.6568	
0.3817					
3690	-1	-1	0.2718	-0.1206	-
0.6048					
3743	-1	-1	0.8192	1.1248	
0.6720					
3796	-1	-1	-0.4595	0.0328	-
1.7083					
3921	-1	-1	0.0464	0.2668	-
1.7954					

	nueroticism	openness_to_experience
59	-0.34900	-0.4455
193	-0.64280	-0.1295
528	-0.99530	-0.6035
584	1.47240	0.3444
600	0.52620	-1.4356
670	0.76730	-0.4455
712	-1.81790	0.8183
772	0.27270	0.4805
828	0.41480	0.3444
890	-0.40780	-0.1295
1083	1.58990	1.2923
1169	0.06230	-3.4471
1178	-0.99530	0.1864
1404	-1.37530	0.6721
1420	1.82490	1.2923
1502	-1.50210	-0.4776
1528	0.06230	0.6603
1866	-1.23030	-0.1295
1873	-1.24860	0.8637
1883	-0.76030	-1.7093
1927	-0.05520	0.8183
1982	-0.17270	-1.0774

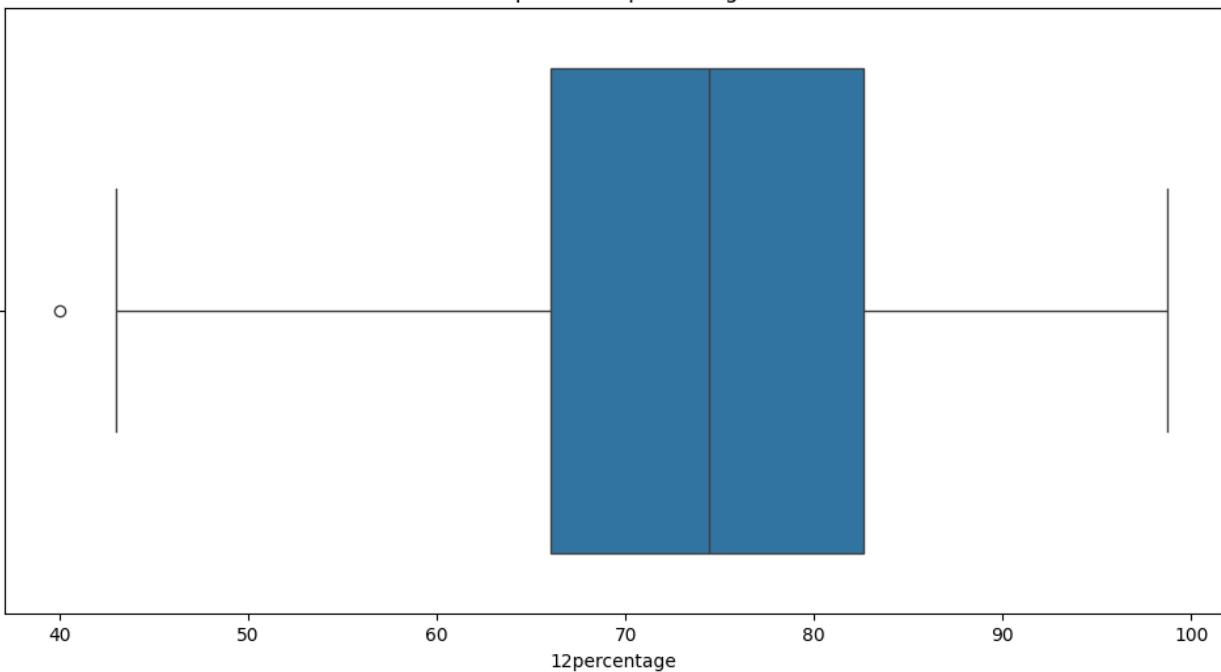
2009	0.76730	-0.4455
2217	-0.52530	-0.2875
2358	-0.87780	0.0284
2409	-0.40780	0.6603
2606	-0.52530	-0.4455
2674	-1.34780	1.2923
2746	0.64980	1.1343
2747	-0.87780	0.8183
3015	-0.05520	0.6603
3193	0.41480	-0.6035
3237	-0.99530	1.1343
3278	-0.17270	-1.2354
3292	0.06230	-0.6035
3308	1.58990	-0.2875
3322	-1.34780	-0.2875
3337	-0.29020	-0.9194
3431	1.47240	0.0284
3516	0.53233	-0.4455
3655	-0.76030	-0.7615
3690	-0.86820	-0.2859
3743	0.06230	1.1343
3796	0.27590	0.7657
3921	-0.64280	-1.2354

[45 rows x 39 columns]

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:  
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.  
sns.kdeplot(data[column], shade=True)
```



Boxplot for 12percentage



Outliers in 12percentage:

```
    Unnamed: 0      ID      Salary        DOJ        DOL \
3337     train  258677  300000.0  9/1/10 0:00  6/1/14 0:00

          Designation   JobCity Gender           DOB
10percentage ... \
3337  system administrator  Hyderabad     m  6/21/84 0:00
74.0  ...

      ComputerScience  MechanicalEngg  ElectricalEngg  TelecomEngg
CivilEngg \
3337             -1                  -1                  -1                  -1
-1

      conscientiousness agreeableness extraversion  nueroticism \
3337         -0.881          0.0328       -1.5051       -0.2902

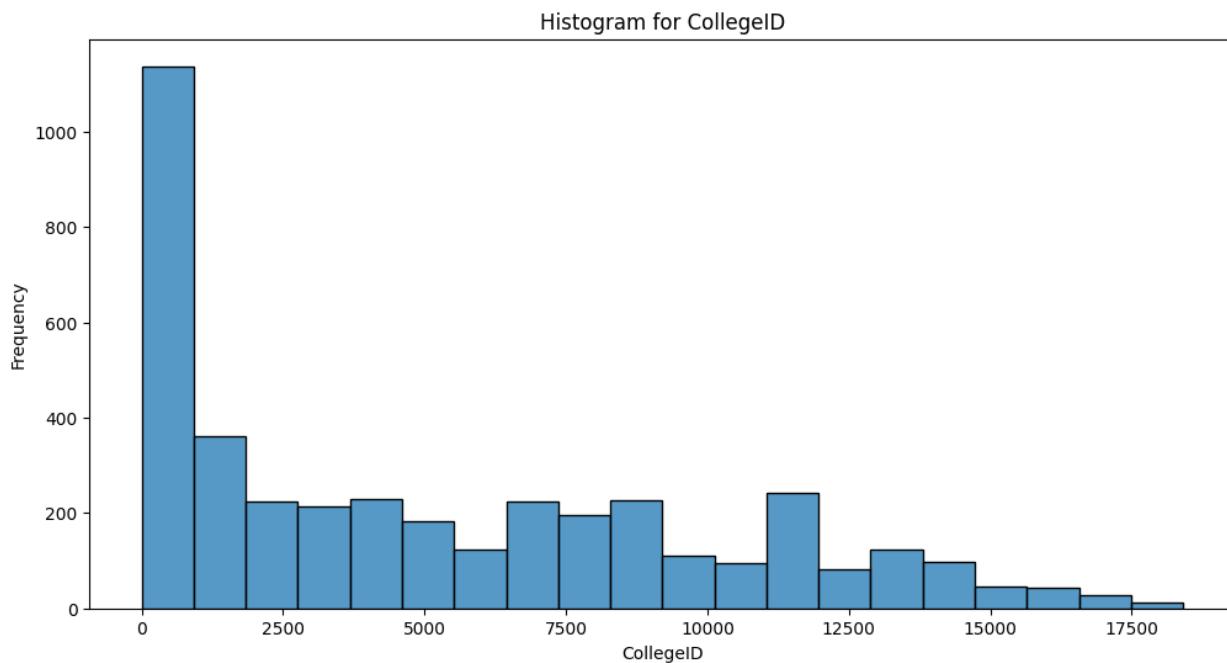
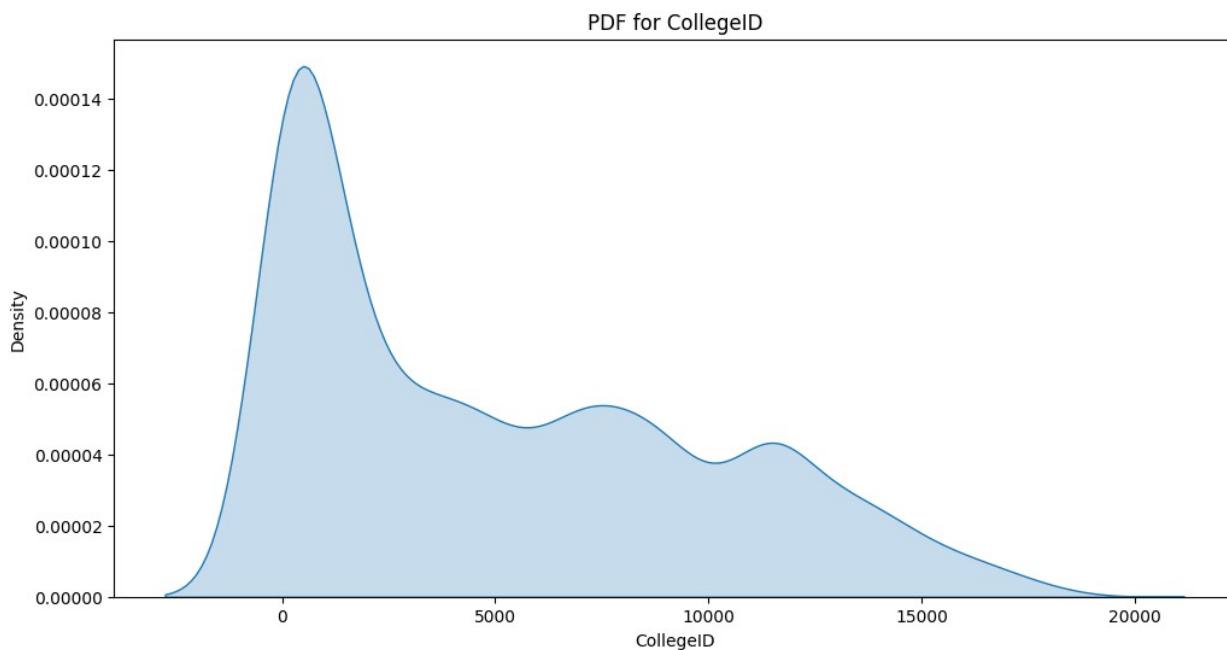
      openness_to_experience
3337            -0.9194

[1 rows x 39 columns]
```

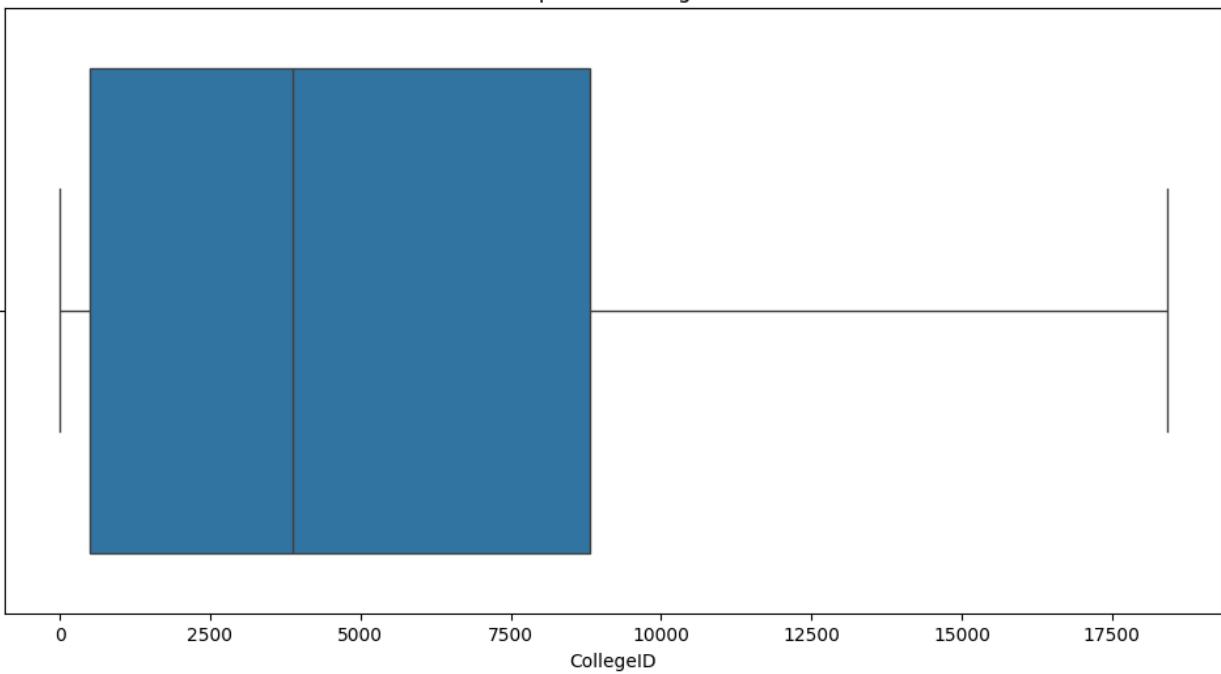
<ipython-input-6-5c2bd027771c>:8: FutureWarning:

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```



Boxplot for CollegelD



Outliers in CollegeID:

Empty DataFrame

Columns: [Unnamed: 0, ID, Salary, DOJ, DOL, Designation, JobCity, Gender, DOB, 10percentage, 10board, 12graduation, 12percentage, 12board, CollegeID, CollegeTier, Degree, Specialization, collegeGPA, CollegeCityID, CollegeCityTier, CollegeState, GraduationYear, English, Logical, Quant, Domain, ComputerProgramming, ElectronicsAndSemicon, ComputerScience, MechanicalEngg, ElectricalEngg, TelecomEngg, CivilEngg, conscientiousness, agreeableness, extraversion, nueroticism, openness_to_experience]

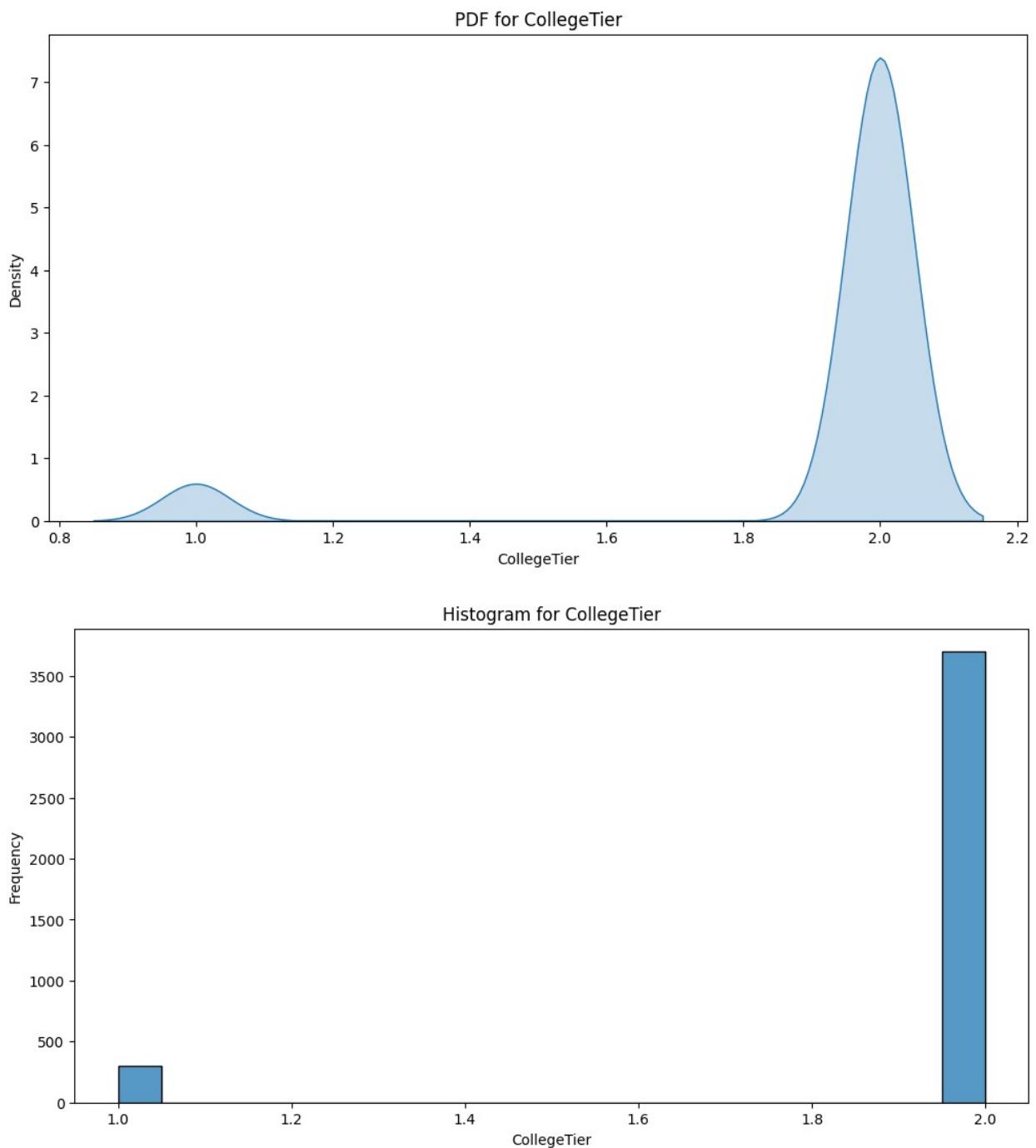
Index: []

[0 rows x 39 columns]

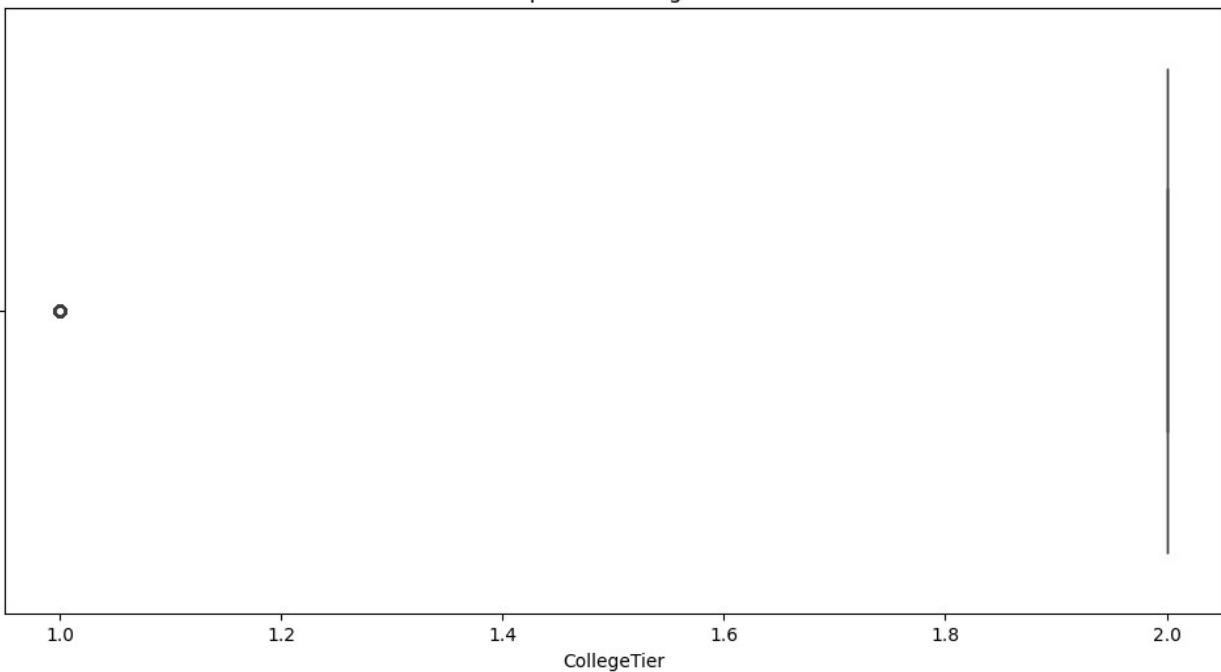
<ipython-input-6-5c2bd027771c>:8: FutureWarning:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

```
sns.kdeplot(data[column], shade=True)
```



Boxplot for CollegeTier



Outliers in CollegeTier:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
3	train	267447	1100000.0	7/1/11 0:00		present	
7	train	912934	400000.0	7/1/14 0:00	7/1/15 0:00		
8	train	552574	600000.0	7/1/13 0:00		present	
11	train	190393	450000.0	8/1/11 0:00	10/1/14 0:00		
32	train	580616	360000.0	10/1/13 0:00		present	
...
3912	train	231229	730000.0	7/1/13 0:00		present	
3913	train	913446	370000.0	6/1/14 0:00	4/1/15 0:00		
3914	train	816649	220000.0	10/1/14 0:00	3/1/15 0:00		
3972	train	1044603	180000.0	3/1/15 0:00	5/1/15 0:00		
3979	train	212055	550000.0	7/1/13 0:00	4/1/14 0:00		

		Designation	JobCity	Gender
DOB \				
3		senior software engineer	Gurgaon	m
12/5/89 0:00				
7		mechanical engineer	Bangalore	m
5/27/92 0:00				
8		electrical engineer	Noida	m
9/17/91 0:00				
11		senior systems engineer	Pune	m
2/10/90 0:00				
32		application developer	Noida	f
9/14/91 0:00				
...	
...				

3912	research scientist	Pune	m
11/15/89 0:00			
3913	software development engineer	Coimbatore	m
12/24/92 0:00			
3914	field business development associate	New Delhi	m
4/4/92 0:00			
3972	help desk analyst	Noida	m
11/30/92 0:00			
3979	software engineer	Bangalore	m
7/22/89 0:00			

	10percentage	...	ComputerScience	MechanicalEngg	
ElectricalEngg \					
3	85.60	...	-1	-1	-
1					
7	92.00	...	-1	469	-
1					
8	90.00	...	-1	-1	-
1					
11	81.00	...	-1	-1	-
1					
32	87.00	...	-1	-1	-
1					
...
.					
3912	84.67	...	-1	-1	-
1					
3913	77.80	...	438	-1	-
1					
3914	71.80	...	-1	-1	-
1					
3972	68.20	...	407	-1	-
1					
3979	69.16	...	-1	-1	-
1					

	TelecomEngg	CivilEngg	conscientiousness	agreeableness	
extraversion \					
3	-1	-1	0.0464	0.3448	-
0.3440					
7	-1	-1	-0.0154	1.2114	
0.0100					
8	-1	-1	-0.1590	0.5454	-
0.6048					
11	-1	-1	-2.2720	1.1248	
0.8171					
32	-1	-1	-0.7335	-0.4536	-
1.0659					
...

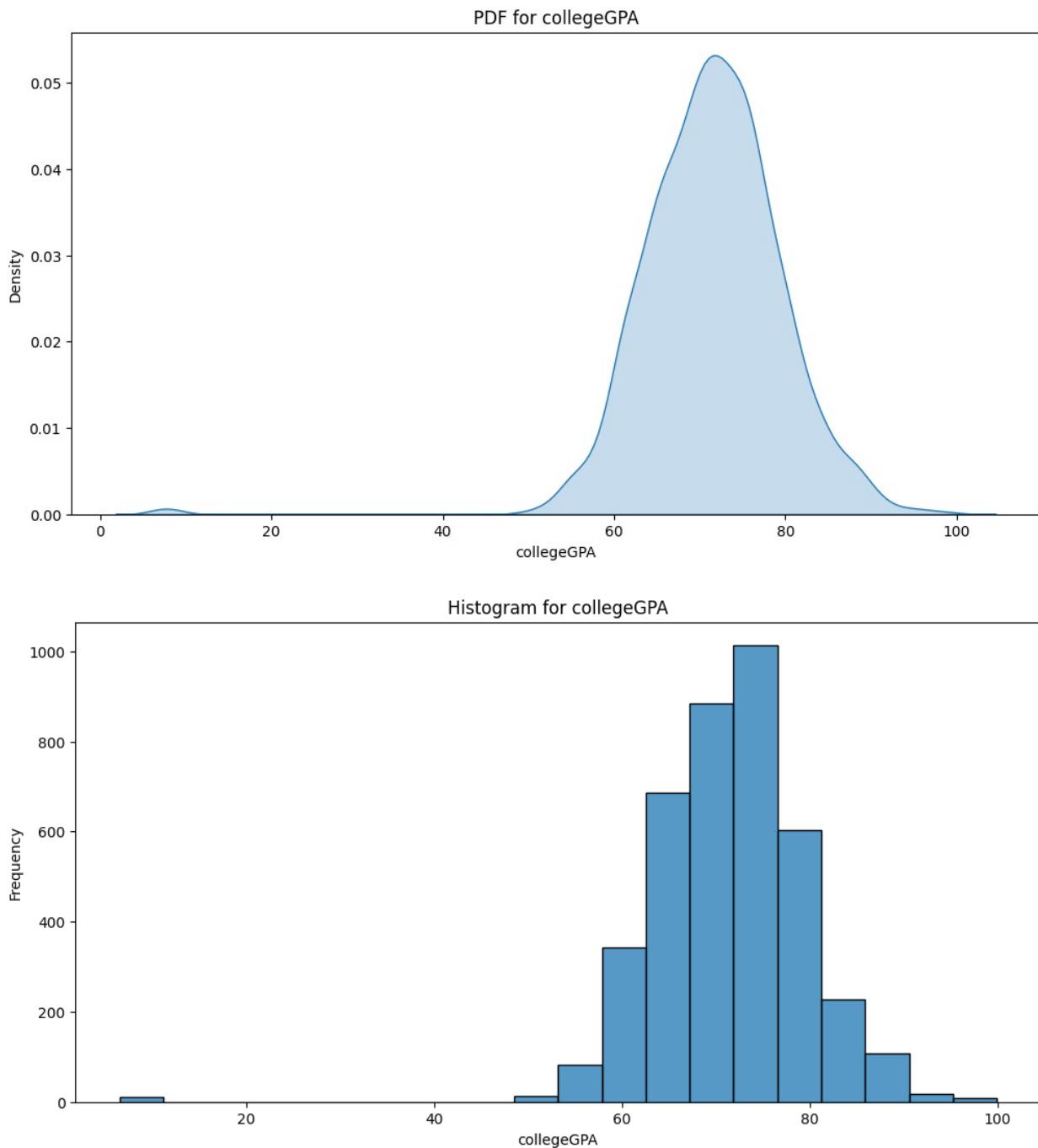
```
...
3912      -1      -1     -1.3447    -1.0593
0.6720
3913      -1      -1      0.2718     0.0459
0.1637
3914     260      -1     -0.7335    -0.6201
0.6248
3972      -1      -1     -1.1644     0.2124     -
0.2974
3979      -1      -1     -0.5719     0.5008     -
0.4891

      neuroticism  openness_to_experience
3          -0.4078           -0.9194
7           0.1459            1.2470
8          -0.7415           -0.2859
11         -0.4078           -0.4455
32          1.1601           -0.4776
...
3912        1.0024           -1.7093
3913        1.4136           -2.2021
3914        1.5404           -0.6692
3972        0.0192           -1.0524
3979        0.4148           -1.2354

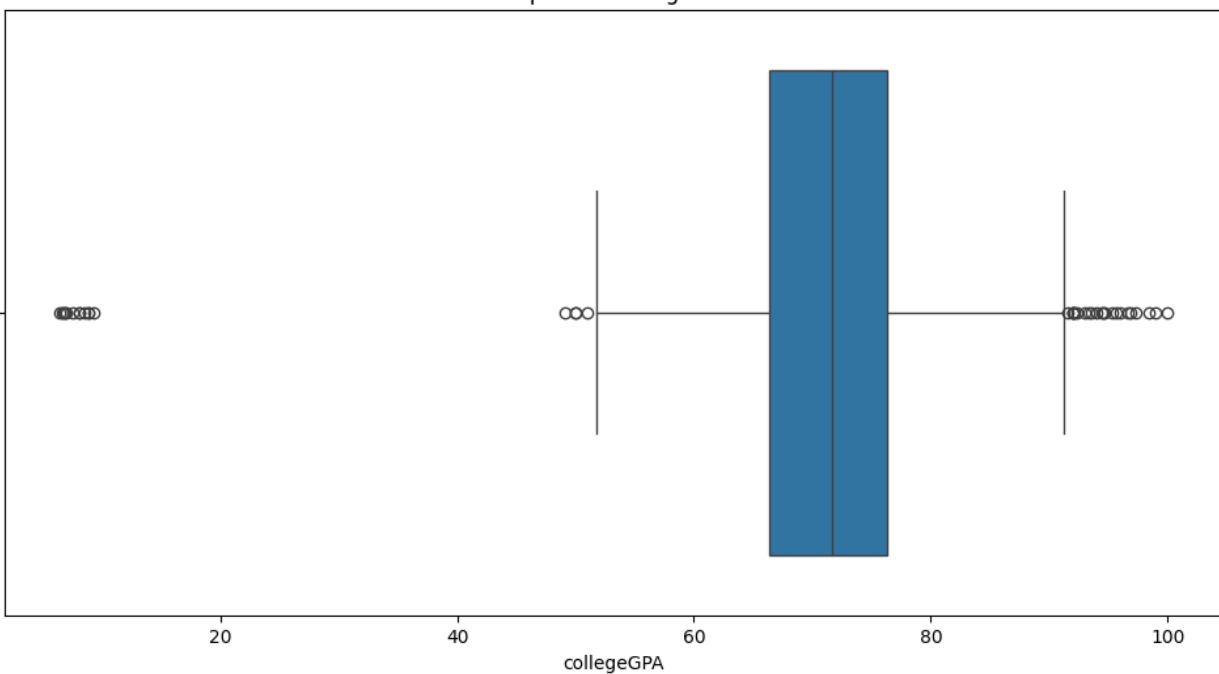
[297 rows x 39 columns]
```

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

sns.kdeplot(data[column], shade=True)
```



Boxplot for collegeGPA



Outliers in collegeGPA:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
7	train	912934	400000.0	7/1/14 0:00	7/1/15 0:00		
44	train	247617	380000.0	5/1/12 0:00	4/1/15 0:00		
138	train	964319	195000.0	10/1/14 0:00	1/1/15 0:00		
187	train	336792	410000.0	2/1/13 0:00		present	
477	train	345838	225000.0	6/1/13 0:00	4/1/15 0:00		
614	train	237941	655000.0	7/1/11 0:00		present	
690	train	609356	440000.0	10/1/13 0:00	4/1/15 0:00		
788	train	249853	180000.0	5/1/12 0:00	6/1/13 0:00		
874	train	337594	400000.0	2/1/13 0:00	4/1/15 0:00		
907	train	324190	100000.0	2/1/13 0:00	4/1/14 0:00		
1029	train	337629	300000.0	4/1/13 0:00	4/1/15 0:00		
1134	train	56871	350000.0	4/1/10 0:00	8/1/12 0:00		
1264	train	220634	500000.0	8/1/11 0:00	6/1/12 0:00		
1345	train	619658	460000.0	7/1/13 0:00	11/1/14 0:00		
1419	train	1262900	180000.0	10/1/14 0:00	4/1/15 0:00		
1439	train	299447	360000.0	8/1/11 0:00		present	
1510	train	331122	560000.0	8/1/14 0:00		present	
1685	train	619652	325000.0	10/1/13 0:00	4/1/15 0:00		
1767	train	813008	180000.0	6/1/14 0:00	8/1/14 0:00		
2151	train	262814	145000.0	2/1/12 0:00	4/1/13 0:00		
2152	train	323688	1200000.0	7/1/12 0:00		present	
2229	train	868740	240000.0	1/1/15 0:00	4/1/15 0:00		
2293	train	407736	490000.0	10/1/12 0:00	12/1/14 0:00		
2463	train	281155	455000.0	5/1/11 0:00		present	
2662	train	240465	470000.0	7/1/11 0:00	3/1/15 0:00		
2691	train	385442	820000.0	7/1/14 0:00	3/1/15 0:00		

		field service engineer	New Delhi	m		
		system engineer	Mumbai	m		
		software developer	Navi Mumbai	f		
		DOB	10percentage	...		
			ComputerScience	MechanicalEngg		
\	7	5/27/92 0:00	92.00	...	-1	469
	44	1/6/89 0:00	84.50	...	-1	-1
	138	5/4/91 0:00	79.60	...	284	-1
	187	10/6/90 0:00	91.50	...	-1	-1
	477	5/29/91 0:00	89.00	...	-1	-1
	614	3/29/89 0:00	88.50	...	-1	-1
	690	12/2/89 0:00	83.16	...	-1	-1
	788	1/12/89 0:00	66.50	...	-1	-1
	874	11/17/91 0:00	83.82	...	-1	-1
	907	3/18/89 0:00	63.00	...	-1	-1
	1029	9/10/90 0:00	93.50	...	-1	-1
	1134	9/22/86 0:00	77.00	...	-1	-1
	1264	12/14/88 0:00	87.60	...	-1	420
	1345	11/4/91 0:00	74.00	...	-1	-1
	1419	6/14/93 0:00	58.90	...	376	-1
	1439	12/11/88 0:00	73.06	...	-1	473
	1510	10/25/90 0:00	90.00	...	-1	-1
	1685	2/16/89 0:00	84.75	...	-1	-1
	1767	9/21/92 0:00	69.00	...	-1	446
	2151	6/18/88 0:00	61.30	...	-1	-1
	2152	12/6/88 0:00	92.80	...	-1	-1
	2229	5/1/92 0:00	94.40	...	-1	376
	2293	3/18/90 0:00	89.60	...	-1	-1

2463	3/22/87 0:00	68.00	...	-1	-1
2662	2/15/90 0:00	77.38	...	-1	-1
2691	10/28/90 0:00	81.20	...	-1	-1
2703	6/4/93 0:00	94.00	...	-1	-1
2836	4/7/88 0:00	61.60	...	-1	-1
2880	1/9/91 0:00	91.20	...	-1	-1
2988	5/6/91 0:00	95.20	...	-1	-1
3151	6/8/89 0:00	81.00	...	-1	-1
3276	7/30/88 0:00	83.69	...	-1	-1
3293	2/8/87 0:00	58.80	...	-1	-1
3308	6/7/85 0:00	63.20	...	-1	-1
3323	10/20/91 0:00	97.76	...	-1	-1
3448	2/14/89 0:00	71.20	...	-1	-1
3833	11/9/90 0:00	77.92	...	-1	-1
3850	9/23/88 0:00	81.20	...	-1	-1

	ElectricalEngg	TelecomEngg	CivilEngg	conscientiousness	
agreeableness	\				
7	-1	-1	-1	-0.0154	
1.2114					
44	-1	-1	-1	0.5100	
0.6568					
138	-1	-1	-1	0.8463	
0.7119					
187	-1	-1	-1	0.5100	
1.1248					
477	-1	393	-1	-0.6491	-
0.4353					
614	-1	340	-1	-0.4173	
0.6568					
690	-1	313	-1	0.8463	-
0.6201					
788	-1	-1	-1	0.5100	-
0.2793					
874	-1	-1	-1	0.5100	

0.9688					
907	-1	-1	-1	-0.5332	-
0.4353					
1029	-1	-1	-1	-0.5719	
1.0858					
1134	-1	-1	-1	1.5920	
0.9688					
1264	-1	-1	-1	-1.6538	-
0.5913					
1345	473	-1	-1	-0.3027	
0.0459					
1419	-1	-1	-1	1.8517	
0.2124					
1439	-1	-1	260	-2.7357	-
2.3073					
1510	-1	-1	-1	-0.0696	
0.6568					
1685	-1	446	-1	0.2718	-
0.6201					
1767	-1	-1	-1	1.9953	-
0.9531					
2151	-1	-1	-1	-1.0355	
0.6568					
2152	-1	-1	-1	1.4374	
1.7488					
2229	-1	-1	-1	0.4155	-
0.6201					
2293	-1	-1	-1	1.1283	
1.4368					
2463	-1	-1	-1	0.6646	
1.7488					
2662	-1	-1	-1	-0.4173	-
1.6833					
2691	-1	-1	-1	-0.8810	-
0.0842					
2703	-1	-1	-1	0.5591	
0.5454					
2836	-1	-1	-1	-1.2287	-
0.2793					
2880	-1	-1	-1	-0.1590	
0.5454					
2988	-1	-1	-1	0.1282	
0.2124					
3151	-1	-1	-1	0.9737	
0.6568					
3276	-1	-1	-1	-1.4992	
0.3448					
3293	-1	-1	-1	-0.4173	
0.6568					

3308	-1	420	-1	-1.3447
1.1248				
3323	-1	393	-1	1.5644
0.7119				
3448	-1	393	-1	-2.4266
0.5008				
3833	-1	446	-1	-0.2628
1.5538				
3850	-1	-1	-1	-0.1082
0.5008				
extraversion nueroticism openness_to_experience				
7	0.0100	0.14590	1.2470	
44	-0.6343	0.29730	0.1864	
138	0.4711	1.16010	0.4805	
187	0.5269	0.00353	0.1864	
477	0.6720	1.85433	-0.1295	
614	-0.9245	-0.40780	0.8183	
690	-0.7585	-0.99500	-0.2859	
788	-1.0697	0.17980	-1.0774	
874	0.8171	-1.23027	-0.1295	
907	-0.1988	1.50180	-1.2354	
1029	-0.9245	0.06223	0.1864	
1134	0.9623	-0.52530	0.9763	
1264	0.2366	-0.17270	0.5024	
1345	-1.6807	0.01920	-0.6692	
1419	0.6248	-1.75560	-0.4776	
1439	-0.7794	0.41480	-1.5513	
1510	-0.6343	-0.26090	-1.0774	
1685	-0.6048	0.77980	0.0973	
1767	-1.6807	-0.86820	-0.8608	
2151	0.9623	1.47240	0.8183	
2152	0.9623	-2.17040	0.8973	
2229	0.0100	-0.61470	-0.4776	
2293	-0.7068	-1.70040	0.1864	
2463	0.3817	-1.46530	-0.2875	
2662	0.5269	-1.70040	-0.9194	
2691	-0.4891	-0.05520	-0.2875	
2703	-0.6048	0.52620	0.0973	
2836	-0.4891	-0.08457	-0.1295	
2880	0.4711	-1.50210	-1.0524	
2988	0.1637	-0.48790	0.4805	
3151	0.2366	-1.11280	0.1864	
3276	-0.0537	-0.76030	0.5024	
3293	0.8171	-0.99530	-0.7615	
3308	0.6720	1.58990	-0.2875	
3323	0.4711	-0.36120	0.2889	
3448	-0.0537	1.47240	0.1864	
3833	0.9260	-1.11280	0.5024	

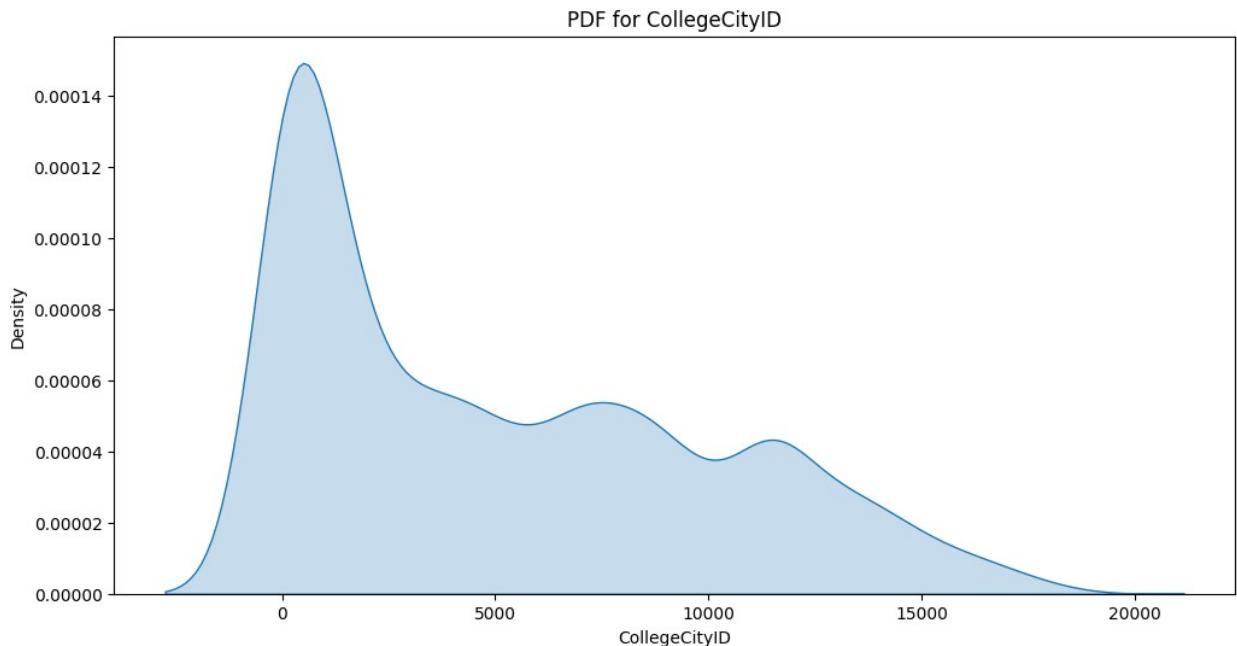
```
3850      -0.1626      1.11990      -0.9194
```

```
[38 rows x 39 columns]
```

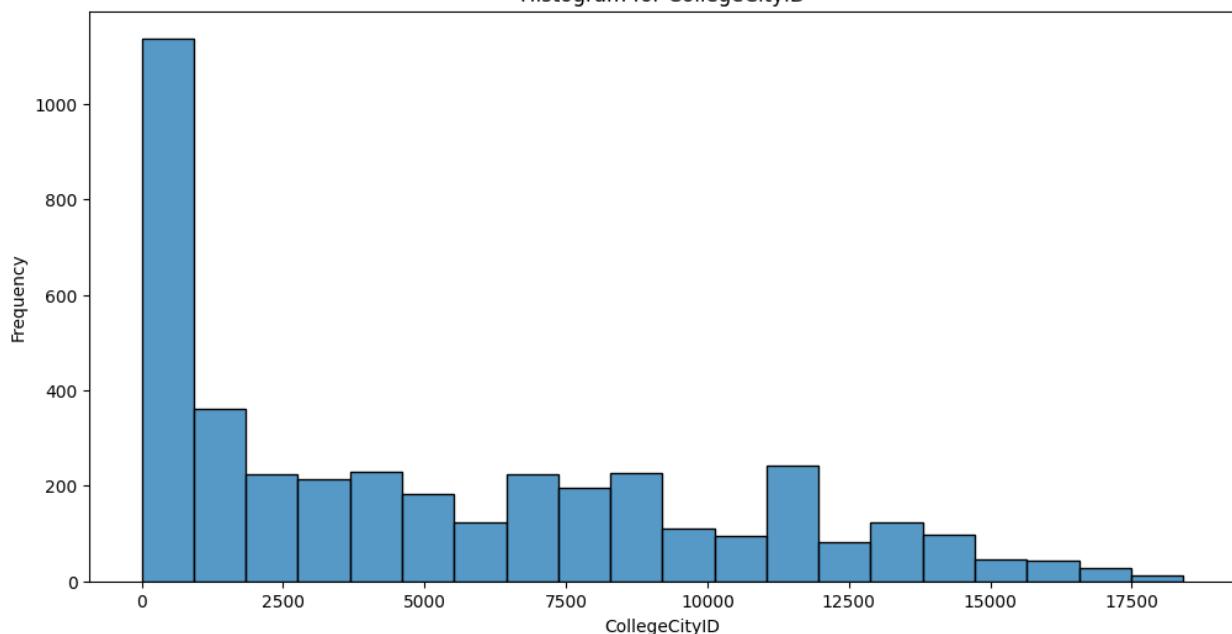
```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

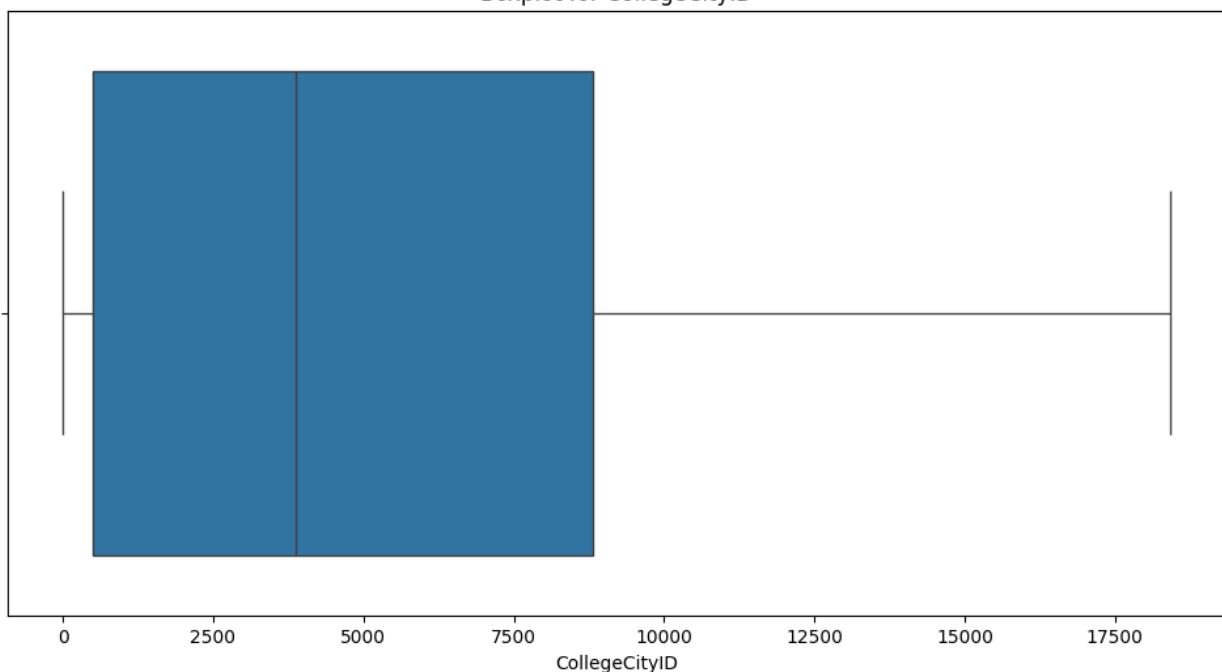
```
sns.kdeplot(data[column], shade=True)
```



Histogram for CollegeCityID



Boxplot for CollegeCityID



Outliers in CollegeCityID:

Empty DataFrame

Columns: [Unnamed: 0, ID, Salary, DOJ, DOL, Designation, JobCity, Gender, DOB, 10percentage, 10board, 12graduation, 12percentage, 12board, CollegeID, CollegeTier, Degree, Specialization, collegeGPA, CollegeCityID, CollegeCityTier, CollegeState, GraduationYear, English, Logical, Quant, Domain, ComputerProgramming, ElectronicsAndSemicon,

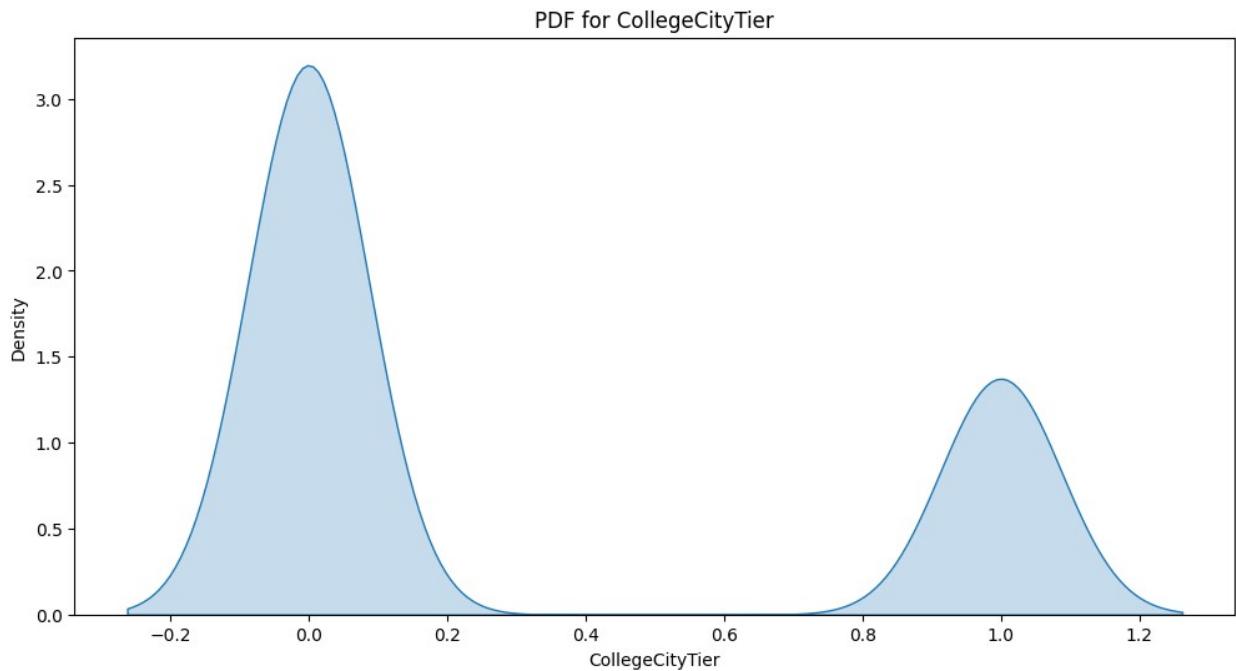
```
ComputerScience, MechanicalEngg, ElectricalEngg, TelecomEngg,  
CivilEngg, conscientiousness, agreeableness, extraversion,  
nuerotism, openness_to_experience]  
Index: []
```

```
[0 rows x 39 columns]
```

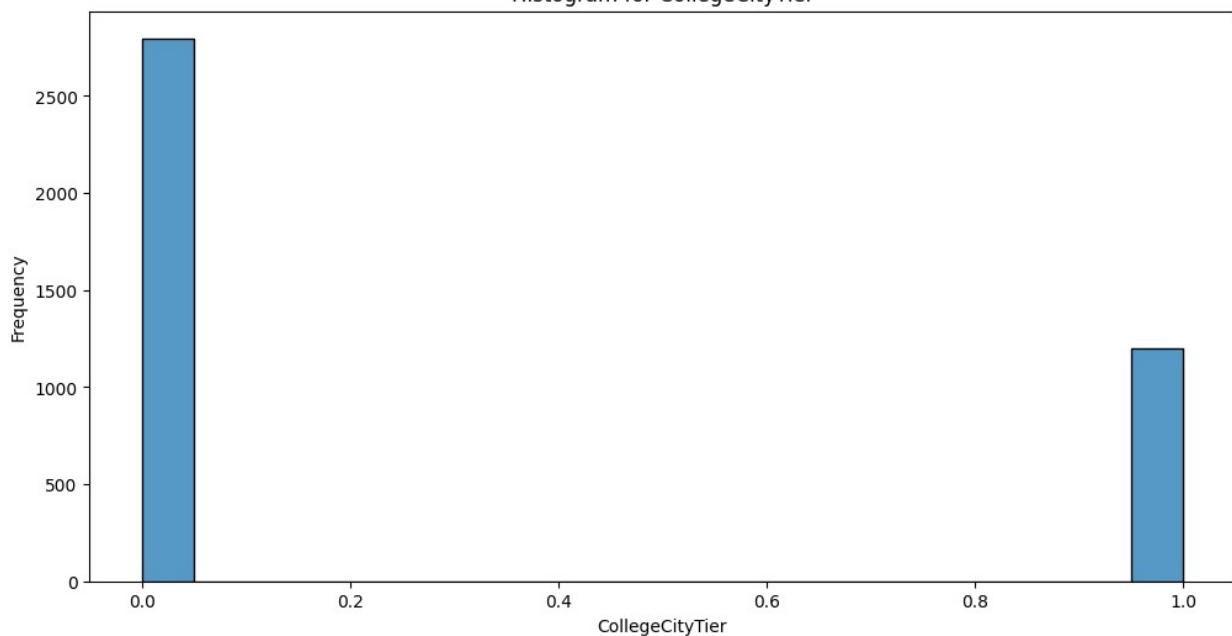
```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

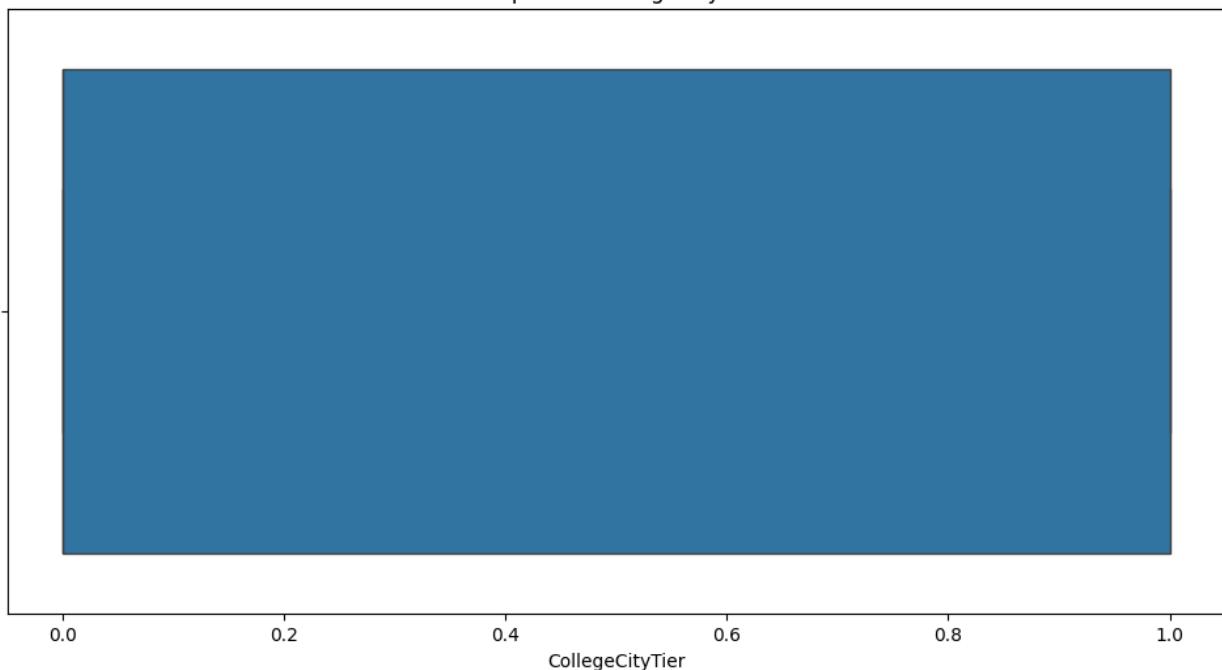
```
sns.kdeplot(data[column], shade=True)
```



Histogram for CollegeCityTier



Boxplot for CollegeCityTier



Outliers in CollegeCityTier:

Empty DataFrame

Columns: [Unnamed: 0, ID, Salary, DOJ, DOL, Designation, JobCity, Gender, DOB, 10percentage, 10board, 12graduation, 12percentage, 12board, CollegeID, CollegeTier, Degree, Specialization, collegeGPA, CollegeCityID, CollegeCityTier, CollegeState, GraduationYear, English, Logical, Quant, Domain, ComputerProgramming, ElectronicsAndSemicon,

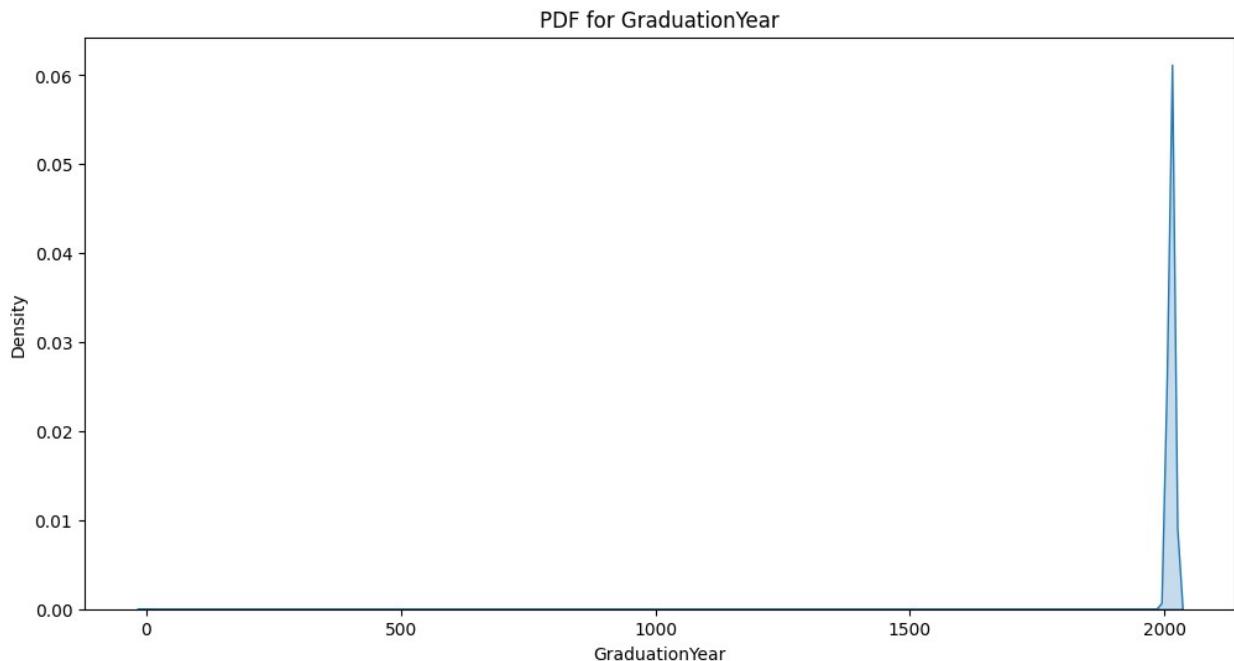
```
ComputerScience, MechanicalEngg, ElectricalEngg, TelecomEngg,  
CivilEngg, conscientiousness, agreeableness, extraversion,  
nueroticism, openness_to_experience]  
Index: []
```

```
[0 rows x 39 columns]
```

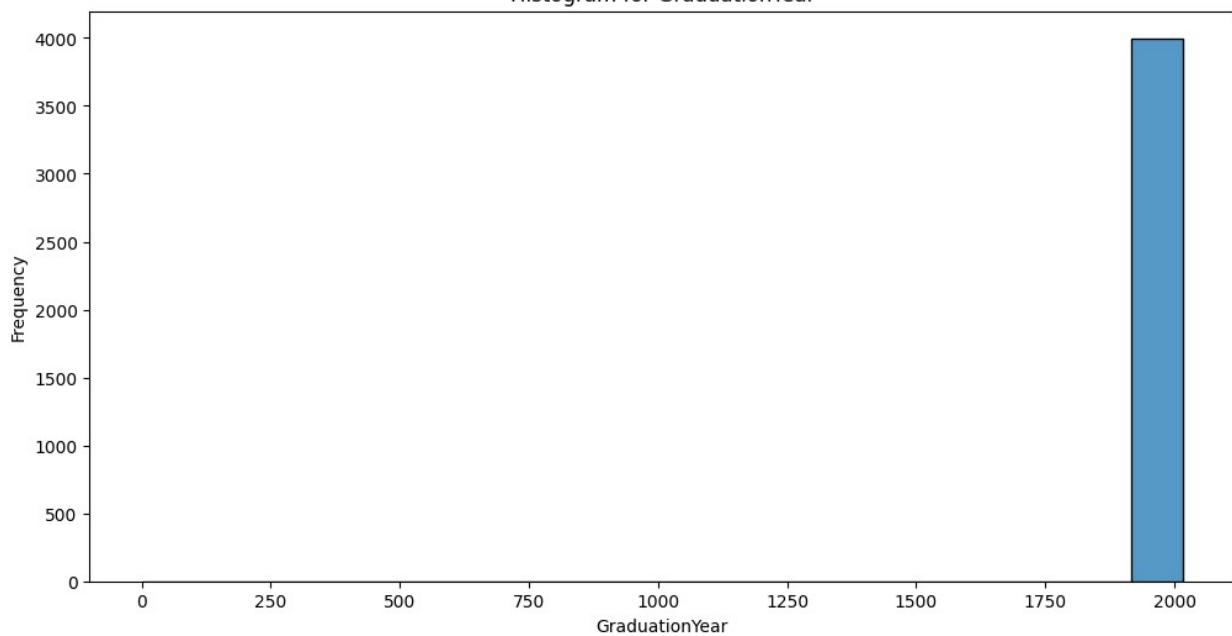
```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

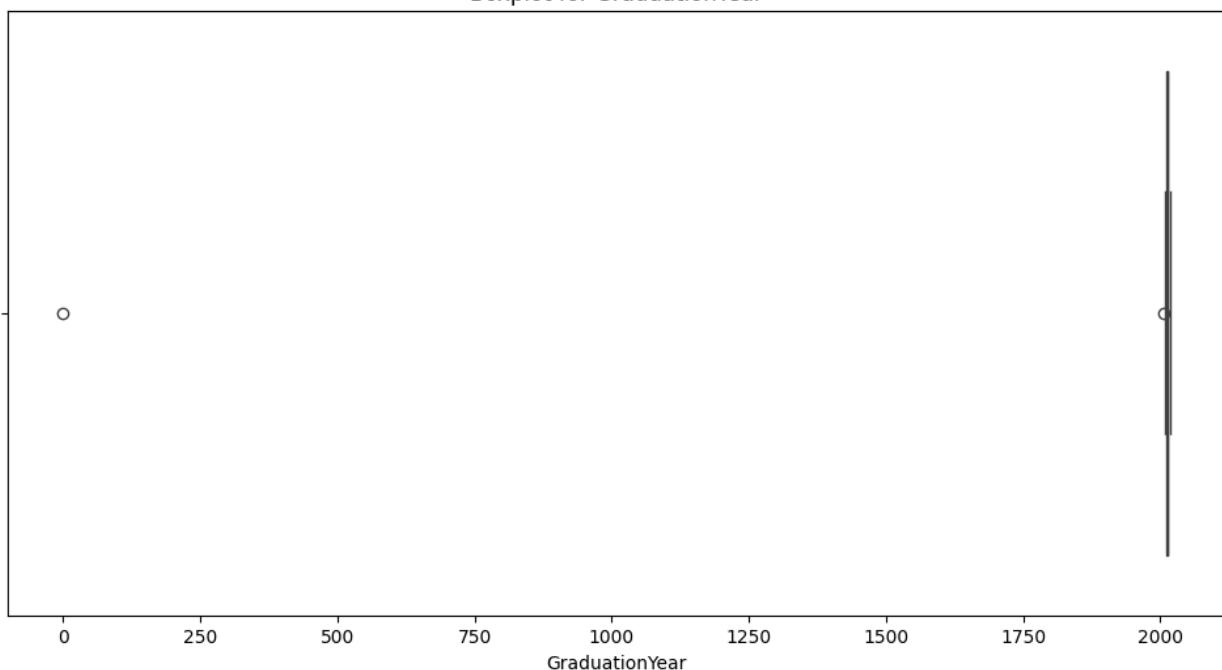
```
sns.kdeplot(data[column], shade=True)
```



Histogram for GraduationYear



Boxplot for GraduationYear



Outliers in GraduationYear:

```
    Unnamed: 0      ID      Salary          DOJ        DOL  \
2664      train  794381  325000.0  7/1/14 0:00  7/1/15 0:00
3193      train  480729  120000.0  6/1/07 0:00  6/1/09 0:00
```

```
          Designation     JobCity Gender        DOB
10percentage ...  \
```

```

2664    systems engineer    Chandigarh      m  12/17/91 0:00
89.0    ...
3193    software engineer   Hyderabad      m  6/18/86 0:00
83.5    ...

      ComputerScience  MechanicalEngg  ElectricalEngg  TelecomEngg
CivilEngg \
2664          -1           446           -1           -1
-1
3193          -1           -1           -1           -1
-1

      conscientiousness  agreeableness  extraversion  nueroticism \
2664          1.1336         0.3789        -0.2974       -0.3612
3193         -1.4992        -0.7863        -2.0131        0.4148

      openness_to_experience
2664              -1.2440
3193              -0.6035

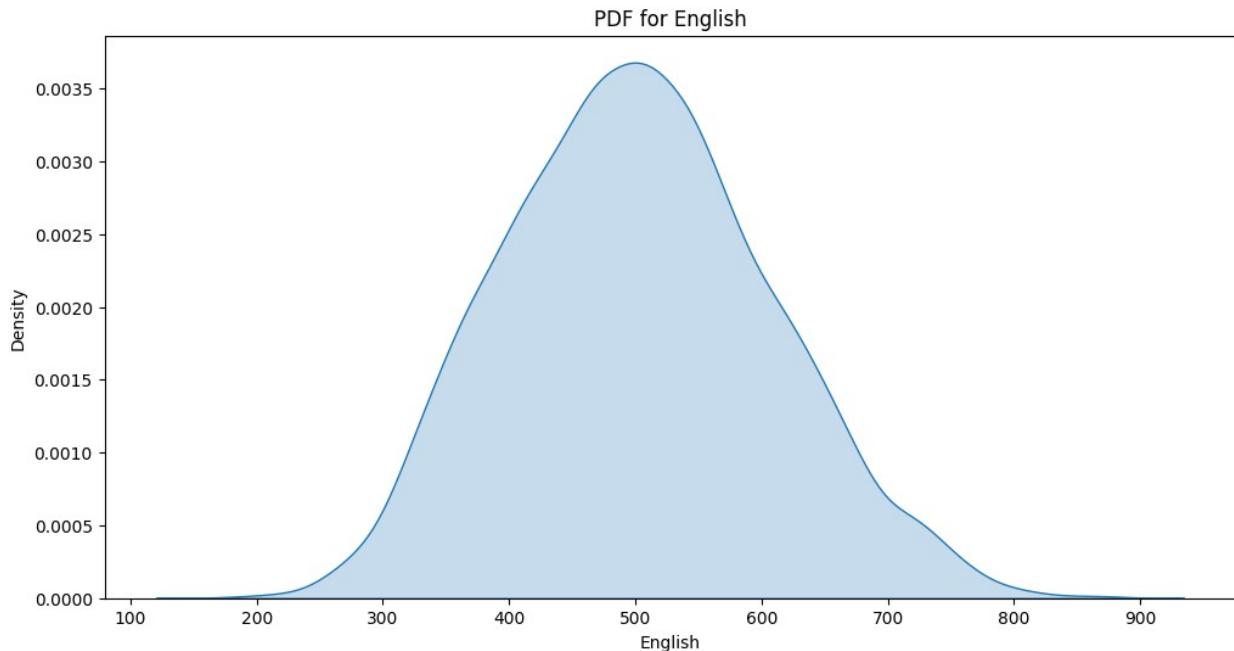
[2 rows x 39 columns]

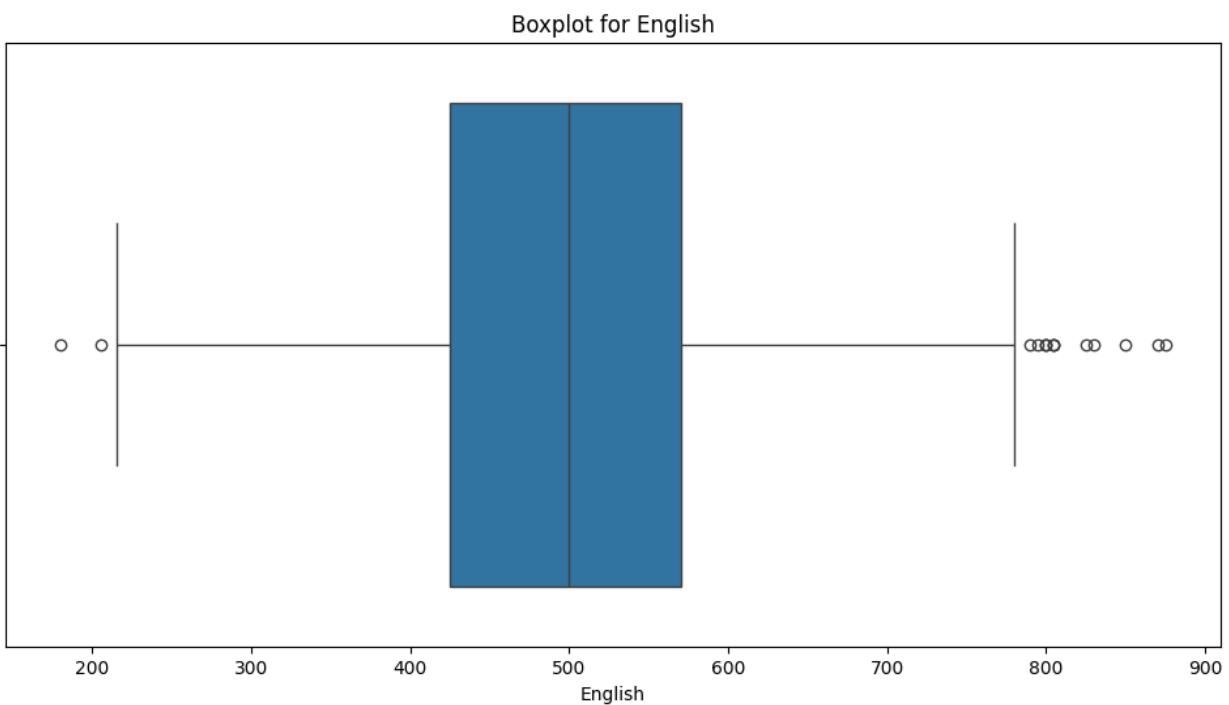
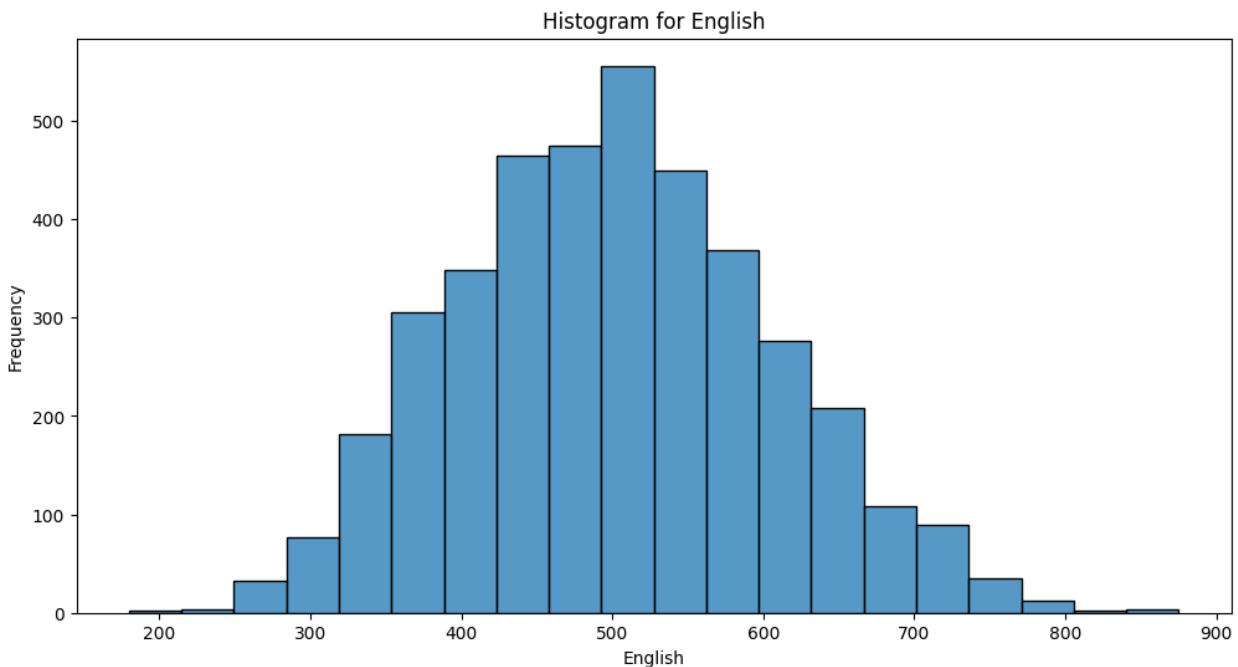
```

<ipython-input-6-5c2bd027771c>:8: FutureWarning:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

```
sns.kdeplot(data[column], shade=True)
```





Outliers in English:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
275		train	1023622	305000.0	8/1/14 0:00	present	
444		train	283164	715000.0	1/1/12 0:00	present	
668		train	609043	440000.0	10/1/13 0:00	present	
839		train	693533	315000.0	8/1/13 0:00	2/1/15 0:00	
847		train	608938	600000.0	7/1/13 0:00	6/1/14 0:00	

935	train	513149	150000.0	9/1/12 0:00	8/1/13 0:00
1183	train	1083037	310000.0	9/1/14 0:00	present
1217	train	669692	600000.0	10/1/14 0:00	2/1/15 0:00
1450	train	1284437	200000.0	1/1/15 0:00	7/1/15 0:00
1519	train	984550	320000.0	10/1/14 0:00	present
2077	train	922684	305000.0	9/1/14 0:00	4/1/15 0:00
2122	train	605290	180000.0	4/1/12 0:00	2/1/13 0:00
2385	train	683102	325000.0	2/1/14 0:00	present
2596	train	1088319	610000.0	7/1/14 0:00	4/1/15 0:00
3044	train	837923	360000.0	12/1/13 0:00	3/1/15 0:00

Designation	JobCity	Gender	
software engineer	-1	m	3/1/93
senior engineer	-1	m	6/15/89
software engineer	-1	f	9/6/91
hardware engineer	Mumbai	m	10/2/89
manager	Gurgaon	m	5/25/91
asp.net developer	-1	m	10/24/90
quality assurance test engineer	-1	m	5/19/92
assistant manager	kolkata	m	5/4/92
web designer and seo	Bikaner	f	11/16/92
software engineer	New Delhi	m	9/5/92
programmer analyst	Coimbatore	f	5/3/91
project engineer	Nalagarh	m	11/3/90
systems engineer	Mysore	f	3/14/91
associate software engineer	Hyderabad	m	10/4/90
junior engineer	-1	m	7/7/93

ElectricalEngg	10percentage	... ComputerScience	MechanicalEngg	
275	88.6	...	438	-1
444	70.0	...	-1	-1

1					
668	87.6	...	- 1	- 1	-
1					
839	78.8	...	- 1	- 1	-
1					
847	86.4	...	- 1	580	-
1					
935	70.0	...	- 1	- 1	-
1					
1183	82.1	...	- 1	- 1	-
1					
1217	73.0	...	- 1	313	-
1					
1450	90.6	...	- 1	- 1	-
1					
1519	92.4	...	- 1	- 1	-
1					
2077	92.0	...	346	- 1	-
1					
2122	85.6	...	- 1	313	-
1					
2385	92.8	...	284	- 1	-
1					
2596	86.0	...	284	- 1	-
1					
3044	78.0	...	653	- 1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion \					
275	- 1	- 1	-0.0154	0.3789	
0.1637					
444	- 1	- 1	0.5100	0.8128	
1.2525					
668	526	- 1	-1.7389	0.0459	-
0.6048					
839	366	- 1	0.2718	1.2114	
0.1637					
847	- 1	- 1	-2.0262	-1.1196	-
0.7585					
935	- 1	- 1	-1.5765	0.3448	-
0.6343					
1183	- 1	- 1	-0.4463	-0.4536	-
1.6807					
1217	- 1	322	-2.0262	-1.9521	-
2.6028					
1450	- 1	- 1	0.5591	0.8784	
0.7785					
1519	516	- 1	0.1282	-0.1206	

```
1.3933
2077      -1      -1      0.9900      1.7109
1.5470
2122      -1      -1      0.2718      0.8784
0.4711
2385      -1      -1      1.1336      0.8784
0.1637
2596      -1      -1      0.2718      0.8784
0.1637
3044      -1      -1      1.1336      0.7119
0.9322
```

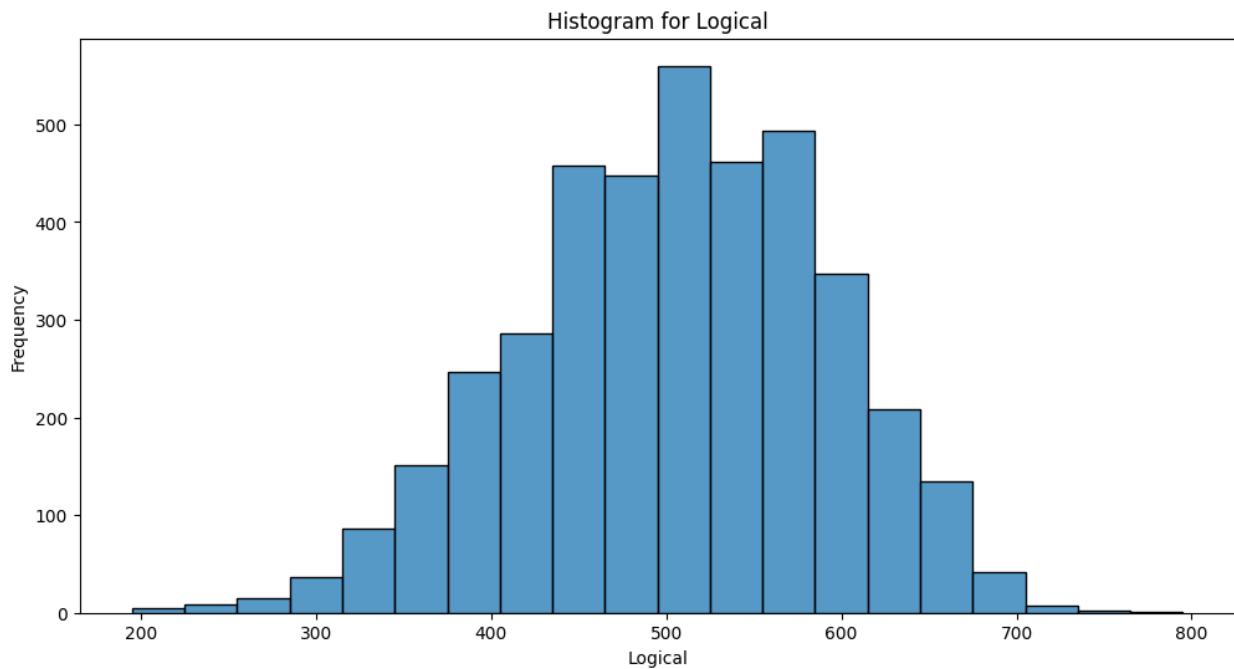
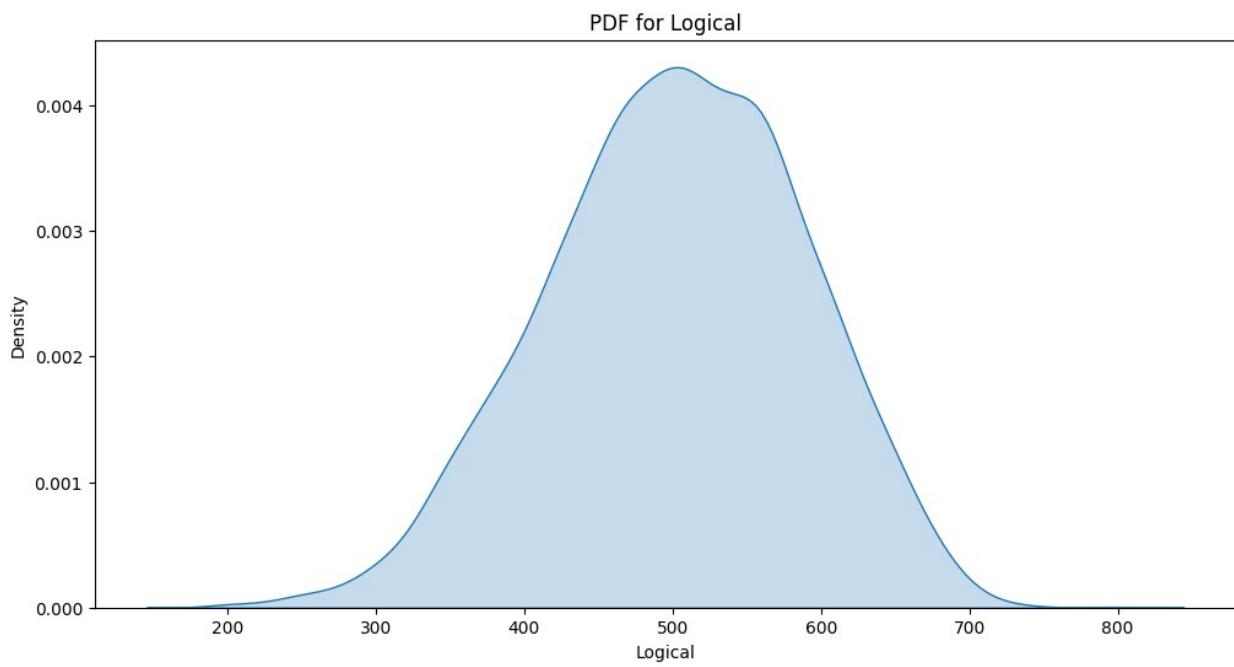
	nueroticism	openess_to_experience
275	0.0192	0.2889
444	0.8848	0.5024
668	1.9207	0.6721
839	-0.9950	0.4805
847	-0.2344	-0.4776
935	-0.2609	-0.2875
1183	0.3995	-1.2440
1217	0.0192	-2.5853
1450	-1.3753	0.4805
1519	-0.4879	0.6721
2077	-2.1360	0.2889
2122	-0.4879	1.2470
2385	-1.2486	0.0973
2596	-1.2486	1.0554
3044	-1.1218	-0.6692

```
[15 rows x 39 columns]
```

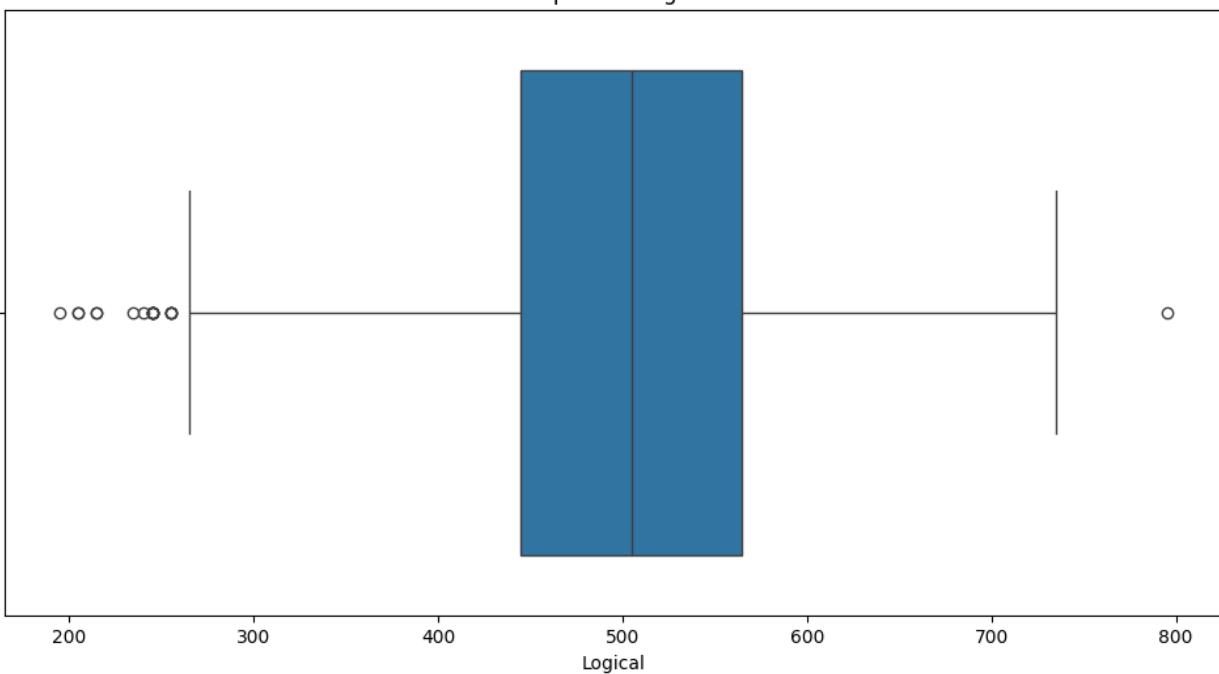
```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```



Boxplot for Logical



Outliers in Logical:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
101	train	43693	205000.0	12/1/11 0:00		present
133	train	434552	300000.0	6/1/14 0:00	4/1/15 0:00	
207	train	457244	360000.0	4/1/13 0:00		present
345	train	60315	110000.0	7/1/11 0:00	5/1/12 0:00	
628	train	47805	505000.0	12/1/10 0:00	6/1/14 0:00	
1014	train	649530	350000.0	2/1/14 0:00		present
1160	train	65483	325000.0	4/1/12 0:00		present
1439	train	299447	360000.0	8/1/11 0:00		present
2141	train	340045	100000.0	4/1/13 0:00	9/1/13 0:00	
2265	train	126975	300000.0	9/1/10 0:00	10/1/13 0:00	
2796	train	1087183	100000.0	2/1/15 0:00	3/1/15 0:00	
2830	train	133458	150000.0	10/1/10 0:00	12/1/11 0:00	
2891	train	205633	500000.0	9/1/11 0:00		present
3119	train	961011	95000.0	4/1/14 0:00	4/1/15 0:00	
3159	train	54007	130000.0	12/1/10 0:00	12/1/11 0:00	
3784	train	328163	205000.0	2/1/15 0:00		present
3876	train	105067	120000.0	12/1/10 0:00	7/1/11 0:00	
3953	train	331779	160000.0	5/1/13 0:00		present

	Designation	JobCity	Gender	DOB	\
101	electrical engineer	Chennai	m	3/5/89 0:00	
133	marketing coordinator	Bhubaneshwar	m	10/10/89 0:00	
207	software engineer	Bangalore	m	6/3/91 0:00	
345	maintenance engineer	gurgaon	m	1/27/88 0:00	
628	senior software engineer	Noida	m	11/2/89 0:00	
1014	system engineer	Pune	m	1/25/91 0:00	

1160	software test engineer	Bangalore	f	12/27/86	0:00
1439	assistant professor	AM	m	12/11/88	0:00
2141	software developer	Delhi	m	8/20/91	0:00
2265	senior engineer	Chandrapur	m	11/23/87	0:00
2796	software developer	-1	m	7/30/92	0:00
2830	maintenance supervisor	Kolkata	m	6/5/86	0:00
2891	system engineer	Kolkata	m	5/25/88	0:00
3119	software developer	Faridabad	m	10/3/92	0:00
3159	service engineer	New Delhi	m	7/15/90	0:00
3784	network engineer	New Delhi	m	7/3/91	0:00
3876	software developer	-1	m	6/1/87	0:00
3953	software test engineer	Chennai	m	1/26/90	0:00

10percentage	... ComputerScience	MechanicalEngg
ElectricalEngg \		
101	84.60 ...	-1
1		-1
133	89.80 ...	-1
1		-1
207	82.00 ...	-1
1		-1
345	57.00 ...	-1
1		-1
628	73.00 ...	-1
1		393
1014	80.53 ...	-1
1		-1
1160	75.00 ...	-1
1		-1
1439	73.06 ...	-1
1		473
2141	58.16 ...	-1
1		-1
2265	63.00 ...	-1
1		-1
2796	76.96 ...	-1
1		-1
2830	64.00 ...	-1
1		-1
2891	81.70 ...	-1
1		-1
3119	72.00 ...	315
1		-1
3159	72.00 ...	-1
1		-1
3784	60.00 ...	-1
1		-1
3876	77.20 ...	-1
1		340

3953	79.20	...	-1	-1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion	\				
101	-1	-1	-0.1082	0.0328	-
0.1988					
133	-1	-1	-0.8810	-0.2793	
0.9623					
207	-1	-1	-2.1175	-2.9314	-
2.2308					
345	-1	-1	0.2009	0.5008	-
1.0697					
628	-1	-1	-2.2720	-0.7993	-
1.3599					
1014	-1	-1	-0.4463	1.3779	
0.9322					
1160	-1	-1	0.5100	-1.0593	-
1.2148					
1439	-1	260	-2.7357	-2.3073	-
0.7794					
2141	-1	-1	-0.8810	0.1888	-
0.7794					
2265	-1	-1	-1.3447	-0.5913	-
1.5051					
2796	-1	-1	0.9900	-0.9531	
1.0859					
2830	-1	-1	-2.2720	-2.7754	-
1.6502					
2891	-1	-1	-1.3447	-1.3713	-
0.4891					
3119	-1	-1	-0.7335	-2.9511	-
0.9122					
3159	-1	-1	-0.8810	0.1888	-
0.1988					
3784	-1	-1	-0.5719	-1.2543	
0.1640					
3876	-1	-1	-2.8903	-0.1232	
0.3817					
3953	-1	-1	-1.0355	-2.0733	-
1.2511					
nueroticism openness_to_experience					
101	0.29730		-0.7615		
133	1.11990		0.1864		
207	-0.87780		-3.9605		
345	-0.52530		0.6603		
628	0.53230		-2.1833		
1014	-0.99500		0.8637		

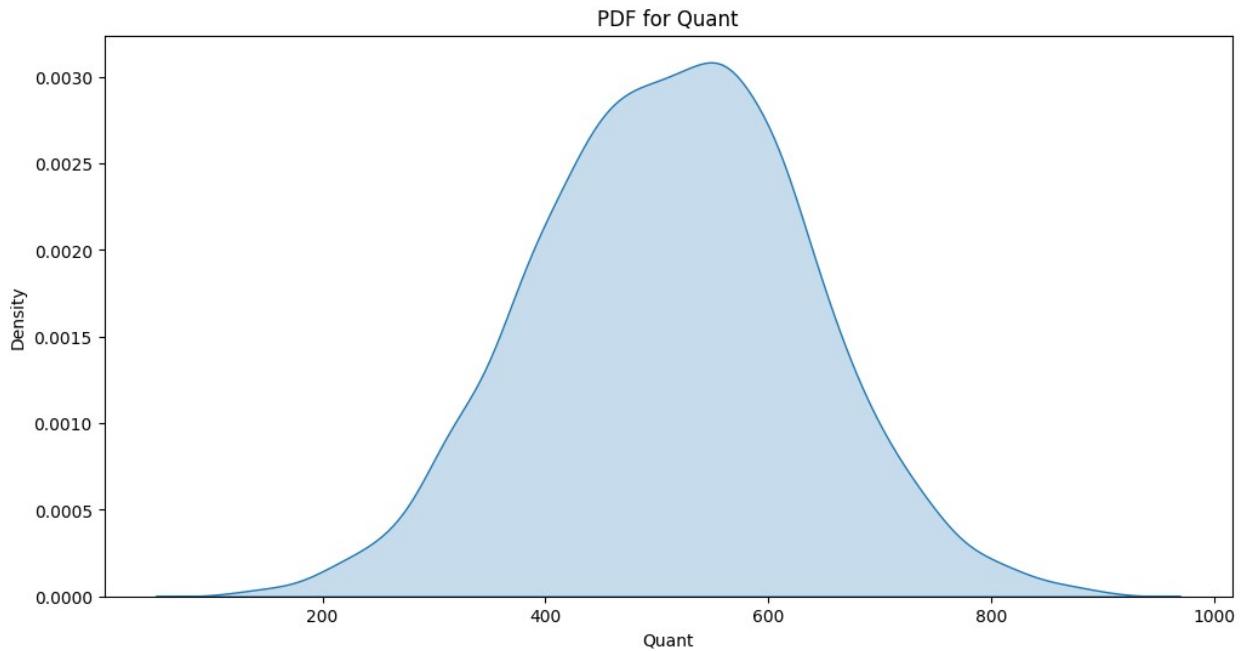
```
1160      0.41480      -0.6035
1439      0.41480      -1.5513
2141      0.00353      -0.6035
2265     -0.29020      -0.7615
2796      0.52620      -0.0943
2830      0.41480      -2.3412
2891      0.17980      1.2923
3119     -0.36120      -5.8428
3159     -1.23030      0.3444
3784      1.11983      -1.3934
3876     -0.87780      -0.6035
3953      0.17983      -1.5513
```

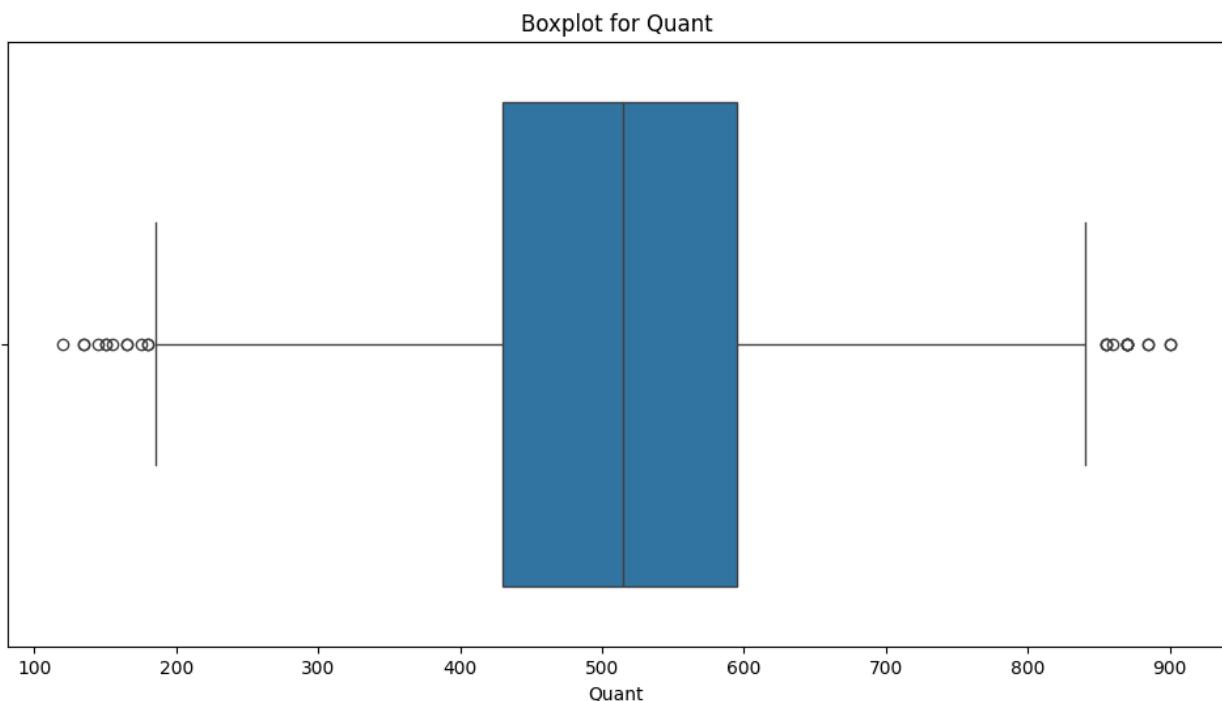
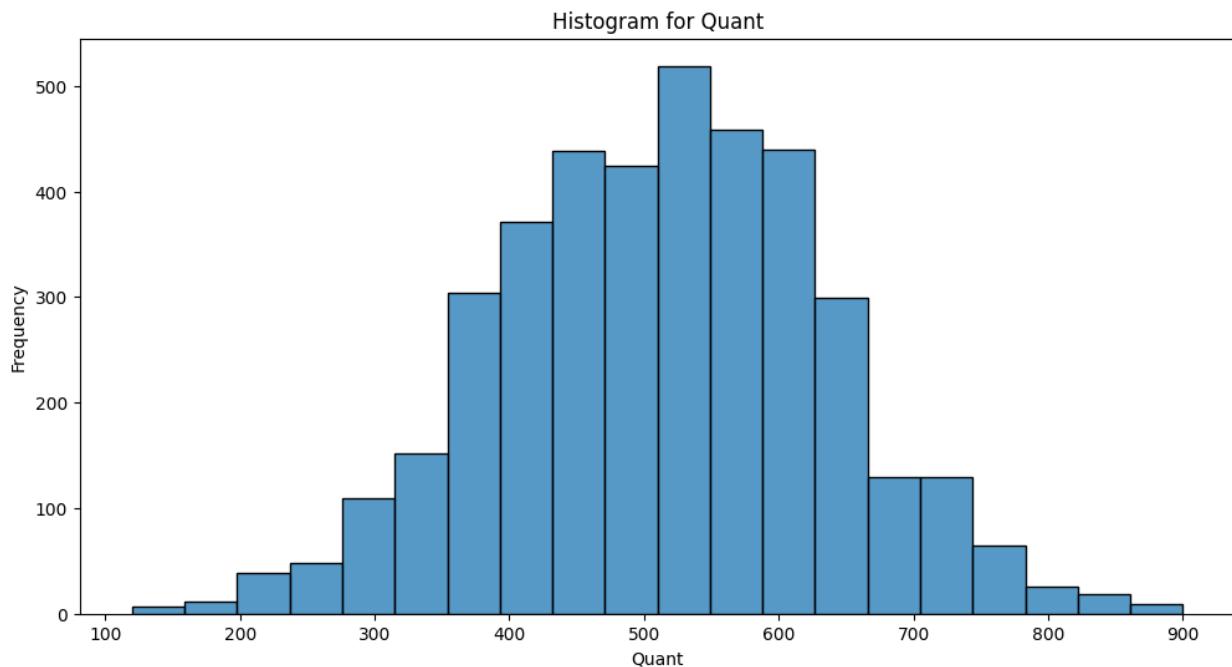
```
[18 rows x 39 columns]
```

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```





Outliers in Quant:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
195	train	863466	350000.0	11/1/13 0:00	7/1/14 0:00	
522	train	640774	55000.0	2/1/14 0:00	5/1/14 0:00	
564	train	558050	185000.0	8/1/12 0:00	8/1/15 0:00	
698	train	1122860	300000.0	8/1/14 0:00	present	
783	train	1262957	190000.0	11/1/13 0:00	1/1/15 0:00	

899	train	602267	320000.0	9/1/14	0:00	present
1148	train	1145718	100000.0	11/1/14	0:00	1/1/15 0:00
1310	train	596083	450000.0	8/1/14	0:00	present
1661	train	591405	605000.0	9/1/13	0:00	present
1815	train	806357	205000.0	7/1/14	0:00	6/1/15 0:00
2007	train	637441	350000.0	10/1/13	0:00	4/1/15 0:00
2134	train	602029	150000.0	10/1/14	0:00	9/1/15 0:00
2155	train	900799	320000.0	5/1/14	0:00	present
2411	train	655464	390000.0	7/1/13	0:00	present
2437	train	489860	120000.0	3/1/14	0:00	3/1/15 0:00
2490	train	595163	80000.0	8/1/13	0:00	2/1/14 0:00
2616	train	730091	80000.0	5/1/14	0:00	4/1/15 0:00
2932	train	624843	110000.0	4/1/14	0:00	9/1/14 0:00
2957	train	510199	770000.0	7/1/12	0:00	present
2988	train	606571	500000.0	7/1/13	0:00	present
3165	train	765378	410000.0	8/1/13	0:00	present
3239	train	919264	325000.0	8/1/14	0:00	5/1/15 0:00
3258	train	869474	240000.0	6/1/14	0:00	4/1/15 0:00
3283	train	513495	225000.0	7/1/12	0:00	10/1/14 0:00
3616	train	267150	150000.0	6/1/14	0:00	3/1/15 0:00

DOB	\	Designation	JobCity	Gender	
195 0:00		system engineer	New Delhi	m	6/20/90
522 0:00		designer	-1	m	3/8/91
564 0:00		performance engineer	-1	m	6/17/91
698 0:00		project engineer	-1	m	11/21/92
783 0:00		technical support engineer	Chennai	m	5/6/91
899 0:00		java software engineer	Bangalore	m	2/18/91
1148 0:00		sales account manager	Sonipat	m	5/9/90
1310 0:00	software quality assurance tester	Bangalore	m	7/4/91	
1661 0:00	senior software engineer	Hyderabad	m	1/13/92	
1815 0:00	java software engineer	Gurgaon	m	8/15/93	
2007 0:00	test engineer	Hyderabad	m	7/24/91	
2134 0:00	trainee software engineer	-1	m	3/28/91	
2155 0:00	system engineer	Pune	m	3/15/92	

2411 0:00	test engineer	-1	m	11/2/90
2437 0:00	customer service representative	Bangalore	m	8/17/91
2490 0:00	entry level management trainee	Pune	m	10/22/90
2616 0:00	network engineer	Kolkata	f	7/5/89
2932 0:00	product manager	-1	f	9/26/91
2957 0:00	engineer	Noida	m	11/13/90
2988 0:00	business analyst	Gurgaon	m	5/6/91
3165 0:00	software developer	bangalore	m	7/27/92
3239 0:00	product developer	Noida	m	10/5/92
3258 0:00	supply chain analyst	Chennai	m	12/17/92
3283 0:00	software test engineer	Gurgaon	f	8/25/90
3616 0:00	it support specialist	Gurgaon	m	12/25/90

10percentage	... ComputerScience	MechanicalEngg
ElectricalEngg \ 195 1	82.00 ...	407 -1 -
522 1	75.06 ...	-1 -1 -
564 1	67.72 ...	-1 -1 -
698 1	91.71 ...	253 -1 -
783 1	75.00 ...	-1 -1 -
899 1	89.10 ...	-1 -1 -
1148 1	79.75 ...	-1 407 -
1310 553	87.00 ...	-1 -1 -
1661 1	78.80 ...	-1 -1 -
1815 1	54.00 ...	130 -1 -
2007 1	91.30 ...	407 -1 -

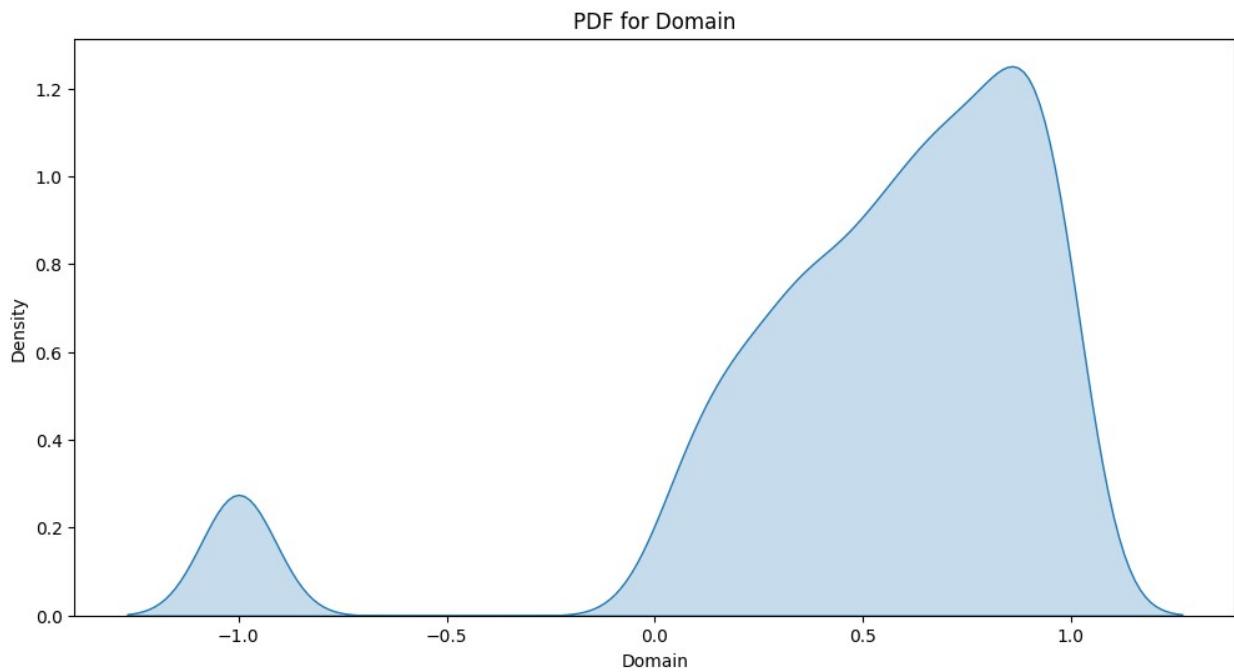
2134	70.30	...	-1	-1	-
1					
2155	94.60	...	-1	-1	-
1					
2411	81.60	...	-1	-1	-
1					
2437	71.00	...	346	-1	-
1					
2490	85.60	...	-1	-1	-
1					
2616	67.12	...	-1	-1	-
1					
2932	78.00	...	-1	-1	
206					
2957	79.60	...	-1	-1	-
1					
2988	95.20	...	-1	-1	-
1					
3165	84.33	...	-1	-1	-
1					
3239	91.20	...	-1	-1	-
1					
3258	91.50	...	-1	376	-
1					
3283	72.00	...	-1	-1	-
1					
3616	54.00	...	-1	-1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion \					
195	-1	-1	-0.5899	1.0449	
0.3174					
522	-1	-1	0.1282	0.0459	-
0.1437					
564	-1	-1	-0.3027	0.7119	
0.3174					
698	-1	-1	1.1336	1.0449	
0.7785					
783	-1	-1	-2.0262	-0.4536	-
0.9122					
899	-1	-1	-0.4463	-0.2871	-
1.2196					
1148	-1	-1	1.1336	0.0459	-
0.1437					
1310	-1	-1	0.7027	-0.1206	-
0.1437					
1661	-1	-1	0.5591	0.0459	
0.1637					

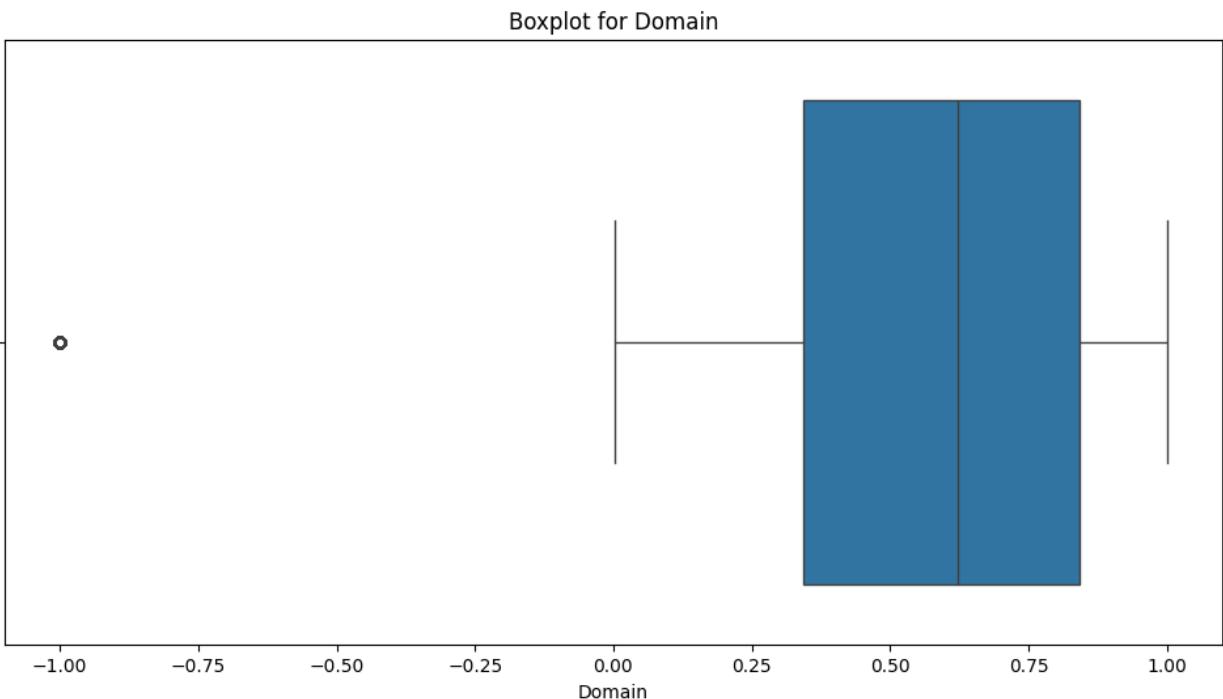
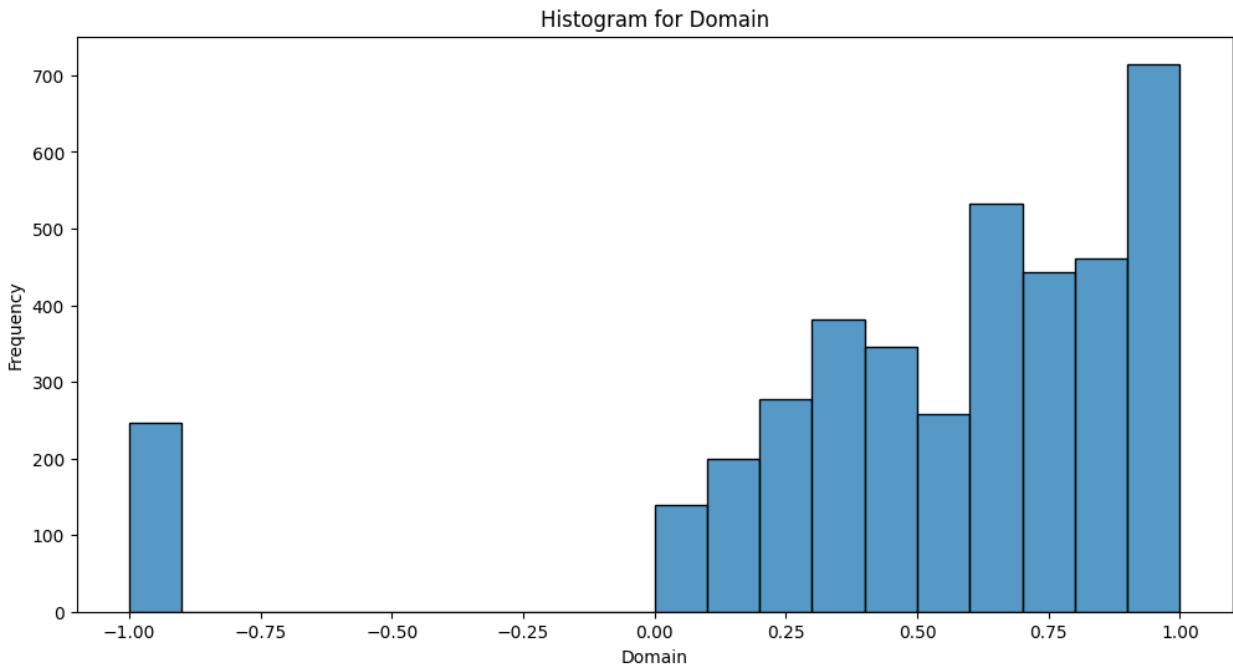
1815	-1	-1	-0.0154	-0.6201	-
0.7585					
2007	393	-1	-0.0154	0.8784	-
0.6048					
2134	-1	-1	-0.1590	1.5444	
1.2396					
2155	-1	-1	1.5644	0.8784	
2.0080					
2411	-1	-1	0.9900	1.3779	-
0.1437					
2437	-1	-1	0.3941	-0.1232	-
0.6343					
2490	-1	-1	-0.4463	0.0459	-
0.1437					
2616	286	-1	0.7027	0.8784	
0.3174					
2932	-1	-1	-0.3027	-0.9531	
0.6248					
2957	-1	-1	-1.1901	-0.1232	-
0.3440					
2988	-1	-1	0.1282	0.2124	
0.1637					
3165	-1	-1	0.1282	-0.6201	-
0.2974					
3239	286	-1	-0.3027	0.3789	-
2.4491					
3258	-1	-1	-1.1644	-0.6201	
0.7785					
3283	-1	-1	-1.6538	-0.4353	-
0.0537					
3616	-1	-1	-0.5719	-0.1232	
0.9623					
nueroticism openness_to_experience					
195	-1.2486		0.8637		
522	0.9066		0.2889		
564	1.2869		1.0554		
698	-0.8682		0.8637		
783	0.6530		-0.6692		
899	1.0333		0.0973		
1148	-0.3612		-0.4776		
1310	-2.0092		-1.4356		
1661	0.1459		0.4805		
1815	-0.7415		0.0973		
2007	-0.9950		0.4805		
2134	2.0475		1.4386		
2155	-2.6430		1.4386		
2411	-0.8682		1.2470		
2437	1.0611		-0.1295		

2490	0.1459	0.0973
2616	-0.1076	1.0554
2932	0.3995	-1.2440
2957	0.1798	-0.2875
2988	-0.4879	0.4805
3165	-1.7556	-0.6692
3239	-0.4879	-1.4356
3258	1.5404	-0.2859
3283	1.5899	-1.8673
3616	1.2374	0.1864

[25 rows x 39 columns]

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:  
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.  
sns.kdeplot(data[column], shade=True)
```





Outliers in Domain:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
5		train	1027655	300000.0	6/1/14 0:00	present	
14		train	1279958	300000.0	7/1/13 0:00	present	
16		train	1087625	325000.0	9/1/14 0:00	present	
22		train	995191	190000.0	10/1/13 0:00	4/1/15 0:00	
35		train	942679	350000.0	3/1/14 0:00	present	

3942	train	1067015	280000.0	7/1/13 0:00	present
3958	train	1039020	310000.0	6/1/14 0:00	present
3960	train	1037712	240000.0	8/1/13 0:00	1/1/14 0:00
3969	train	1233826	330000.0	6/1/15 0:00	present
3978	train	1274658	320000.0	8/1/13 0:00	1/1/14 0:00
5		Designation	JobCity	Gender	DOB \
14		system engineer	Hyderabad	m	7/2/92 0:00
16		java software engineer	Bangalore	m	7/2/92 0:00
22		product development engineer	Noida	m	6/10/92 0:00
35		developer	Hyderabad	m	1/23/92 0:00
		online marketing manager	mohali	f	9/15/90 0:00
3942		software engineer	-1	m	3/17/90 0:00
3958		software engineer	Hyderabad	m	9/9/92 0:00
3960		web developer	Kolkata	m	7/10/92 0:00
3969		technical engineer	pune	m	1/24/93 0:00
3978		software engineer	Hyderabad	f	4/24/91 0:00
5	ElectricalEngg	10percentage	ComputerScience	MechanicalEngg	
1		89.92	407	-1	-
14		81.20	376	-1	-
1		85.80	-1	-1	-
16		92.50	-1	-1	-
1		85.00	-1	-1	-
35		78.00	346	-1	-
1		79.90	438	-1	-
3942		77.00	-1	-1	-
1		76.00	-1	-1	-
3958		89.70	-1	-1	-
1					
5	extraversion	TelecomEngg	CivilEngg	conscientiousness	agreeableness
2.2954		-1	-1	-0.3027	-0.6201
14		-1	-1	0.7027	0.7119

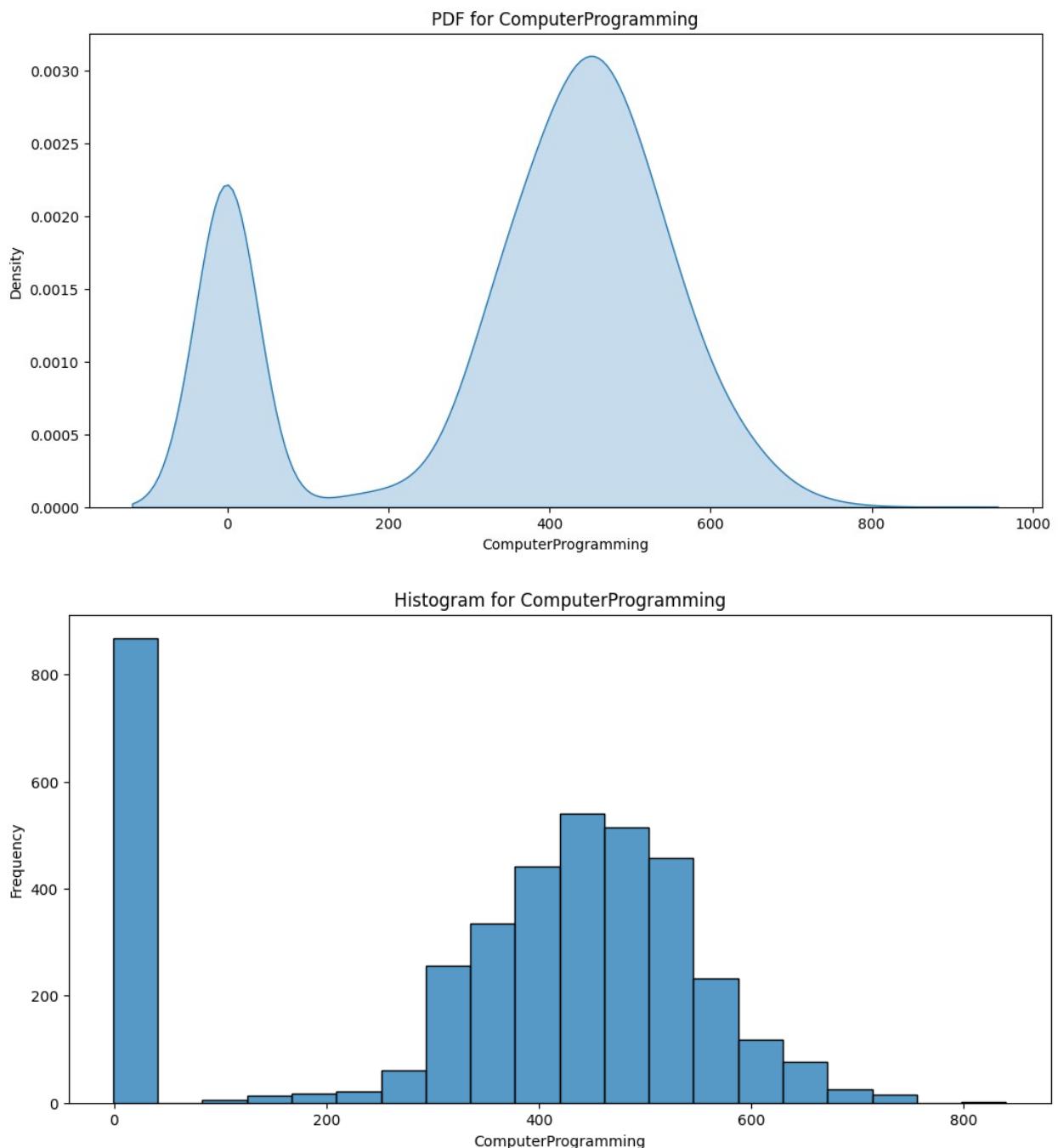
0.0100				
16	-1	-1	1.1336	1.0449
0.7785				
22	-1	-1	-0.4463	-0.6201
0.6048				-
35	-1	-1	-0.4854	-0.5213
2.1129				
...
...				
3942	-1	-1	1.7081	-0.9531
0.1637				
3958	-1	-1	-0.1590	0.5454
0.4711				
3960	-1	-1	0.5591	0.7119
0.4711				
3969	-1	-1	0.5591	0.7119
0.0100				
3978	-1	-1	0.2718	1.2114
0.4711				
	nueroticism	openess_to_experience		
5	-0.7415		-0.8608	
14	-0.9950		0.6721	
16	-0.6147		-0.8608	
22	0.7798		-2.7769	
35	-0.7350		1.8224	
...	
3942	-1.6289		-0.8608	
3958	-0.1076		0.8637	
3960	-1.6289		0.6721	
3969	-0.2344		0.8637	
3978	-0.1076		0.8637	

[246 rows x 39 columns]

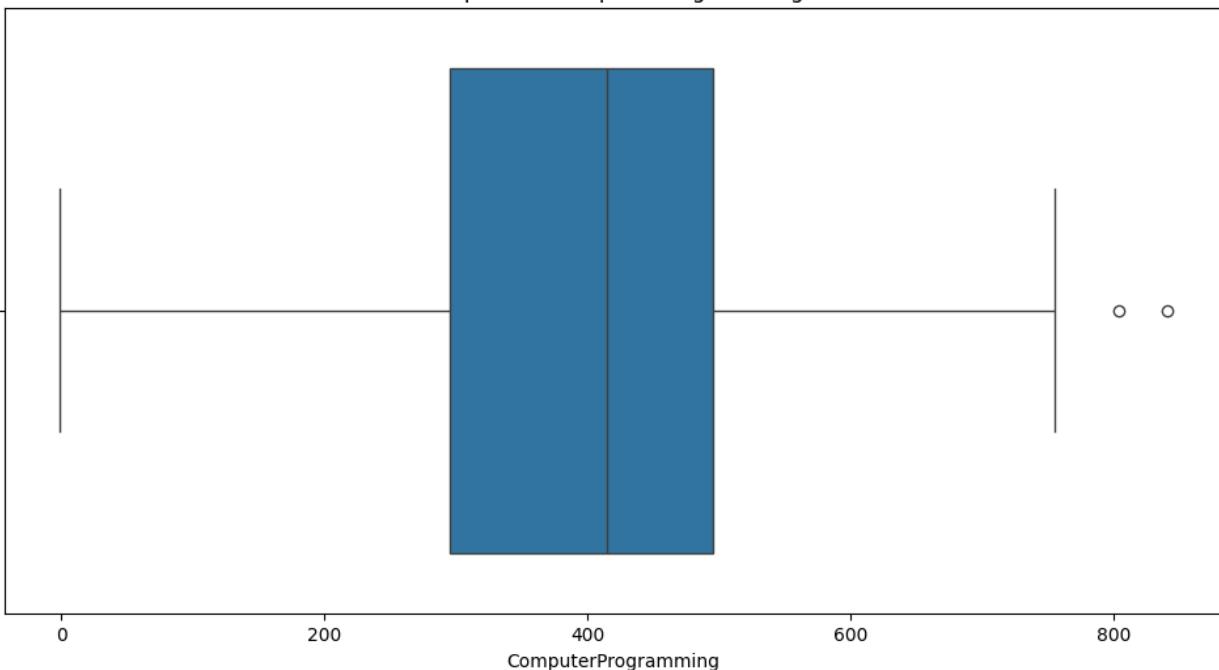
<ipython-input-6-5c2bd027771c>:8: FutureWarning:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

 sns.kdeplot(data[column], shade=True)



Boxplot for ComputerProgramming



Outliers in ComputerProgramming:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
64	train	31330	600000.0	7/1/10 0:00	7/1/12 0:00	
1711	train	712570	625000.0	2/1/14 0:00	present	

	Designation	JobCity	Gender	DOB
10percentage	...	\		
64	java software engineer	Gurgaon	m	5/29/86 0:00
78.0	...			
1711	data analyst	-1	m	6/24/90 0:00
88.0	...			

	ComputerScience	MechanicalEngg	ElectricalEngg	TelecomEngg
CivilEngg	\			
64	-1	-1	-1	-1
-1				
1711	-1	233	-1	-1
-1				

	conscientiousness	agreeableness	extraversion	nueroticism	\
64	0.6646	0.3448	0.8171	0.6498	
1711	-0.7335	-0.7866	-0.4511	-1.5021	

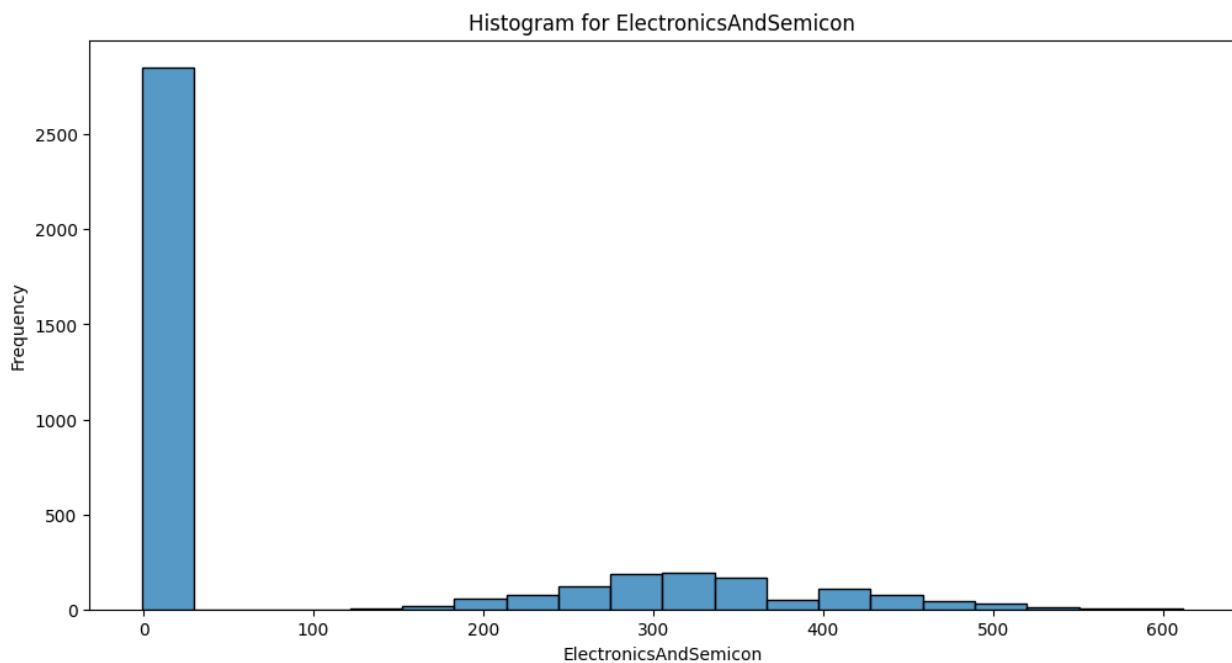
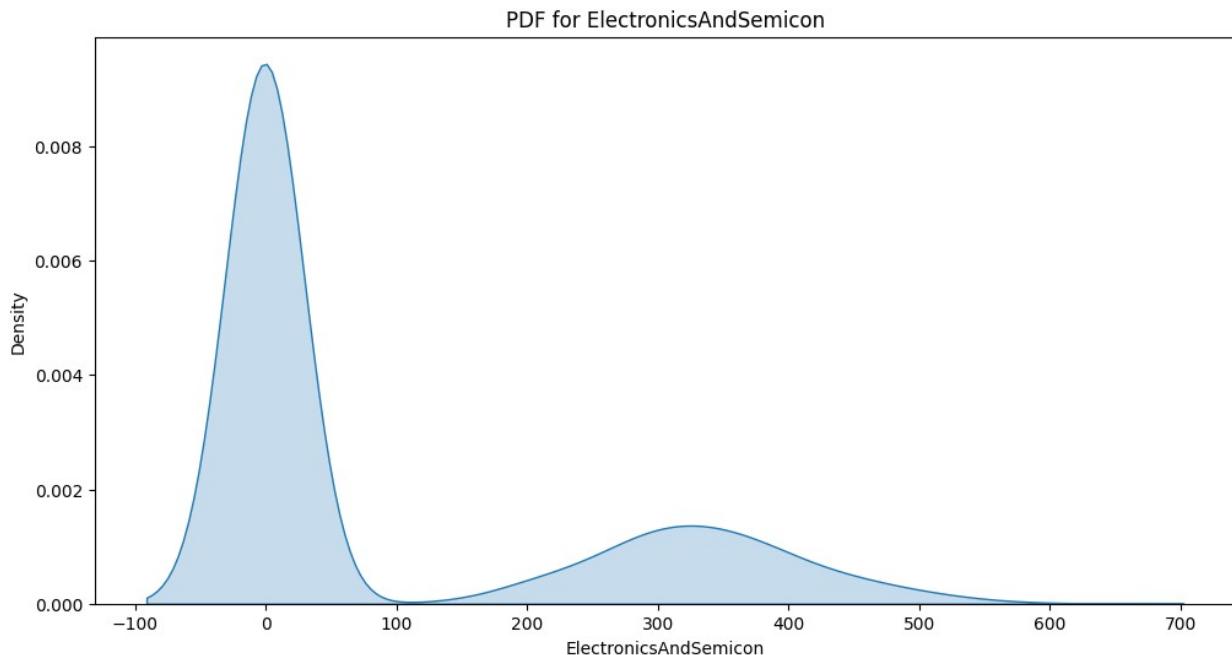
	openess_to_experience
64	0.0284
1711	-1.8189

[2 rows x 39 columns]

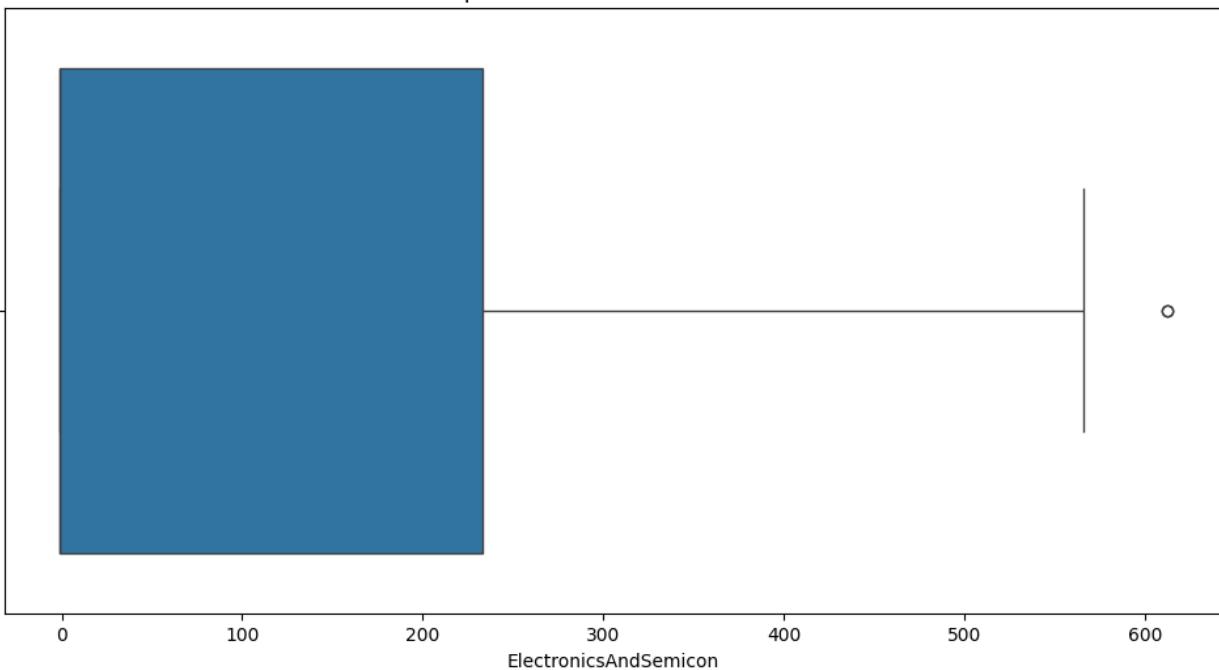
```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```



Boxplot for ElectronicsAndSemicon



Outliers in ElectronicsAndSemicon:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
1557	train	1157412	350000.0	7/1/14 0:00	4/1/15 0:00	
3889	train	1062520	325000.0	10/1/14 0:00		present

	Designation	JobCity	Gender	DOB
10percentage \				
1557	systems engineer	Hyderabad	f	8/11/92 0:00
84.4				
3889	assistant store manager	Chennai	m	8/28/93 0:00
93.4				

	... ComputerScience	MechanicalEngg	ElectricalEngg	TelecomEngg
\				
1557	...	-1	-1	580
				-1
3889	...	-1	-1	-1
				-1

	CivilEngg	conscientiousness	agreeableness	extraversion
nueroticism \				
1557	-1	1.8517	1.0449	0.010
2.3895				-
3889	-1	0.1282	0.3789	-1.527
0.8682				-

	openess_to_experience
1557	0.8637

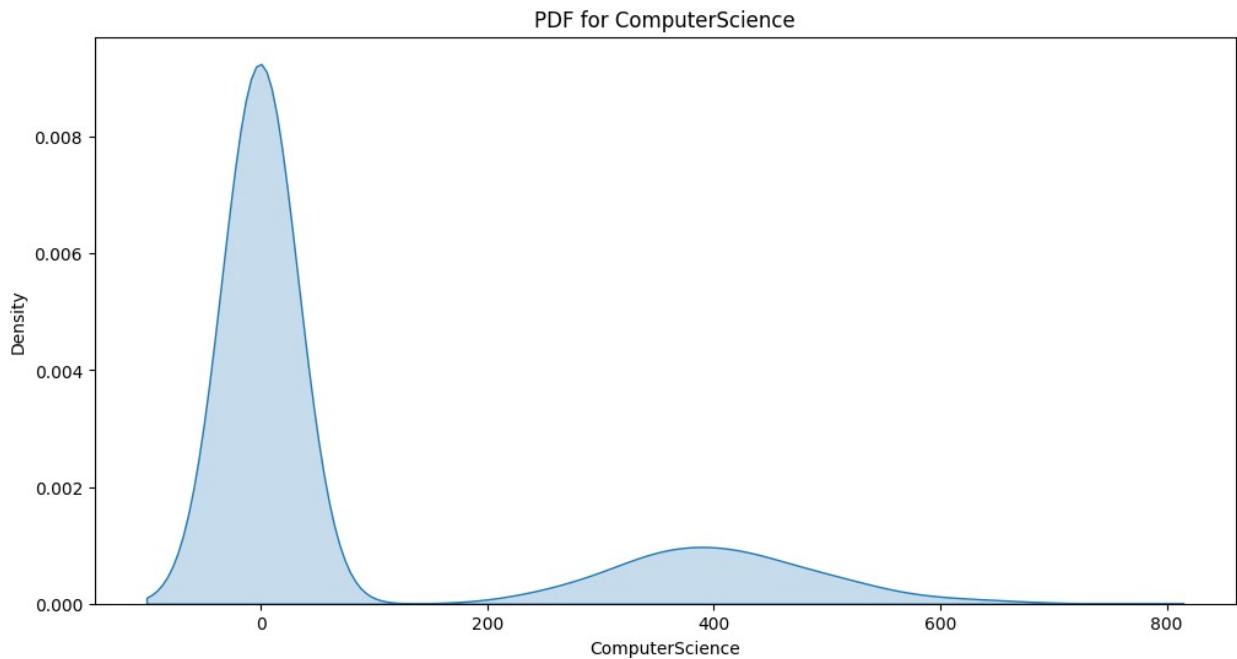
```
3889           -0.6692
```

```
[2 rows x 39 columns]
```

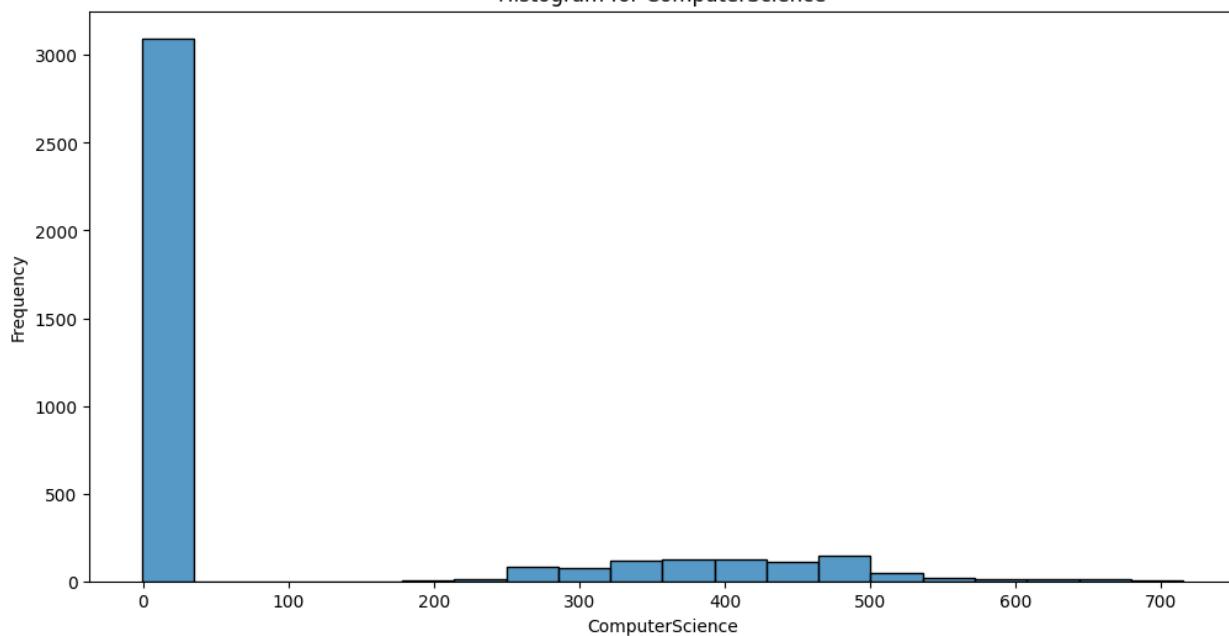
```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

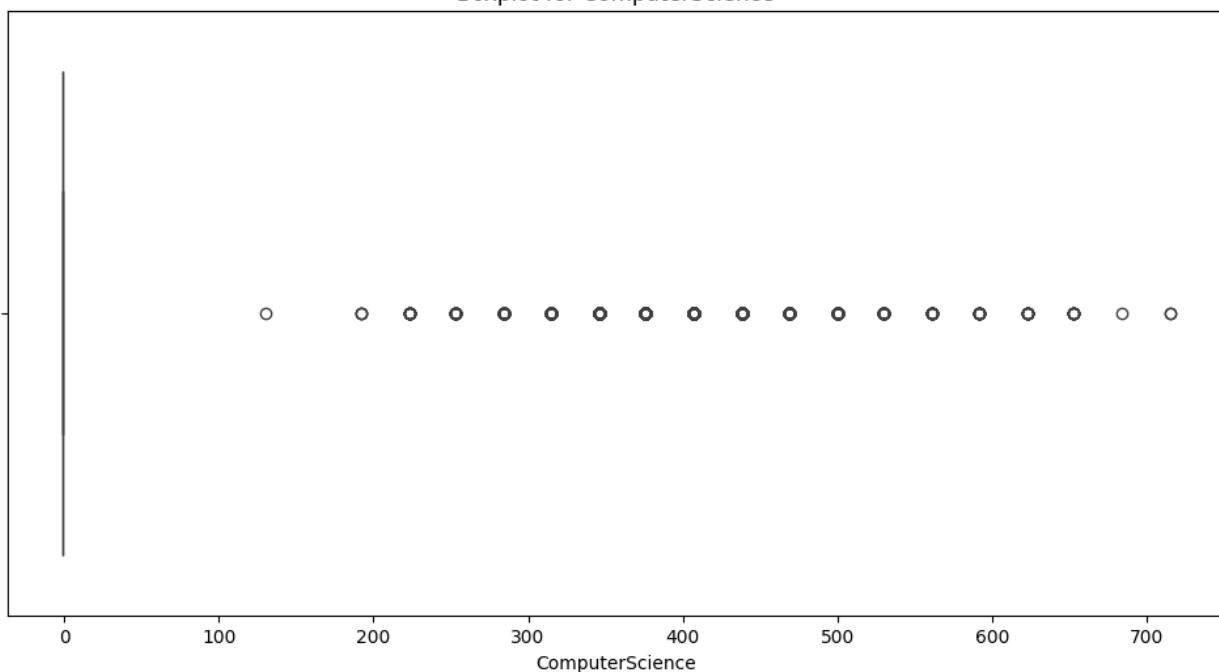
```
    sns.kdeplot(data[column], shade=True)
```



Histogram for ComputerScience



Boxplot for ComputerScience



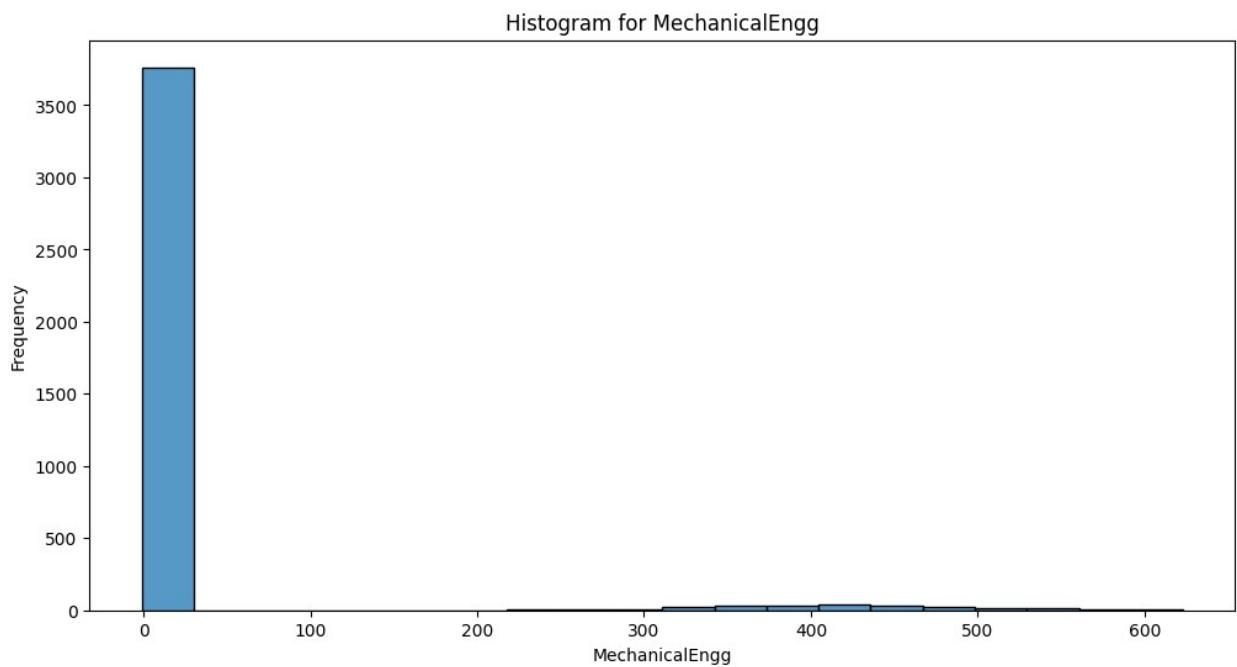
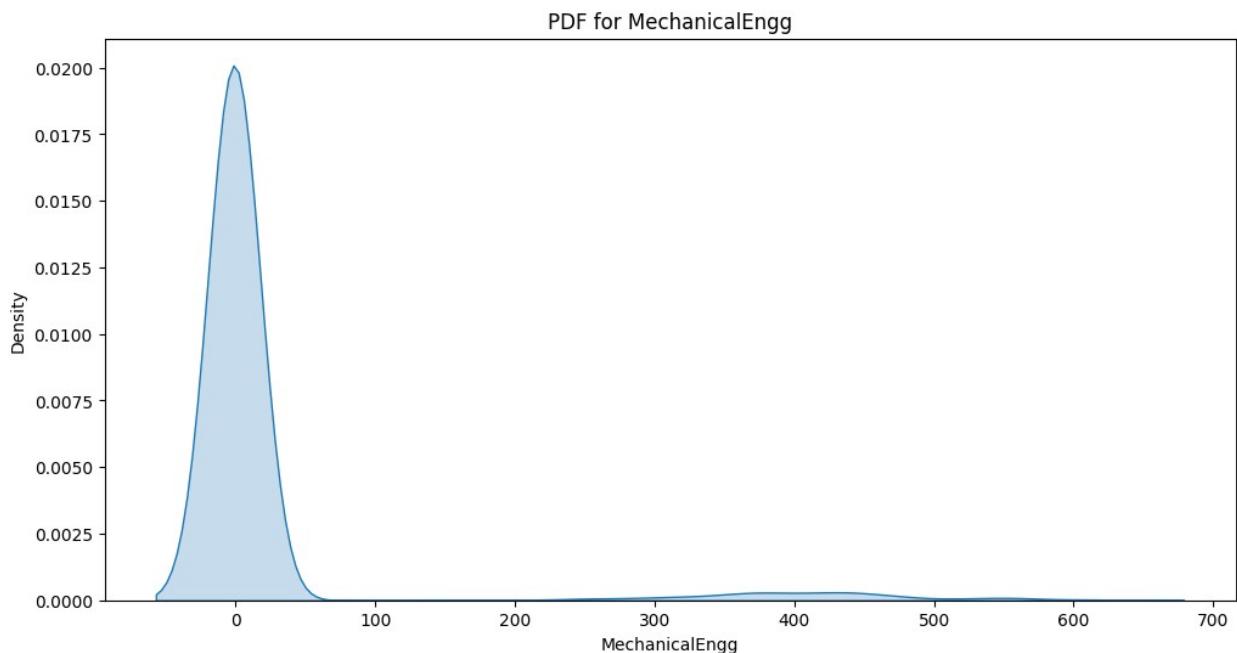
Outliers in ComputerScience:

	Unnamed: 0	ID	Salary	D0J	D0L	\
5	train	1027655	300000.0	6/1/14 0:00	present	
6	train	947847	300000.0	8/1/14 0:00	5/1/15 0:00	
14	train	1279958	300000.0	7/1/13 0:00	present	
17	train	874596	250000.0	8/1/13 0:00	9/1/14 0:00	
24	train	963123	335000.0	6/1/14 0:00	6/1/15 0:00	

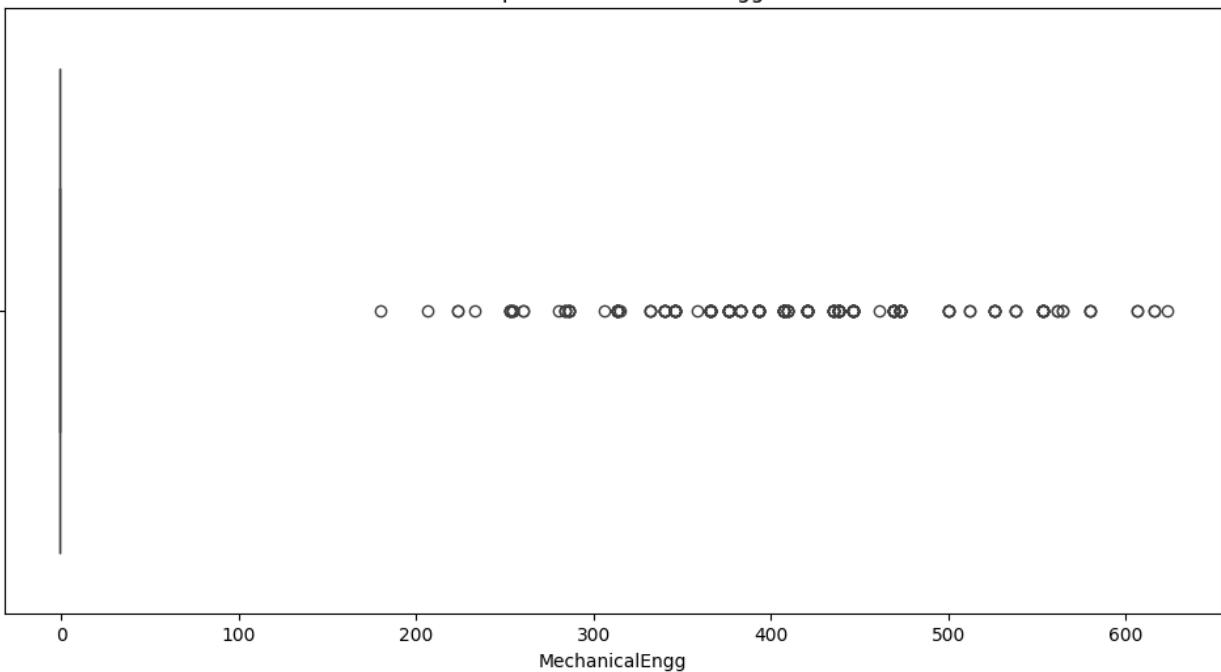
3972	train	1044603	180000.0	3/1/15 0:00	5/1/15 0:00
3976	train	1006997	300000.0	1/1/15 0:00	present
3981	train	1077872	220000.0	9/1/14 0:00	present
3989	train	1204604	300000.0	9/1/14 0:00	present
3996	train	947111	200000.0	7/1/14 0:00	1/1/15 0:00
...					
DOB	\	Designation	JobCity	Gender	
5 0:00		system engineer	Hyderabad	m	7/2/92
6 0:00		java software engineer	Banglore	m	2/1/93
14 0:00		java software engineer	Bangalore	m	7/2/92
17 0:00		associate software developer	Gurgaon	m	9/28/87
24 0:00		programmer analyst	Hyderabad	m	6/28/93
...					
3972 0:00		help desk analyst	Noida	m	11/30/92
3976 0:00		graduate engineer trainee	Navi Mumbai	f	9/13/92
3981 0:00		software engineer	Gurgaon	m	12/17/91
3989 0:00		software engineer	Bangalore	m	11/23/91
3996 0:00		software developer	Asifabadbanglore	f	3/20/92
...					
10percentage	ElectricalEngg \	ComputerScience	MechanicalEngg		
5 1	89.92	...	407	-1	-
6 1	86.08	...	346	-1	-
14 1	81.20	...	376	-1	-
17 1	60.80	...	500	-1	-
24 1	88.00	...	346	-1	-
...					
3972 1	68.20	...	407	-1	-
3976	64.20	...	561	-1	-

1						
3981	53.40	...	530	- 1		-
1						
3989	74.88	...	346	- 1		-
1						
3996	78.72	...	438	- 1		-
1						
	TelecomEngg	CivilEngg	conscientiousness	agreeableness		
extraversion	\					
5	- 1	- 1	-0.3027	-0.6201		-
2.2954						
6	- 1	- 1	1.7081	-0.1054		-
1.0379						
14	- 1	- 1	0.7027	0.7119		-
0.0100						
17	- 1	- 1	0.8463	1.0449		-
1.0659						
24	- 1	- 1	0.4155	0.8027		-
0.1357						
...	
3972	- 1	- 1	-1.1644	0.2124		-
0.2974						
3976	- 1	- 1	0.4155	0.0459		-
0.0100						
3981	- 1	- 1	0.1282	-0.2871		-
0.1437						
3989	- 1	- 1	0.1282	0.0459		-
1.2396						
3996	- 1	- 1	-0.1590	0.0459		-
0.4511						
	nueroticism	openess_to_experience				
5	-0.7415	-0.8608				
6	-2.0092	-1.0872				
14	-0.9950	0.6721				
17	-1.6289	0.6721				
24	-0.9950	-0.6692				
...				
3972	0.0192	-1.0524				
3976	0.2727	0.0973				
3981	-1.1218	1.4386				
3989	1.0333	0.6721				
3996	-0.3612	-0.0943				

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:  
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.  
sns.kdeplot(data[column], shade=True)
```



Boxplot for MechanicalEngg



Outliers in MechanicalEngg:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
7		train	912934	400000.0	7/1/14 0:00	7/1/15 0:00	
26		train	65096	345000.0	1/1/11 0:00	10/1/13 0:00	
40		train	245887	120000.0	6/1/11 0:00	3/1/12 0:00	
45		train	1230582	110000.0	9/1/14 0:00	1/1/15 0:00	
59		train	536053	120000.0	9/1/09 0:00	4/1/13 0:00	
...		
3909		train	628271	210000.0	8/1/13 0:00	present	
3916		train	530146	360000.0	6/1/13 0:00	12/1/14 0:00	
3929		train	336937	100000.0	6/1/12 0:00	4/1/14 0:00	
3951		train	885459	145000.0	5/1/14 0:00	present	
3980		train	197796	150000.0	7/1/11 0:00	7/1/12 0:00	
		Designation	JobCity	Gender	DOB	\	
7		mechanical engineer	Bangalore	m	5/27/92 0:00		
26		senior software engineer	Bangalore	m	2/5/88 0:00		
40		site manager	Jhansi	m	5/4/89 0:00		
45		production engineer	Chennai	m	10/12/92 0:00		
59		software engineer	Bangalore	m	10/30/77 0:00		
...		
3909		production engineer	Navi Mumbai	m	10/25/92 0:00		
3916		management trainee	Hissar	m	7/14/91 0:00		
3929		cad designer	Coimbatore	m	8/24/90 0:00		
3951		mechanical engineer	Karad	m	8/27/92 0:00		
3980		get	haryana	m	8/5/86 0:00		

10percentage ... ComputerScience MechanicalEngg

ElectricalEngg \					
7	92.00	...	-1	469	-
1					
26	90.88	...	-1	313	-
1					
40	66.60	...	-1	286	-
1					
45	95.80	...	-1	253	-
1					
59	72.00	...	-1	366	-
1					
...
.					
3909	67.00	...	-1	420	-
1					
3916	79.80	...	-1	393	-
1					
3929	70.27	...	-1	383	-
1					
3951	93.07	...	-1	407	-
1					
3980	84.00	...	-1	473	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion \					
7	-1	-1	-0.0154	1.2114	
0.0100					
26	-1	320	0.8192	0.1888	-
1.7954					
40	-1	-1	-0.4173	0.3448	
0.0914					
45	-1	-1	-0.5899	-1.1196	
0.4711					
59	-1	400	-0.3014	-0.4353	-
0.9245					
...
.					
3909	-1	-1	0.7027	-0.0873	-
0.0319					
3916	-1	-1	0.3941	0.1888	-
0.6343					
3929	-1	-1	-0.2628	0.5008	-
1.0334					
3951	-1	-1	-0.3027	-1.4526	-
0.2974					
3980	-1	-1	-1.4992	0.5008	-
0.9245					

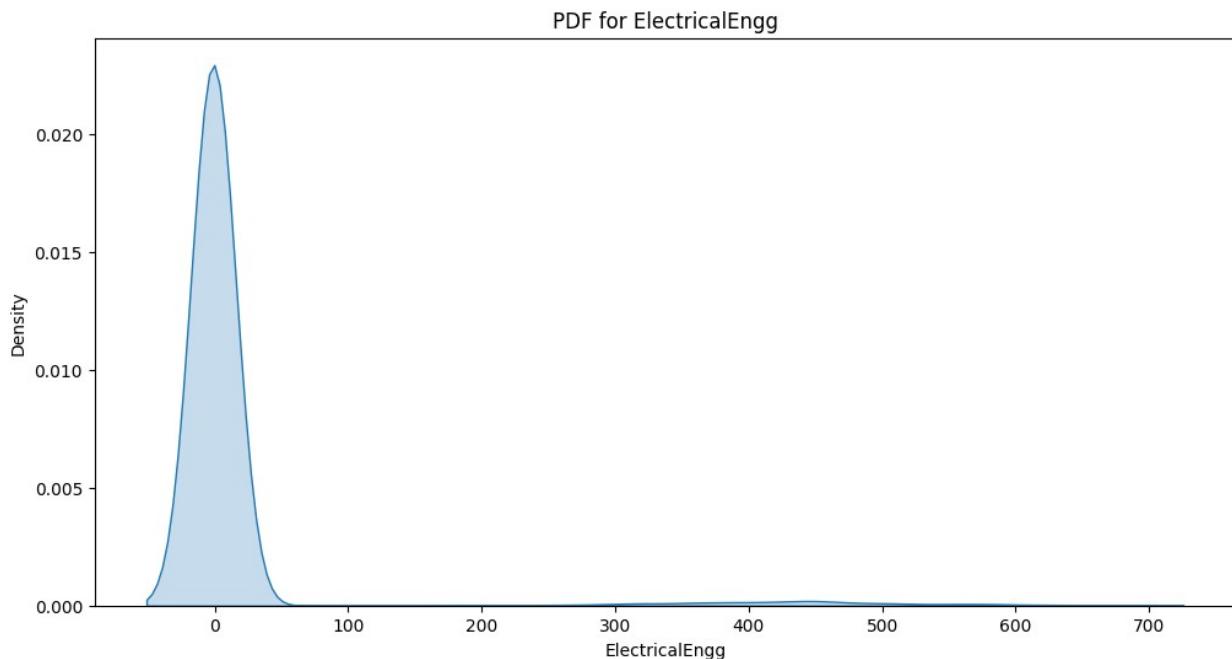
```
    nueroticism  openness_to_experience
7           0.14590             1.2470
26          1.82490             1.1343
40          -0.40780            0.6603
45          -0.74150            -1.4356
59          -0.34900            -0.4455
...
3909         0.65300             0.1670
3916         0.09170            -1.3934
3929         0.88483            -0.4455
3951         1.28690            -1.4356
3980        -0.64280            -0.6035
```

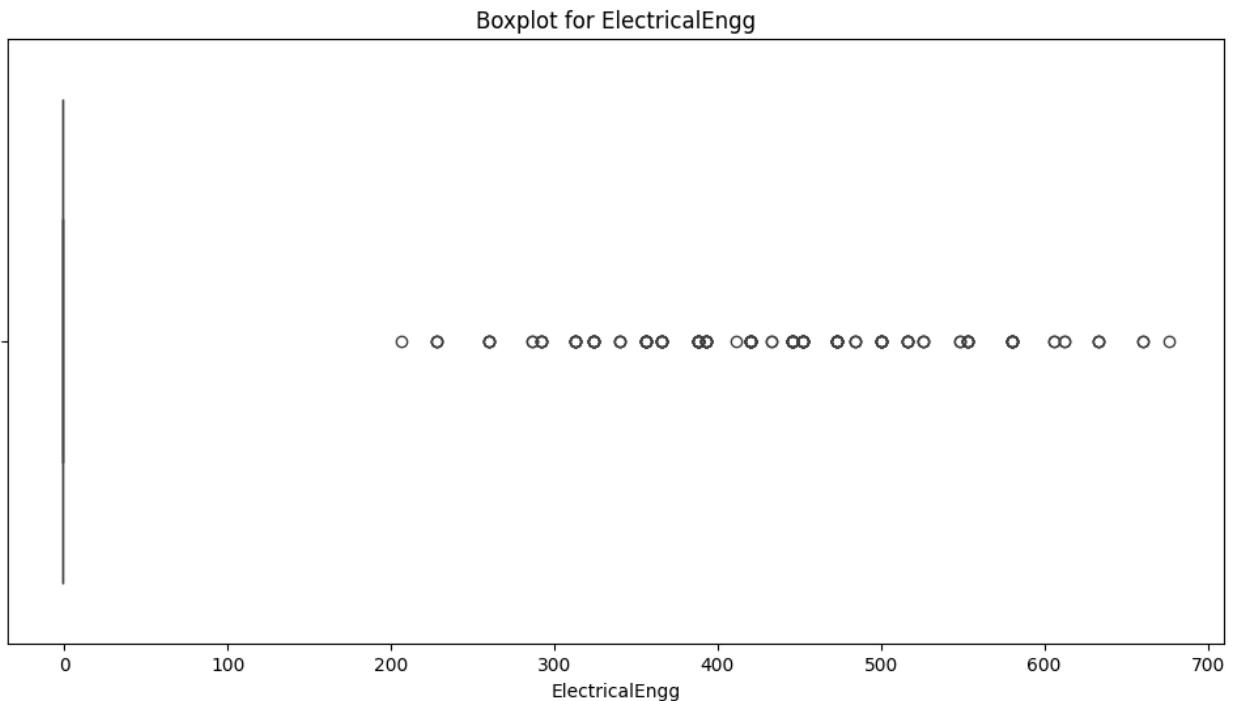
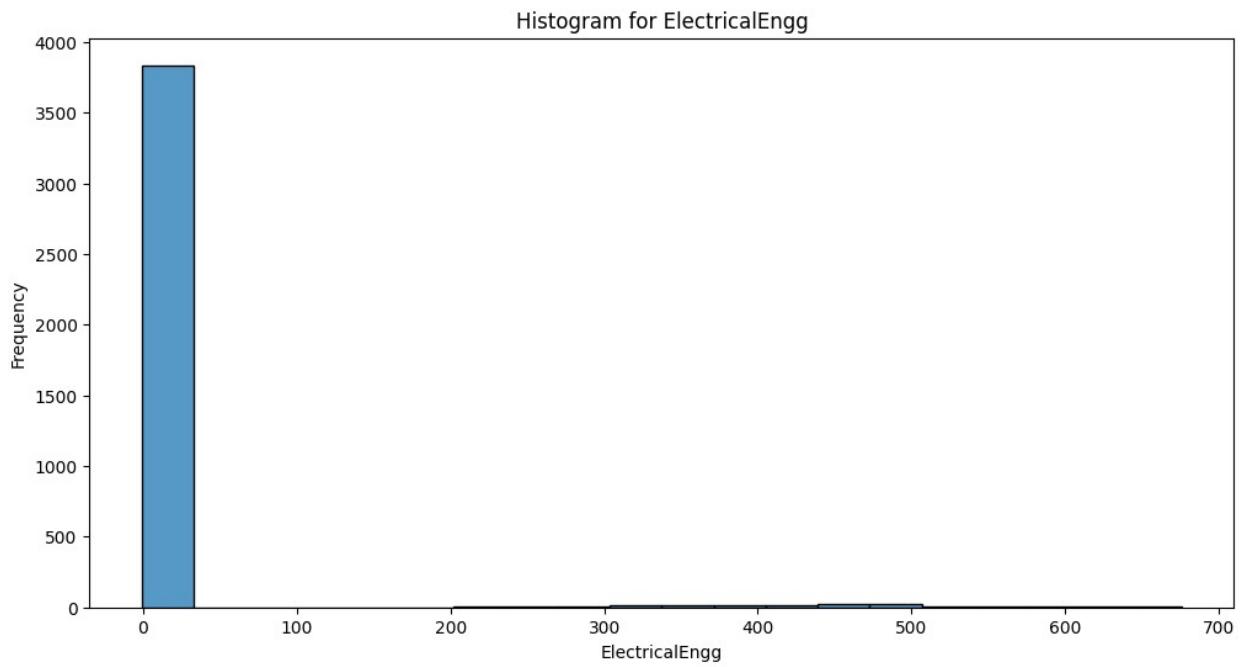
[235 rows x 39 columns]

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```





Outliers in ElectricalEngg:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
53	train	1082717	350000.0	9/1/14 0:00		present	
70	train	801755	320000.0	3/1/14 0:00		present	
124	train	614524	315000.0	11/1/14 0:00		present	
125	train	796063	300000.0	11/1/14 0:00	3/1/15 0:00		
180	train	639785	180000.0	9/1/13 0:00	4/1/14 0:00		

		Designation	JobCity	Gender	DOB	\
53	assistant	system engineer	Mumbai	m	8/6/91	0:00
70		system engineer	Chennai	m	12/12/92	0:00
124		programmer analyst	-1	f	2/6/91	0:00
125		programmer analyst	Kolkata	m	3/19/92	0:00
180		design engineer	New Delhi	m	11/16/91	0:00
...
3832		engineer	Haldia	m	10/28/91	0:00
3835		project engineer	Kolkata	m	12/12/92	0:00
3837		application developer	Bangalore	f	1/26/92	0:00
3839		ase	bhubaneswar	f	3/11/92	0:00
3844		electrical engineer	Bangalore	m	7/28/92	0:00
10	percentage	...	ComputerScience	MechanicalEngg		
ElectricalEngg	\					
53	89.25	...	-1	-1		
484						
70	89.00	...	-1	-1		
606						
124	82.30	...	-1	-1		
393						
125	90.00	...	-1	-1		
500						
180	65.80	...	-1	-1		
553						
...		
3832	92.83	...	-1	-1		
660						
3835	76.00	...	-1	-1		
356						
3837	72.30	...	-1	-1		
366						
3839	90.80	...	-1	-1		
606						
3844	90.56	...	284	-1		
580						
TelecomEngg	CivilEngg	conscientiousness	agreeableness			
extraversion	\					
53	-1	-1	-0.1590	-0.1206	-	
0.6048						
70	-1	-1	-1.4517	-1.4526	-	

1.2196				
124	-1	-1	-0.1590	-1.1196
1.2396				
125	-1	-1	0.1282	-0.2871
1.3933				
180	-1	-1	0.5591	-0.1206
2.1418				-
...
...				
3832	-1	-1	0.1282	0.0459
0.1437				-
3835	-1	-1	0.5591	0.3789
0.4511				-
3837	-1	-1	-0.4463	-1.2861
2.4491				-
3839	-1	-1	1.5644	0.5454
0.2974				-
3844	-1	-1	-0.1590	0.0459
0.1437				-
	nueroticism	openess_to_experience		
53	-1.6289		-1.4356	
70	1.7940		-2.3937	
124	1.6672		0.6721	
125	0.6530		-0.6692	
180	0.7798		-1.0524	
...	
3832	-0.2344		0.0973	
3835	0.7798		1.0554	
3837	-1.3753		-0.2859	
3839	-1.3753		1.0554	
3844	-0.7415		0.4805	

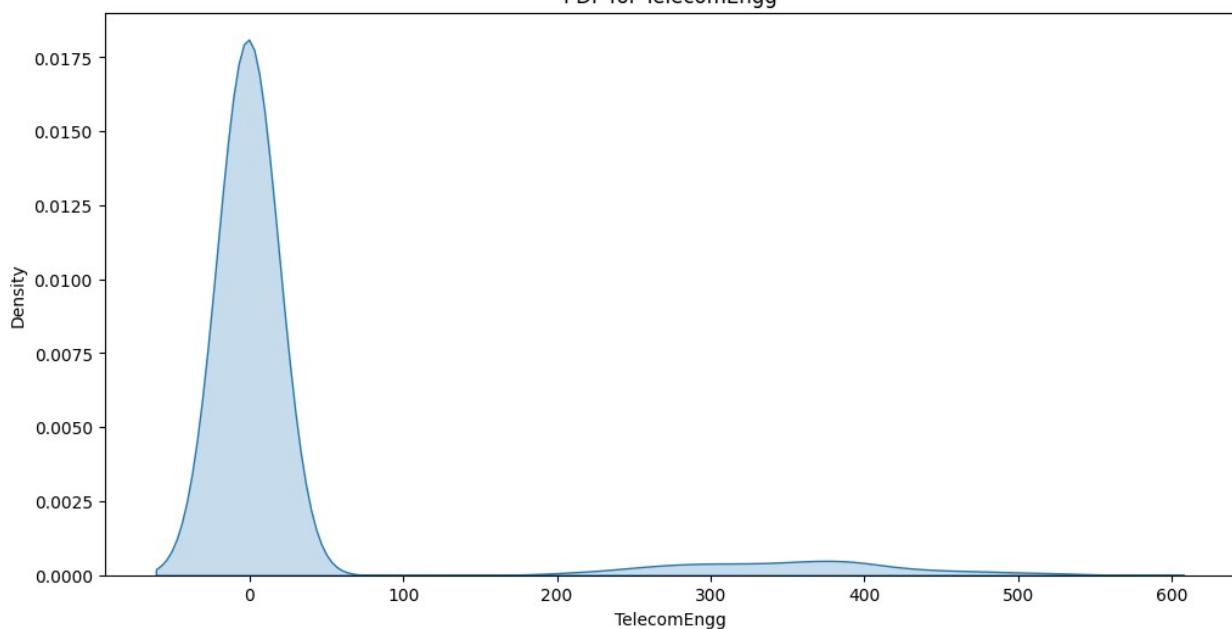
[161 rows x 39 columns]

<ipython-input-6-5c2bd027771c>:8: FutureWarning:

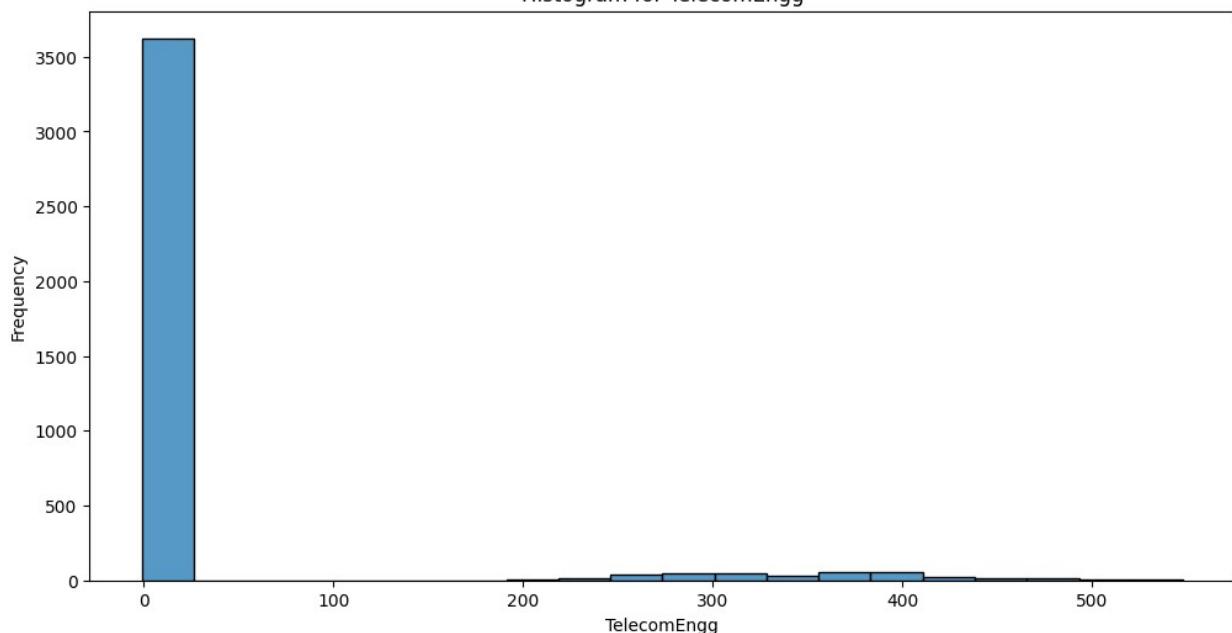
`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

sns.kdeplot(data[column], shade=True)

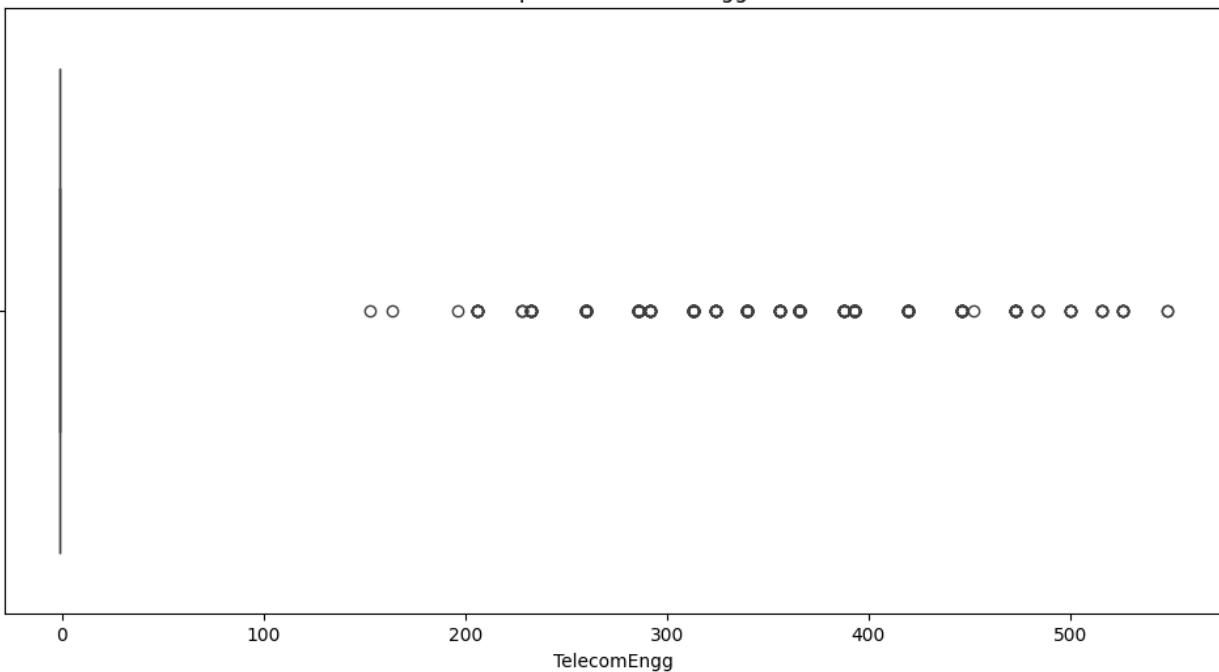
PDF for TelecomEngg



Histogram for TelecomEngg



Boxplot for TelecomEngg



Outliers in TelecomEngg:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
12		train	606655	270000.0	12/1/13 0:00		present
28		train	918981	145000.0	2/1/15 0:00	4/1/15 0:00	
57		train	294700	525000.0	3/1/12 0:00		present
62		train	1218578	145000.0	6/1/14 0:00		present
81		train	661546	280000.0	10/1/14 0:00	4/1/15 0:00	
...	
3937		train	385546	205000.0	10/1/12 0:00	2/1/14 0:00	
3938		train	340205	300000.0	5/1/14 0:00		present
3954		train	531726	310000.0	4/1/14 0:00	4/1/15 0:00	
3990		train	204287	480000.0	2/1/12 0:00		present
3991		train	230873	630000.0	7/1/11 0:00	10/1/14 0:00	

		Designation	JobCity	Gender	
DOB \					
12		quality assurance engineer	Pune	m	11/21/90 0:00
28		telecommunication engineer	Noida	m	1/20/94 0:00
57		test engineer	Hyderabad	f	8/15/89 0:00
62		engineer	Noida	f	3/2/91 0:00
81		faculty	New Delhi	m	7/5/90 0:00
...	

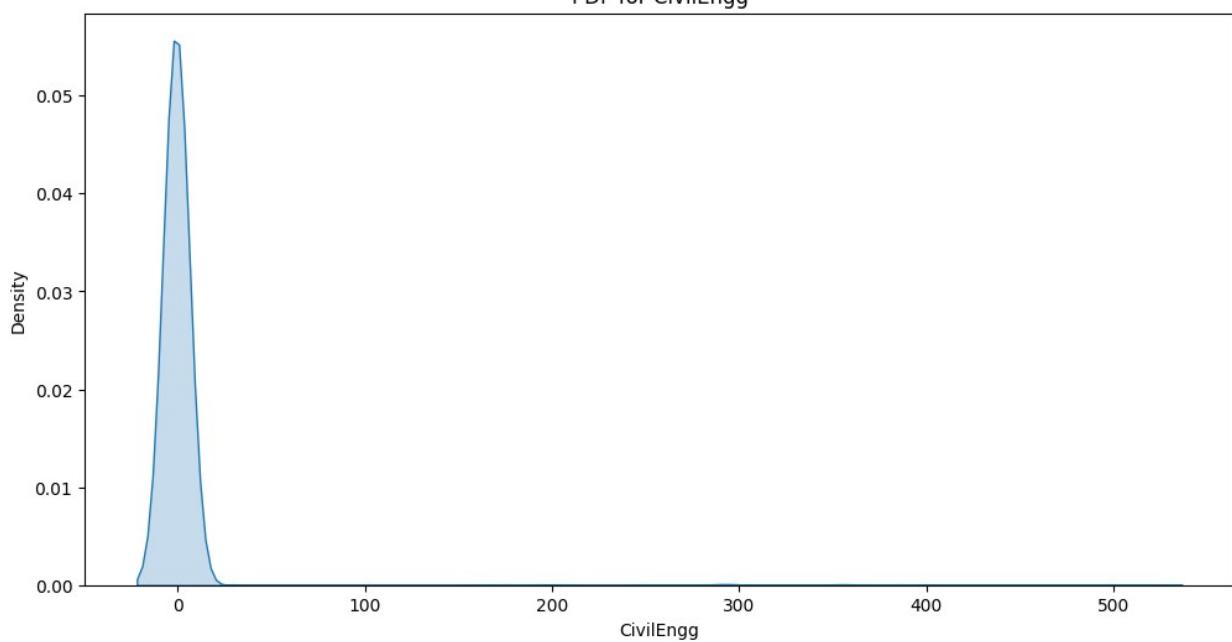
3937	production engineer	-1	m	1/13/91	0:00
3938	desktop support technician	new delhi	m	4/7/91	0:00
3954	business intelligence analyst	-1	f	11/15/92	0:00
3990	senior systems engineer	Hyderabad	f	9/4/89	0:00
3991	systems analyst	Bangalore	m	5/20/90	0:00
	10percentage	... ComputerScience	MechanicalEngg		
ElectricalEngg	\				
12	83.60	...	-1	-1	-
1					
28	84.00	...	-1	-1	-
1					
57	89.88	...	-1	-1	-
1					
62	81.00	...	-1	-1	-
1					
81	72.30	...	-1	-1	-
1					
...
					.
3937	84.80	...	-1	-1	-
1					
3938	72.00	...	-1	-1	-
1					
3954	88.40	...	-1	-1	-
1					
3990	88.00	...	-1	-1	-
1					
3991	80.00	...	-1	-1	-
1					
	TelecomEngg	CivilEngg	conscientiousness	agreeableness	
extraversion	\				
12	206	-1	0.1282	0.5454	-
0.7585					
28	313	-1	0.1282	0.7119	
1.3933					
57	420	-1	0.3555	-0.2793	-
0.6343					
62	260	-1	-1.1644	-0.9531	
0.0100					
81	393	-1	1.4208	0.5454	-
0.2974					
...
...					

3937	233	-1	0.1623	0.0328	-
0.3440					
3938	340	-1	-0.5719	0.5008	-
0.0537					
3954	393	-1	0.8192	0.6568	
0.9623					
3990	233	-1	0.6646	0.3448	
0.3817					
3991	393	-1	-1.3447	0.5008	-
1.6502					
	nueroticism	openess_to_experience			
12	-0.99500	0.8637			
28	-0.36120	-0.0943			
57	-0.29020	-0.2875			
62	-0.74150	-0.8608			
81	1.03330	-0.6692			
...			
3937	-1.05410	0.5024			
3938	1.11983	1.2528			
3954	-0.29020	0.0679			
3990	-1.34780	0.8183			
3991	-0.05520	0.0284			

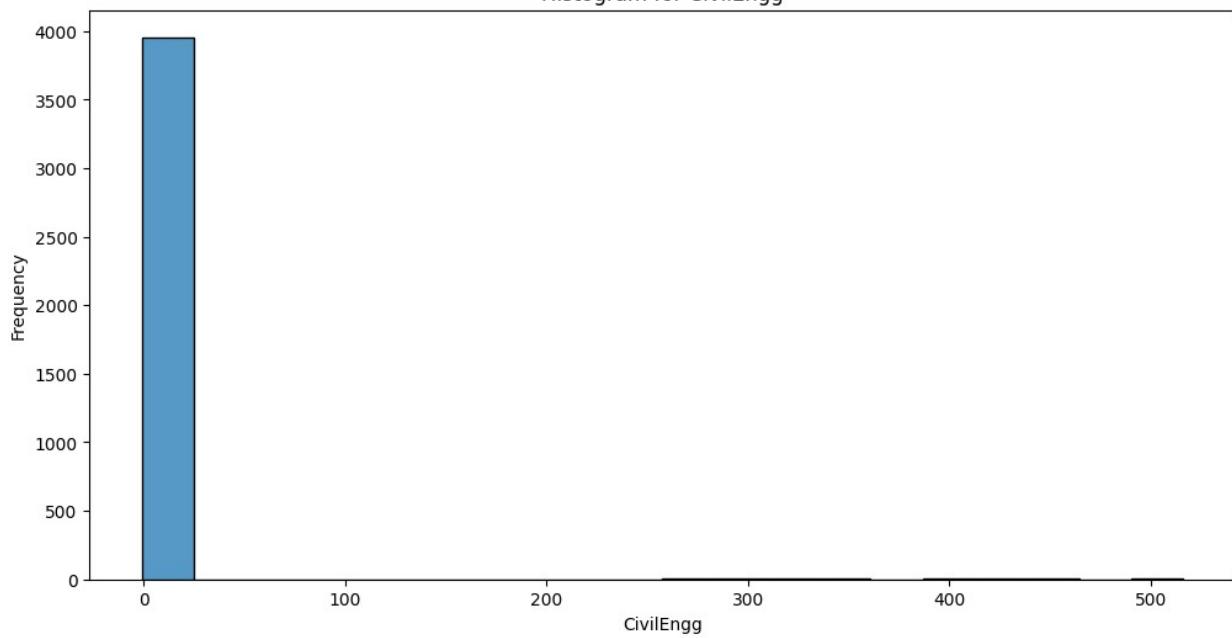
[374 rows x 39 columns]

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:  
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.  
sns.kdeplot(data[column], shade=True)
```

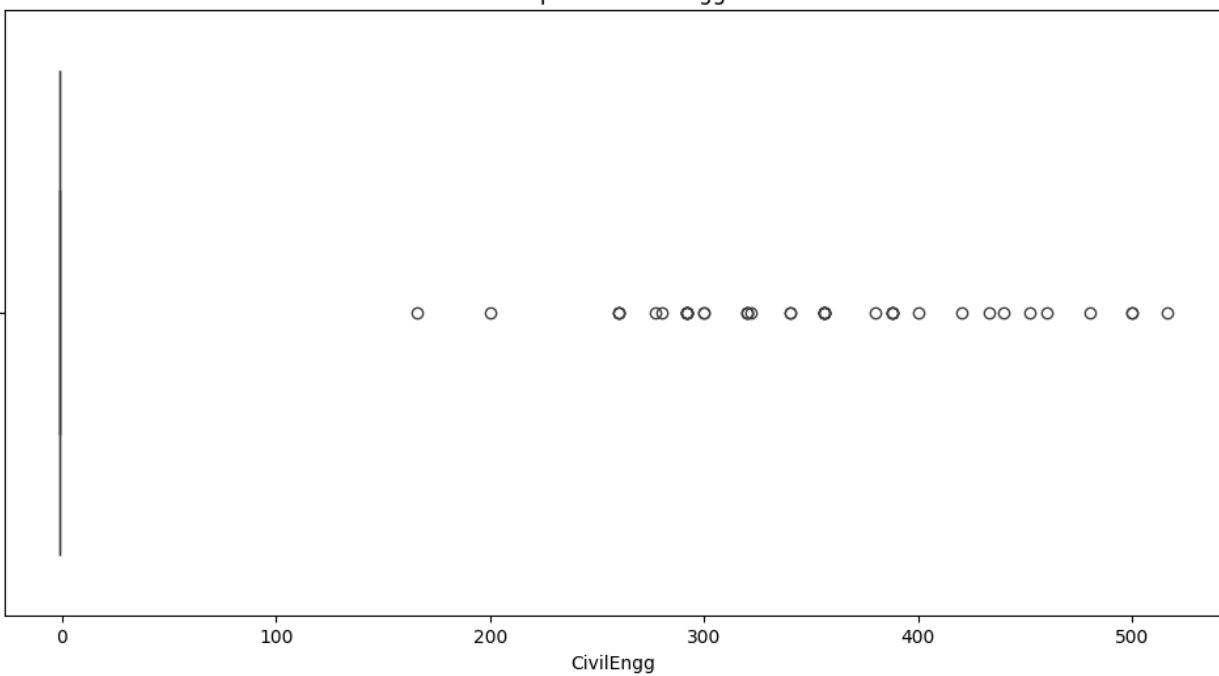
PDF for CivilEngg



Histogram for CivilEngg



Boxplot for CivilEngg



Outliers in CivilEngg:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
26	train	65096	345000.0	1/1/11 0:00	10/1/13 0:00		
59	train	536053	120000.0	9/1/09 0:00	4/1/13 0:00		
172	train	1089283	110000.0	6/1/14 0:00	2/1/15 0:00		
211	train	46302	350000.0	10/1/10 0:00	5/1/13 0:00		
222	train	226736	100000.0	3/1/13 0:00	6/1/13 0:00		
331	train	341114	700000.0	4/1/14 0:00	present		
403	train	795799	405000.0	7/1/14 0:00	present		
453	train	1253724	300000.0	6/1/15 0:00	present		
492	train	795862	525000.0	9/1/14 0:00	present		
493	train	609066	720000.0	2/1/14 0:00	present		
505	train	112626	500000.0	8/1/11 0:00	present		
605	train	319130	350000.0	6/1/12 0:00	4/1/15 0:00		
607	train	642404	600000.0	7/1/13 0:00	present		
896	train	285145	300000.0	6/1/12 0:00	9/1/14 0:00		
1108	train	1284153	225000.0	4/1/14 0:00	8/1/14 0:00		
1217	train	669692	600000.0	10/1/14 0:00	2/1/15 0:00		
1253	train	192714	650000.0	12/1/11 0:00	present		
1282	train	297452	60000.0	7/1/12 0:00	1/1/13 0:00		
1439	train	299447	360000.0	8/1/11 0:00	present		
1583	train	637094	180000.0	10/1/14 0:00	present		
1678	train	877224	300000.0	12/1/14 0:00	present		
1858	train	693253	330000.0	12/1/13 0:00	4/1/14 0:00		
1879	train	1089302	375000.0	8/1/14 0:00	present		
1880	train	815109	200000.0	10/1/13 0:00	9/1/14 0:00		
2242	train	796983	415000.0	6/1/14 0:00	present		
2363	train	202935	440000.0	4/1/11 0:00	4/1/15 0:00		

2419	train	877241	345000.0	7/1/14 0:00	1/1/15 0:00
2469	train	333439	290000.0	8/1/12 0:00	present
2571	train	927284	330000.0	8/1/14 0:00	present
2591	train	652269	180000.0	12/1/13 0:00	5/1/14 0:00
2690	train	946109	180000.0	3/1/14 0:00	present
3015	train	38335	720000.0	7/1/10 0:00	present
3332	train	950502	150000.0	6/1/14 0:00	3/1/15 0:00
3513	train	988953	310000.0	6/1/14 0:00	present
3675	train	105673	700000.0	10/1/10 0:00	10/1/14 0:00
3790	train	64844	335000.0	9/1/10 0:00	4/1/15 0:00
3821	train	810998	300000.0	7/1/14 0:00	present
3865	train	1095963	300000.0	8/1/14 0:00	present
3868	train	618243	320000.0	6/1/13 0:00	present
3905	train	708980	295000.0	3/1/15 0:00	present
3961	train	230702	700000.0	7/1/11 0:00	9/1/14 0:00
3992	train	344407	800000.0	4/1/14 0:00	4/1/15 0:00
Designation JobCity Gender					
DOB \					
26	senior software engineer	Bangalore	m	2/5/88 0:00	
59	software engineer	Bangalore	m	10/30/77 0:00	
172	assistant professor	Una	f	4/15/93 0:00	
211	maintenance engineer	Nagpur	m	7/31/88 0:00	
222	programmer	Coimbatore	m	5/13/89 0:00	
331	assistant manager	pune	f	2/16/90 0:00	
403	planning engineer	Noida	m	10/6/91 0:00	
453	software engineer	pune	m	10/29/92 0:00	
492	business analyst	Noida	m	9/11/92 0:00	
493	data analyst	Gurgaon	m	8/24/91 0:00	
505	application engineer	New Delhi	m	7/13/88 0:00	
605	software test engineer	Bangalore	m	12/7/90 0:00	
607	engineer	New Delhi	m	7/1/92 0:00	
896	project engineer	Hyderabad	f	8/2/89 0:00	
1108	assistant engineer	Dehradun	m	9/16/93 0:00	
1217	assistant manager	kolkata	m	5/4/92 0:00	

1253	database administrator	Hyderabad	m	3/7/90	0:00
1282	software engineer	Bangalore	m	12/15/89	0:00
1439	assistant professor	AM	m	12/11/88	0:00
1583	technical engineer	New Delhi	m	7/10/93	0:00
1678	management trainee	Pune	f	5/10/92	0:00
1858	project engineer	-1	m	8/5/92	0:00
1879	junior research fellow	Chandigarh	m	3/18/92	0:00
1880	technical support specialist	-1	m	9/14/89	0:00
2242	assistant manager	PATNA	m	1/20/93	0:00
2363	product development engineer	Tirupati	m	11/8/88	0:00
2419	design engineer	Pune	m	5/10/92	0:00
2469	civil engineer	Joshimath	m	9/20/91	0:00
2571	business analyst	Bangalore	f	9/27/92	0:00
2591	lecturer	Chennai	m	12/27/91	0:00
2690	civil engineer	Ahmedabad	m	10/10/92	0:00
3015	civil engineer	patna	m	11/17/85	0:00
3332	design engineer	Chennai	f	2/14/93	0:00
3513	assistant engineer	Mumbai	m	4/2/92	0:00
3675	software engineer	Chennai	f	5/23/89	0:00
3790	embedded software engineer	Bangalore	m	7/10/87	0:00
3821	engineer	Gurgaon	m	1/1/92	0:00
3865	design engineer	ranchi	m	10/29/92	0:00
3868	project engineer	jAipur	m	9/14/91	0:00
3905	system administrator	-1	m	8/20/91	0:00
3961	planning engineer	Rajpura	m	12/27/87	0:00
3992	manager	Rajkot	m	6/22/90	0:00

	10percentage	...	ComputerScience	MechanicalEngg	
ElectricalEngg \					
26	90.88	...	-1	313	-
1					
59	72.00	...	-1	366	-
1					
172	70.00	...	-1	-1	-
1					
211	74.40	...	-1	393	-
1					
222	77.00	...	-1	260	-
1					
331	82.50	...	-1	-1	-
1					
403	93.40	...	-1	-1	-
1					
453	90.15	...	-1	-1	-
1					
492	92.00	...	-1	-1	-
1					
493	87.80	...	-1	-1	-
1					
505	71.66	...	-1	-1	-
1					
605	87.11	...	-1	-1	-
1					
607	92.00	...	-1	-1	-
1					
896	90.83	...	-1	366	-
1					
1108	73.00	...	-1	-1	-
1					
1217	73.00	...	-1	313	-
1					
1253	79.80	...	-1	366	-
1					
1282	61.00	...	-1	260	-
1					
1439	73.06	...	-1	473	-
1					
1583	67.30	...	-1	-1	-
1					
1678	93.38	...	-1	-1	-
1					
1858	62.00	...	-1	-1	-
1					
1879	84.60	...	-1	-1	-
1					

1880	56.16	...	-1	-1	-
1					
2242	74.80	...	-1	-1	-
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2363	90.00	...	-1	420	-
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2419	95.54	...	-1	-1	-
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2469	67.00	...	-1	-1	-
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2591	76.00	...	-1	-1	-
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1					
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1					
3868	87.40	...	-1	-1	-
1					
3905	80.64	...	-1	-1	-
1					
3961	84.20	...	-1	-1	-
1					
3992	73.00	...	-1	-1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion \					
26	-1	320	0.8192	0.1888	-
1.7954					
59	-1	400	-0.3014	-0.4353	-
0.9245					
172	-1	388	-0.0154	1.2114	
1.3933					
211	-1	320	-0.1082	1.1248	-
0.1988					

222	-1	260	0.6646	1.2808
1.9782				
331	-1	440	0.8192	0.6568
0.3440				-
403	-1	356	-0.5899	0.2124
0.3174				
453	-1	356	-0.5899	-1.2861
0.4511				-
492	-1	292	-0.1590	0.8784
0.1637				
493	-1	500	-1.1644	0.3789
0.3174				
505	-1	200	-0.9653	-1.8393
0.3440				-
605	-1	300	-1.6538	-1.2543
2.3396				-
607	-1	388	0.8463	0.8784
0.4711				
896	-1	500	-0.7651	-0.4353
1.6502				-
1108	-1	452	0.5591	0.7119
0.1637				
1217	-1	322	-2.0262	-1.9521
2.6028				-
1253	-1	340	0.3555	-0.1232
0.0914				
1282	-1	260	0.0464	0.3448
0.6720				
1439	-1	260	-2.7357	-2.3073
0.7794				-
1583	-1	166	1.1336	0.3789
0.1637				
1678	-1	388	0.2718	-0.4536
0.4711				
1858	-1	277	-1.1644	-1.6191
0.2974				-
1879	-1	356	1.5644	1.7109
0.7785				
1880	-1	356	0.7027	0.3789
0.4711				
2242	-1	516	-1.3080	0.3789
1.6807				-
2363	-1	380	1.9011	0.8128
0.2366				
2419	-1	292	-1.0208	-0.6201
0.6248				
2469	-1	320	-1.8083	-1.9953
1.2148				-
2571	-1	356	-0.4463	0.8784

1.0859					
2591	-1	433	-0.4463	0.2124	-
1.5270					
2690	-1	292	-0.5899	-2.4516	-
1.2196					
3015	-1	300	0.6646	-0.1232	
0.2366					
3332	-1	356	-0.1590	-0.4536	-
1.3733					
3513	-1	292	0.4155	-0.0873	
0.1637					
3675	-1	280	0.5100	-0.1232	
0.5269					
3790	-1	340	1.1283	-0.4353	
0.3817					
3821	-1	420	-1.4517	-1.4526	-
0.1437					
3865	-1	292	-0.4463	-1.1196	-
0.9122					
3868	-1	388	0.5591	-0.6201	
0.0100					
3905	-1	292	-1.0208	-0.1206	-
0.6048					
3961	-1	460	-1.3447	0.0328	-
2.3759					
3992	-1	480	0.3555	-0.9033	
0.9623					
nueroticism openness_to_experience					
26	1.82490	1.1343			
59	-0.34900	-0.4455			
172	-0.86820	1.6302			
211	0.06230	0.3444			
222	2.64750	1.2923			
331	-0.40777	0.5419			
403	1.03330	-0.8608			
453	0.65300	-0.8608			
492	-0.36120	-0.0943			
493	1.16010	-0.2859			
505	-0.36500	-1.4250			
605	0.88483	-1.8673			
607	-2.00920	-0.2859			
896	1.32550	-0.4455			
1108	-1.75560	1.2470			
1217	0.01920	-2.5853			
1253	0.76730	-0.7615			
1282	0.76730	-0.1295			
1439	0.41480	-1.5513			
1583	0.65300	0.6721			

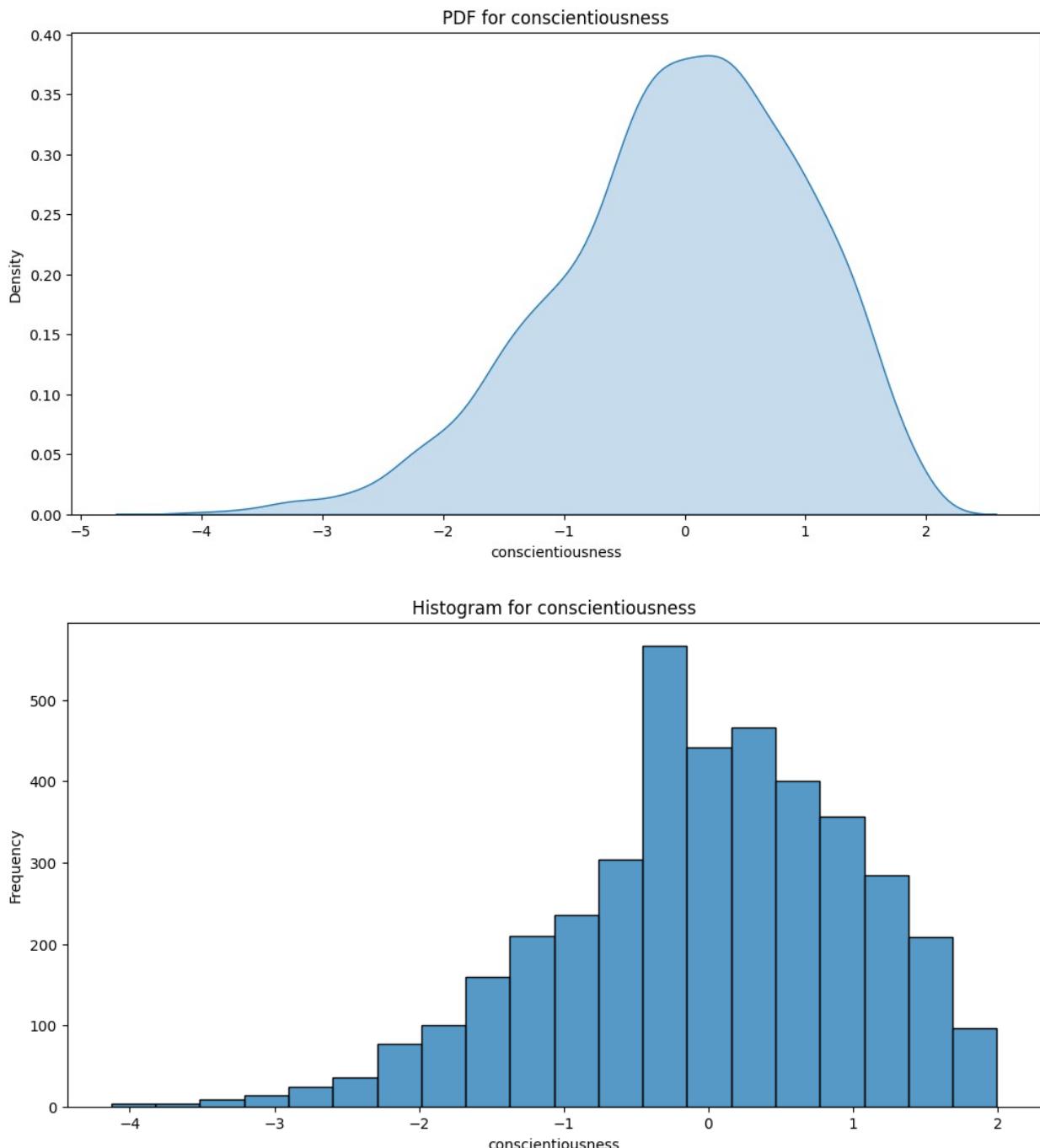
1678	-1.12180	0.0973
1858	0.90660	-0.4776
1879	-0.86820	1.2470
1880	0.77980	-0.2859
2242	-1.24860	-0.4776
2363	-1.81790	-1.5513
2419	1.16010	-0.2859
2469	-0.26087	-3.1311
2571	-1.24860	-0.0943
2591	-0.48790	-0.6692
2690	0.90660	-1.4356
3015	-0.05520	0.6603
3332	0.01920	-0.0943
3513	-1.75560	0.1670
3675	-1.70040	-0.6035
3790	0.17980	0.5024
3821	0.77980	-2.7769
3865	1.16010	-2.2021
3868	-1.12180	-2.5853
3905	-0.23440	-0.8608
3961	-0.99530	0.3444
3992	0.64983	-0.4229

[42 rows x 39 columns]

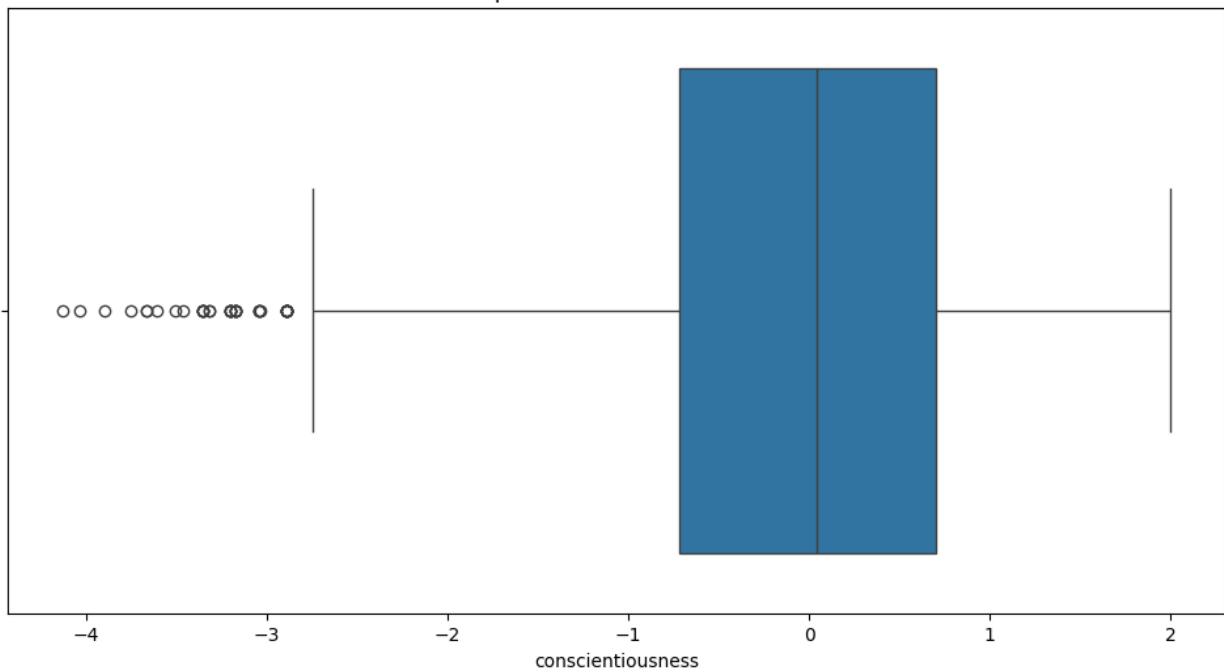
<ipython-input-6-5c2bd027771c>:8: FutureWarning:

`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

```
sns.kdeplot(data[column], shade=True)
```



Boxplot for conscientiousness



Outliers in conscientiousness:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
29	train	472956	220000.0	11/1/14 0:00	4/1/14 0:00		
159	train	755080	340000.0	6/1/14 0:00	4/1/15 0:00		
210	train	30739	310000.0	9/1/10 0:00	3/1/12 0:00		
315	train	232430	360000.0	5/1/12 0:00	present		
335	train	1042343	120000.0	2/1/14 0:00	present		
373	train	215639	370000.0	3/1/14 0:00	present		
382	train	50739	260000.0	3/1/11 0:00	present		
408	train	1175511	280000.0	2/1/15 0:00	7/1/15 0:00		
468	train	1073243	240000.0	7/1/13 0:00	present		
523	train	1061906	120000.0	3/1/14 0:00	4/1/15 0:00		
1211	train	632729	420000.0	8/1/13 0:00	present		
1337	train	355018	285000.0	2/1/13 0:00	present		
1353	train	578644	350000.0	6/1/13 0:00	present		
1684	train	455020	450000.0	3/1/13 0:00	present		
1687	train	326762	450000.0	3/1/13 0:00	3/1/15 0:00		
1972	train	228051	605000.0	5/1/12 0:00	12/1/14 0:00		
2005	train	225959	395000.0	9/1/13 0:00	present		
2046	train	309046	250000.0	2/1/14 0:00	1/1/15 0:00		
2101	train	358268	450000.0	3/1/13 0:00	present		
2182	train	41147	4000000.0	1/1/10 0:00	12/1/11 0:00		
2223	train	52923	465000.0	6/1/11 0:00	present		
2224	train	624680	325000.0	3/1/14 0:00	4/1/15 0:00		
2377	train	618785	335000.0	4/1/14 0:00	4/1/15 0:00		
2396	train	995921	240000.0	1/1/14 0:00	3/1/15 0:00		
2569	train	337764	220000.0	10/1/12 0:00	4/1/15 0:00		
3047	train	1203490	95000.0	11/1/14 0:00	present		

3150	train	1104236	145000.0	7/1/14 0:00	4/1/15 0:00
3372	train	852826	310000.0	9/1/14 0:00	present
3407	train	242701	600000.0	6/1/11 0:00	present
3468	train	196403	520000.0	9/1/11 0:00	present
3473	train	1272092	35000.0	5/1/14 0:00	5/1/15 0:00
3569	train	519904	630000.0	11/1/12 0:00	present
3629	train	947114	150000.0	7/1/14 0:00	1/1/15 0:00
3646	train	1279983	200000.0	10/1/14 0:00	4/1/15 0:00
3650	train	601131	420000.0	3/1/14 0:00	present
3694	train	632106	180000.0	7/1/14 0:00	3/1/15 0:00
3697	train	135273	615000.0	8/1/10 0:00	present
3876	train	105067	120000.0	12/1/10 0:00	7/1/11 0:00
3910	train	111273	290000.0	9/1/13 0:00	10/1/14 0:00

DOB \		Designation	JobCity	Gender
29		java software engineer	Gurgaon	m
6/11/92 0:00				
159		asp.net developer	Kolkata	m
3/30/92 0:00				
210		network engineer	Lucknow	m
8/15/87 0:00				
315		technical engineer	NOIDA	m
7/10/90 0:00				
335		electrical engineer	Siliguri	m
3/26/91 0:00				
373		assistant manager	Kolkata	m
4/20/89 0:00				
382		java software engineer	Bangalore	f
6/26/87 0:00				
408		web designer	Gurgaon	m
6/6/93 0:00				
468		system engineer	KOLKATA	m
2/24/91 0:00				
523		junior software developer	Hyderabad	f
3/13/91 0:00				
1211		senior network engineer	Gurgaon	m
8/13/91 0:00				
1337		test engineer	Bangalore	m
5/11/91 0:00				
1353		quality assurance auditor	Coimbatore	m
9/5/92 0:00				
1684		software developer	Hyderabad	m
12/5/89 0:00				
1687		system engineer	Pune	m
7/26/91 0:00				
1972		software engineer	Bangalore	m
4/4/88 0:00				
2005	quality assurance automation engineer		Bangalore	m

11/3/89 0:00				
2046	android developer	- 1	m	
11/21/93 0:00				
2101	system engineer	Mumbai	m	
5/6/90 0:00				
2182	automation engineer	gurgaon	m	
9/13/87 0:00				
2223	technical lead	Pune	m	
8/16/89 0:00				
2224	software engineer	Chennai	f	
3/22/92 0:00				
2377	programmer analyst	Bangalore	m	
7/1/91 0:00				
2396	software test engineer	Pune	m	
3/17/91 0:00				
2569	data analyst	Coimbatore	m	
7/26/88 0:00				
3047	graduate trainee engineer	Faridabad	m	
7/10/92 0:00				
3150	business analyst	Bangalore	f	
10/8/92 0:00				
3372	programmer analyst	Pune	m	
12/22/92 0:00				
3407	senior software engineer	Bangalore	m	
4/10/88 0:00				
3468	system engineer	Noida	m	
11/10/89 0:00				
3473	.net developer	hyderabad	m	
1/8/93 0:00				
3569	software test engineer	Bangalore	m	
8/17/90 0:00				
3629	java software engineer	Bangalore	m	
1/22/92 0:00				
3646	software developer	Bangalore	f	
6/25/91 0:00				
3650	engineer	Pune	m	
3/25/91 0:00				
3694	rf engineer	Lucknow	m	
9/5/92 0:00				
3697	software engineer	Hyderabad	m	
6/26/89 0:00				
3876	software developer	- 1	m	
6/1/87 0:00				
3910	research engineer	Pune	m	
11/5/88 0:00				

10percentage ... ComputerScience MechanicalEngg
 ElectricalEngg \ 29 64.00 ... 376 - 1 -

1						
159	87.00	...	- 1	- 1	-	
1						
210	69.00	...	- 1	- 1	-	
1						
315	80.00	...	- 1	- 1	-	
1						
335	68.50	...	- 1	- 1	-	
324						
373	81.60	...	- 1	446	-	
1						
382	79.89	...	- 1	- 1	-	
1						
408	68.00	...	253	- 1	-	
1						
468	82.00	...	- 1	- 1	-	
1						
523	63.00	...	- 1	- 1	-	
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1337	65.23	...	- 1	- 1	-	
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1353	85.00	...	- 1	473	-	
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1684	80.00	...	- 1	- 1	-	
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1687	63.00	...	- 1	- 1	-	
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1972	58.00	...	- 1	- 1	-	
1						
2005	86.13	...	469	- 1	-	
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2101	76.00	...	- 1	- 1	-	
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2182	53.00	...	- 1	- 1	-	
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2224	83.00	...	- 1	- 1	-	
313						
2377	80.00	...	- 1	- 1	-	
1						
2396	83.40	...	- 1	- 1	-	
1						
2569	68.67	...	- 1	- 1	-	
1						

3047	59.00	...	-1	346	-
1					
3150	71.00	...	376	-1	-
1					
3372	86.92	...	-1	-1	-
1					
3407	73.80	...	-1	-1	-
1					
3468	65.80	...	-1	-1	-
1					
3473	85.30	...	376	-1	-
1					
3569	87.52	...	-1	-1	-
1					
3629	70.08	...	-1	-1	-
1					
3646	73.00	...	346	-1	-
1					
3650	88.00	...	-1	-1	-
1					
3694	72.00	...	-1	-1	-
1					
3697	86.50	...	-1	-1	-
1					
3876	77.20	...	-1	340	-
1					
3910	89.56	...	-1	-1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion	\				
29	-1	-1	-3.1994	-1.8393	
0.0552					
159	-1	-1	-2.8879	-4.2831	-
3.2176					
210	-1	-1	-3.1994	-1.2153	-
0.9245					
315	-1	-1	-3.6631	-0.9033	-
2.0856					
335	-1	-1	-3.6060	-5.6151	-
4.6009					
373	-1	-1	-3.3539	0.5008	-
0.1988					
382	-1	-1	-3.3539	-2.4633	-
1.3599					
408	-1	-1	-3.3188	-1.6191	-
3.5250					
468	-1	-1	-2.8879	-2.4516	
0.0100					

523	-1	-1	-3.1752	-5.1156	-
3.0639					
1211	-1	-1	-3.4624	-5.7816	-
4.6009					
1337	-1	-1	-3.0448	-1.2153	-
1.5051					
1353	-1	-1	-3.1752	-4.2831	-
4.2935					
1684	-1	-1	-3.3539	-0.5523	-
2.0131					
1687	-1	-1	-3.6631	-2.1513	
0.0914					
1972	-1	-1	-2.8903	0.6568	-
0.1988					
2005	-1	-1	-3.1994	-1.8393	-
1.9405					
2046	-1	-1	-3.1994	-0.9033	-
1.2148					
2101	-1	-1	-4.1267	-0.2793	-
0.1988					
2182	-1	-1	-3.3539	-0.4353	-
1.0697					
2223	-1	-1	-2.8903	1.2808	
0.8171					
2224	-1	-1	-2.8879	-3.9501	-
2.7565					
2377	206	-1	-2.8879	-4.2831	-
3.2176					
2396	-1	-1	-2.8879	-4.7826	-
3.2176					
2569	-1	-1	-3.3539	-3.8284	-
2.4485					
3047	-1	-1	-3.1752	-0.1206	
0.4711					
3150	-1	-1	-3.8933	-5.6151	-
3.9861					
3372	313	-1	-3.1752	-3.4506	-
3.0639					
3407	286	-1	-3.5085	-1.9953	-
0.7794					
3468	-1	-1	-2.8903	-0.4353	-
0.1988					
3473	-1	-1	-3.7496	-5.6151	-
3.8324					
3569	-1	-1	-3.0448	-1.1373	-
0.0537					
3629	-1	-1	-4.0369	-1.1196	-
0.4511					
3646	-1	-1	-3.1752	-4.2831	-

2.2954					
3650	-1	-1	-3.0315	-2.1186	-
1.0659					
3694	292	-1	-3.3188	-5.7816	-
4.4472					
3697	-1	-1	-3.1994	-0.2793	-
1.7954					
3876	-1	-1	-2.8903	-0.1232	
0.3817					
3910	-1	-1	-3.0448	-1.0593	-
0.6343					
nueroticism openness_to_experience					
29	0.06230		-0.7615		
159	-1.12180		-5.2679		
210	-0.52530		-0.1295		
315	1.58990		-1.8673		
335	-2.00920		-6.9925		
373	0.88480		-0.9194		
382	0.17980		-3.4471		
408	0.27270		-0.4776		
468	-0.23440		-1.0524		
523	-0.74150		-5.2679		
1211	-0.36120		-6.9925		
1337	-0.29020		-0.4060		
1353	-2.13600		-5.8428		
1684	0.06230		-2.0253		
1687	1.32553		-1.2354		
1972	0.41480		-1.0774		
2005	1.35490		-1.2354		
2046	-0.05520		-2.0253		
2101	1.23740		-0.7615		
2182	-0.05520		-2.6572		
2223	-0.87780		0.3444		
2224	-1.24860		-5.6512		
2377	-1.12180		-5.4595		
2396	-0.48790		-5.8428		
2569	2.29493		-3.7630		
3047	1.66720		0.4805		
3150	-0.86820		-6.6092		
3372	-0.74150		-5.2679		
3407	0.29730		-1.3934		
3468	-1.46530		-0.6035		
3473	-0.48790		-7.3757		
3569	-0.40780		-0.7615		
3629	1.28690		-1.0524		
3646	-1.12180		-6.6092		
3650	0.39950		-1.6273		
3694	-0.74150		-6.9925		

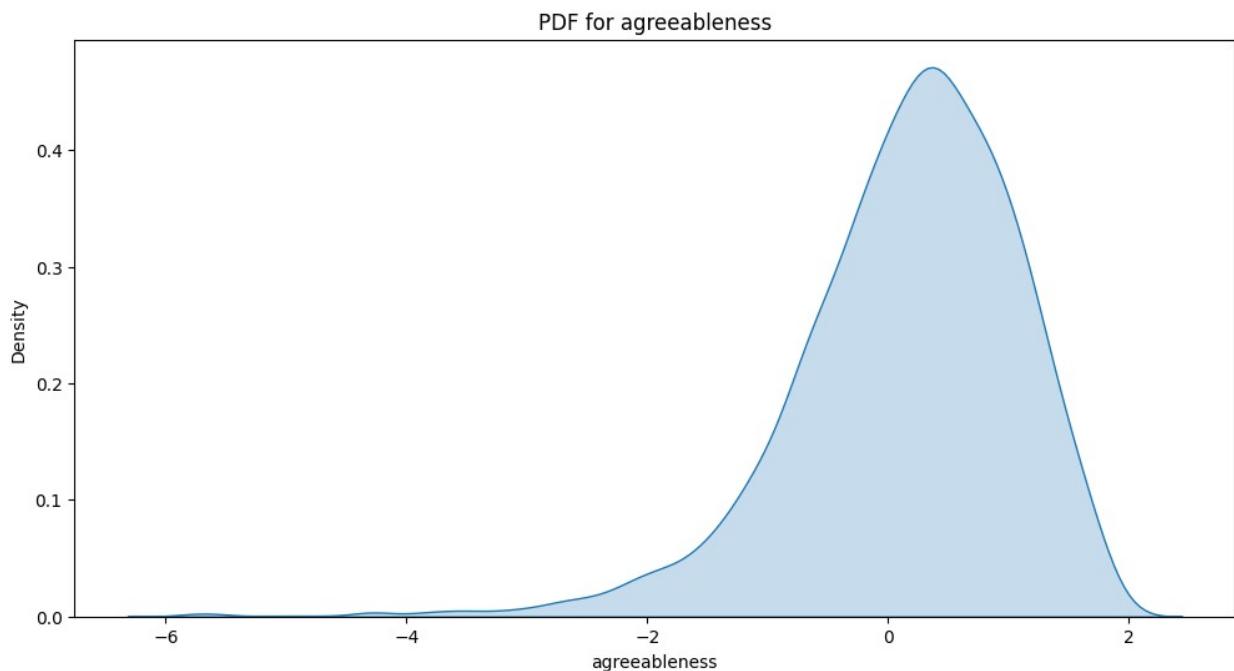
```
3697      0.41480      -1.2354
3876     -0.87780      -0.6035
3910      0.76730       0.1864
```

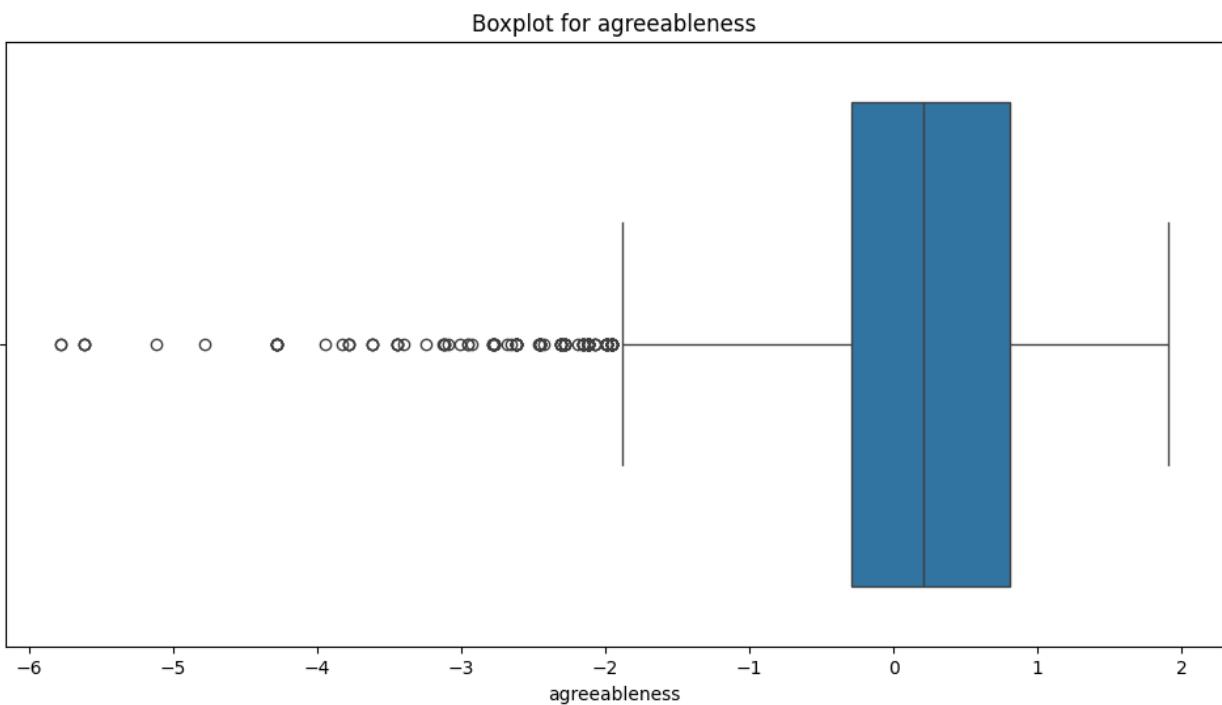
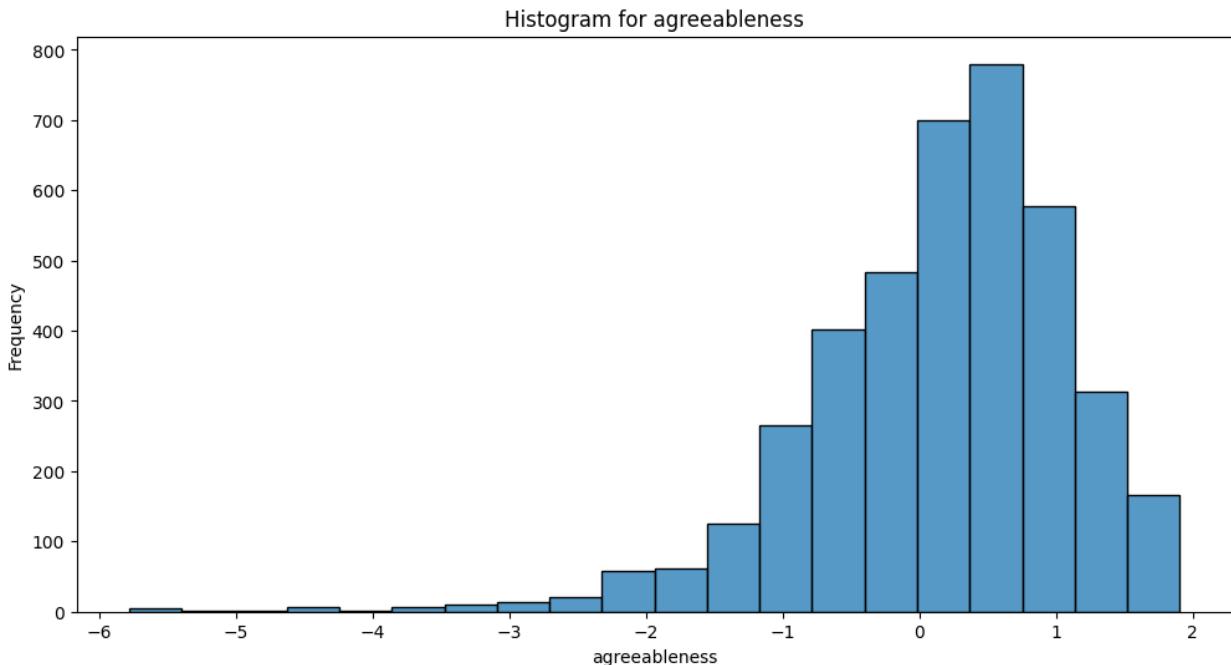
```
[39 rows x 39 columns]
```

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```





Outliers in agreeableness:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
23	train	990077	180000.0	8/1/14 0:00	4/1/15 0:00		
43	train	1207660	120000.0	4/1/14 0:00	4/1/15 0:00		
63	train	636871	150000.0	10/1/14 0:00	4/1/15 0:00		
67	train	810433	400000.0	8/1/14 0:00	2/1/15 0:00		
157	train	728009	405000.0	8/1/13 0:00	present		

...
3843	train	661427	240000.0	8/1/13 0:00	8/1/13 0:00		
3855	train	530061	300000.0	9/1/14 0:00		present	
3878	train	663824	260000.0	10/1/13 0:00		present	
3939	train	716325	100000.0	7/1/13 0:00	12/1/14 0:00		
3953	train	331779	160000.0	5/1/13 0:00		present	
			Designation	JobCity	Gender	DOB	\
23	electrical	project engineer	Bangalore	m	7/30/86 0:00		
43		.net developer	Hyderabad	m	7/5/93 0:00		
63		management trainee	Bhiwadi	m	1/10/92 0:00		
67		test engineer	Bangalore	f	8/5/91 0:00		
157		system engineer	Hyderabad	m	5/17/89 0:00		
...	
3843		test engineer	Jaipur	m	6/11/92 0:00		
3855		engineer trainee	Bangalore	f	7/18/91 0:00		
3878		software engineer	Bangalore	m	9/10/89 0:00		
3939		software engineer	Hyderabad	m	7/5/92 0:00		
3953		software test engineer	Chennai	m	1/26/90 0:00		
		10percentage	... ComputerScience	MechanicalEngg			
	ElectricalEngg	\					
23		70.00	...	-1	-1		-
1							
43		59.00	...	-1	-1		-
1							
63		60.66	...	-1	446		-
1							
67		81.00	...	-1	-1		-
1							
157		77.00	...	-1	-1		-
1							
...		
.							
3843		67.17	...	-1	-1		-
1							
3855		78.00	...	-1	-1		-
1							
3878		57.70	...	-1	-1		-
1							
3939		65.00	...	-1	-1		-
1							
3953		79.20	...	-1	-1		-
1							
		TelecomEngg	CivilEngg	conscientiousness	agreeableness		
	extraversion	\					
23		-1	-1	-0.7335	-2.1186		-
1.9881							
43		-1	-1	-0.0154	-2.4516		-

0.4511					
63	-1	-1	-2.2351	-2.6847	-
2.6028					
67	-1	-1	-1.8825	-3.7836	-
2.4491					
157	-1	-1	-0.0154	-2.1186	
0.1637					
...	
...					
3843	-1	-1	0.2718	-2.1186	-
1.9881					
3855	-1	-1	-0.8810	-2.3073	-
1.6502					
3878	-1	-1	-2.0262	-2.4516	
0.0100					
3939	-1	-1	-0.3027	-1.9521	-
0.6048					
3953	-1	-1	-1.0355	-2.0733	-
1.2511					
	nueroticism	openess_to_experience			
23	-0.48790		-5.0763		
43	0.27270		-3.1602		
63	0.39950		-5.4770		
67	0.90660		-1.8189		
157	1.66720		-1.6273		
...		
3843	-0.10760		-2.3937		
3855	0.53230		-3.6051		
3878	0.01920		-0.8608		
3939	1.16010		-1.8189		
3953	0.17983		-1.5513		

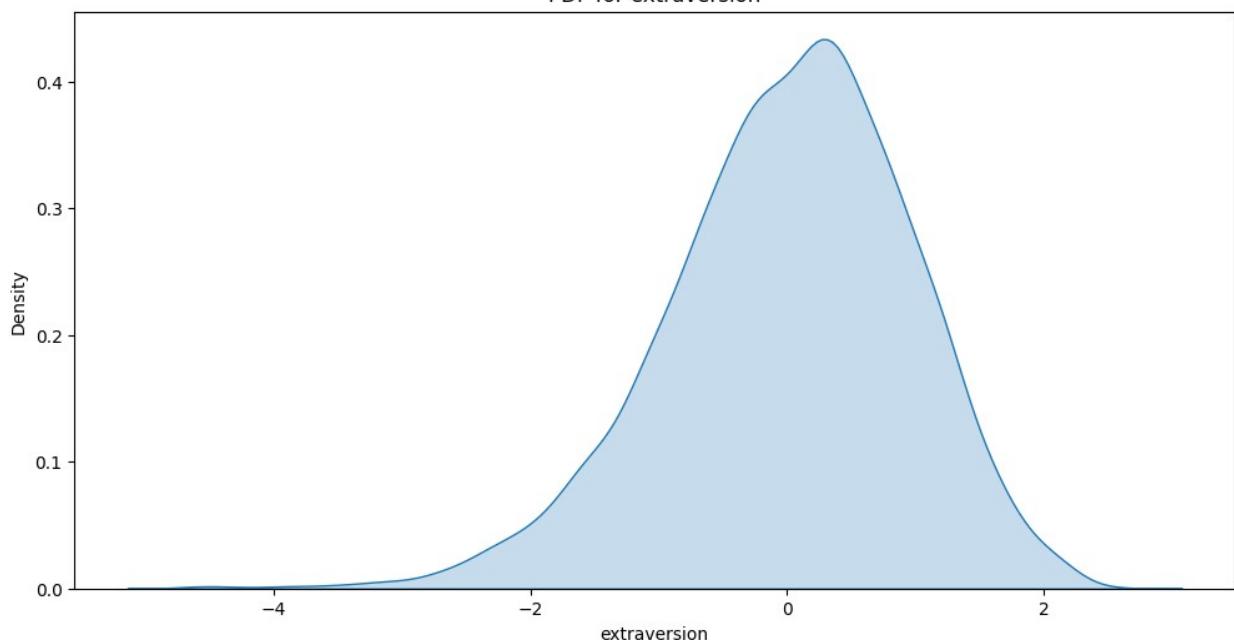
[123 rows x 39 columns]

<ipython-input-6-5c2bd027771c>:8: FutureWarning:

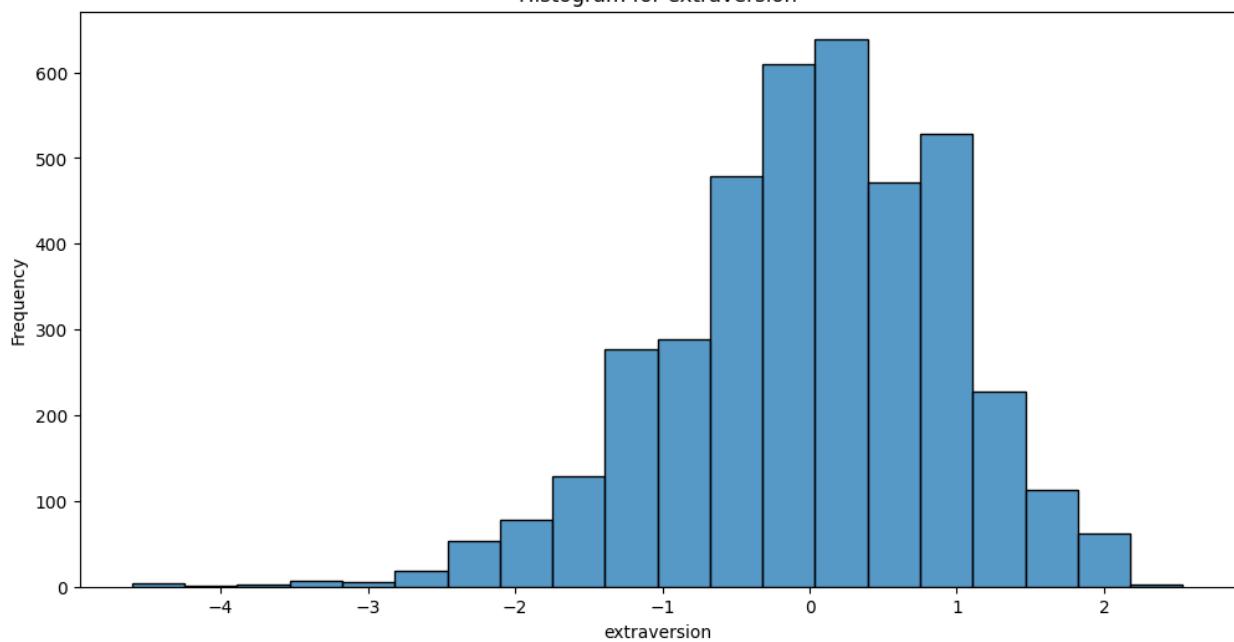
`shade` is now deprecated in favor of `fill`; setting `fill=True`.
This will become an error in seaborn v0.14.0; please update your code.

 sns.kdeplot(data[column], shade=True)

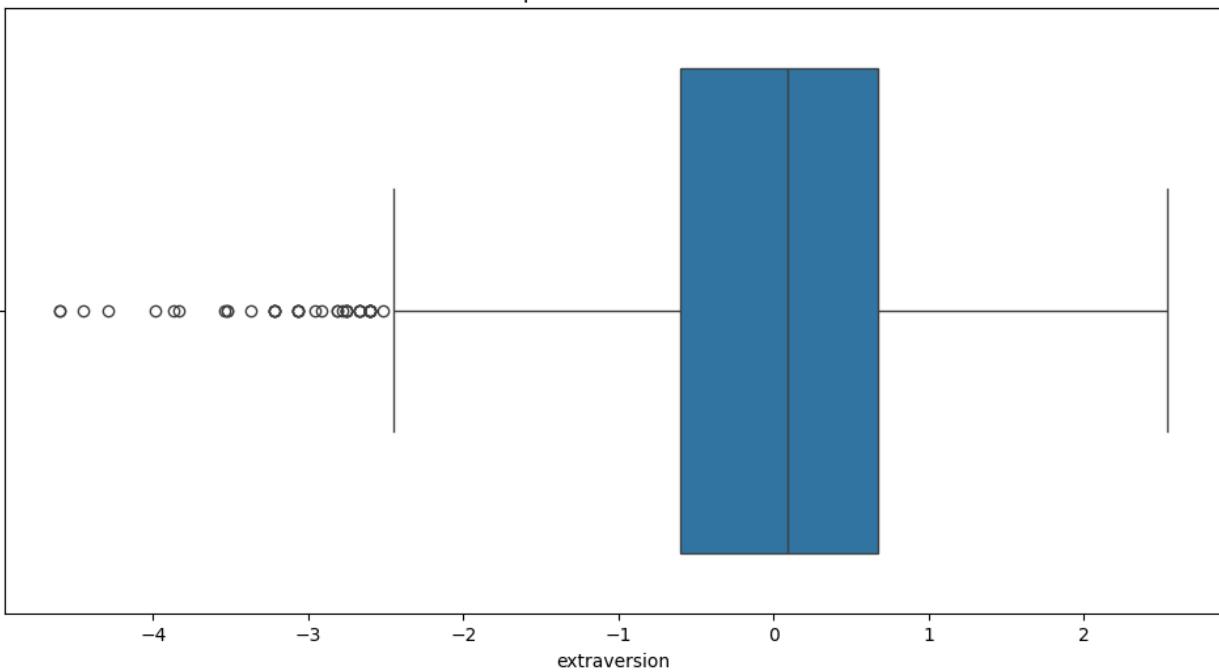
PDF for extraversion



Histogram for extraversion



Boxplot for extraversion



Outliers in extraversion:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
63	train	636871	150000.0	10/1/14 0:00	4/1/15 0:00		
159	train	755080	340000.0	6/1/14 0:00	4/1/15 0:00		
335	train	1042343	120000.0	2/1/14 0:00		present	
408	train	1175511	280000.0	2/1/15 0:00		7/1/15 0:00	
523	train	1061906	120000.0	3/1/14 0:00		4/1/15 0:00	
666	train	820152	110000.0	1/1/14 0:00		present	
726	train	471413	480000.0	7/1/13 0:00		4/1/15 0:00	
1169	train	179878	105000.0	1/1/11 0:00		6/1/11 0:00	
1211	train	632729	420000.0	8/1/13 0:00		present	
1217	train	669692	600000.0	10/1/14 0:00		2/1/15 0:00	
1242	train	319644	395000.0	6/1/12 0:00		4/1/15 0:00	
1353	train	578644	350000.0	6/1/13 0:00		present	
1538	train	800117	105000.0	12/1/14 0:00		3/1/15 0:00	
1566	train	638264	180000.0	7/1/12 0:00		10/1/14 0:00	
1649	train	262345	375000.0	7/1/11 0:00		8/1/13 0:00	
1728	train	955531	300000.0	5/1/15 0:00		present	
1785	train	133165	240000.0	11/1/10 0:00		8/1/13 0:00	
1789	train	732482	300000.0	5/1/14 0:00		3/1/15 0:00	
1822	train	611126	550000.0	2/1/14 0:00		present	
1860	train	478702	240000.0	1/1/13 0:00		3/1/15 0:00	
2060	train	404256	115000.0	7/1/12 0:00		3/1/15 0:00	
2224	train	624680	325000.0	3/1/14 0:00		4/1/15 0:00	
2305	train	1058832	100000.0	5/1/14 0:00		present	
2377	train	618785	335000.0	4/1/14 0:00		4/1/15 0:00	
2396	train	995921	240000.0	1/1/14 0:00		3/1/15 0:00	
2403	train	592952	250000.0	3/1/14 0:00		6/1/14 0:00	

3141	train	58940	450000.0	11/1/10	0:00	4/1/14	0:00
3150	train	1104236	145000.0	7/1/14	0:00	4/1/15	0:00
3174	train	240137	650000.0	8/1/11	0:00		present
3202	train	530147	205000.0	9/1/13	0:00	6/1/15	0:00
3263	train	30768	450000.0	1/1/11	0:00	9/1/14	0:00
3273	train	518449	120000.0	9/1/12	0:00	3/1/13	0:00
3372	train	852826	310000.0	9/1/14	0:00		present
3434	train	640779	210000.0	12/1/13	0:00	3/1/15	0:00
3473	train	1272092	35000.0	5/1/14	0:00	5/1/15	0:00
3548	train	681000	90000.0	11/1/14	0:00	5/1/15	0:00
3595	train	644505	200000.0	12/1/13	0:00	11/1/14	0:00
3674	train	718170	115000.0	1/1/13	0:00	12/1/13	0:00
3694	train	632106	180000.0	7/1/14	0:00	3/1/15	0:00
3778	train	1083136	300000.0	10/1/14	0:00	4/1/15	0:00
DOB \		Designation		JobCity	Gender		
63		management trainee		Bhiwadi	m	1/10/92	
0:00							
159		asp.net developer		Kolkata	m	3/30/92	
0:00							
335		electrical engineer		Siliguri	m	3/26/91	
0:00							
408		web designer		Gurgaon	m	6/6/93	
0:00							
523		junior software developer		Hyderabad	f	3/13/91	
0:00							
666		software developer		Kolkata	m	11/6/91	
0:00							
726		java software engineer		mumbai	f	12/24/91	
0:00							
1169		software trainee		New Delhi	m	2/15/85	
0:00							
1211		senior network engineer		Gurgaon	m	8/13/91	
0:00							
1217		assistant manager		kolkata	m	5/4/92	
0:00							
1242		project engineer		Chennai	f	7/3/91	
0:00							
1353		quality assurance auditor		Coimbatore	m	9/5/92	
0:00							
1538		java developer		-1	m	8/12/93	
0:00							
1566		network engineer		Chennai	m	7/18/90	
0:00							
1649		associate system engineer		Gurgaon	m	2/16/90	
0:00							
1728		software engineer associate		banglore	f	10/2/92	
0:00							

1785 0:00	project engineer	Mumbai	m	10/12/88
1789 0:00	programmer analyst	Bangalore	m	3/27/92
1822 0:00	business office manager	Mumbai	m	5/17/91
1860 0:00	customer service	Hyderabad	m	9/3/90
2060 0:00	assistant professor	Visakhapatnam	f	12/29/89
2224 0:00	software engineer	Chennai	f	3/22/92
2305 0:00	senior web developer	Bangalore	m	11/27/90
2377 0:00	programmer analyst	Bangalore	m	7/1/91
2396 0:00	software test engineer	Pune	m	3/17/91
2403 0:00	system engineer	Mysore	f	11/27/91
3141 0:00	software test engineer	Bangalore	m	12/10/88
3150 0:00	business analyst	Bangalore	f	10/8/92
3174 0:00	senior software engineer	-1	m	1/5/89
3202 0:00	junior research fellow	Roorkee	m	11/7/93
3263 0:00	system engineer	-1	f	1/17/88
3273 0:00	process associate	New Delhi	m	7/29/90
3372 0:00	programmer analyst	Pune	m	12/22/92
3434 0:00	software developer	New Delhi	m	5/28/91
3473 0:00	.net developer	hyderabad	m	1/8/93
3548 0:00	software engineer	Lucknow	m	9/29/91
3595 0:00	information security analyst	-1	m	1/8/92
3674 0:00	android developer	Mysore	m	2/13/90
3694 0:00	rf engineer	Lucknow	m	9/5/92
3778 0:00	software engineer	Navi Mumbai	m	11/24/90

	10percentage	...	ComputerScience	MechanicalEngg	
ElectricalEngg \					
63	60.66	...	-1	446	-
1					
159	87.00	...	-1	-1	-
1					
335	68.50	...	-1	-1	
324					
408	68.00	...	253	-1	-
1					
523	63.00	...	-1	-1	-
1					
666	59.60	...	-1	-1	-
1					
726	85.00	...	-1	-1	-
1					
1169	48.50	...	-1	-1	-
1					
1211	80.00	...	-1	-1	-
1					
1217	73.00	...	-1	313	-
1					
1242	93.00	...	-1	-1	-
1					
1353	85.00	...	-1	473	-
1					
1538	70.06	...	223	-1	-
1					
1566	79.40	...	-1	-1	-
1					
1649	91.00	...	-1	-1	-
1					
1728	75.00	...	-1	-1	-
1					
1785	71.60	...	-1	-1	-
1					
1789	78.40	...	-1	-1	-
1					
1822	82.00	...	-1	-1	
446					
1860	75.00	...	-1	-1	-
1					
2060	69.20	...	-1	-1	-
1					
2224	83.00	...	-1	-1	
313					
2305	64.62	...	407	-1	-
1					
2377	80.00	...	-1	-1	-

1						
2396	83.40	...	- 1	- 1	-	
1						
2403	80.00	...	- 1	- 1	-	
1						
3141	85.20	...	- 1	- 1	-	
1						
3150	71.00	...	376	- 1	-	
1						
3174	80.40	...	- 1	- 1	-	
1						
3202	90.40	...	- 1	580	-	
1						
3263	85.66	...	- 1	- 1	-	
1						
3273	73.50	...	- 1	- 1	-	
1						
3372	86.92	...	- 1	- 1	-	
1						
3434	64.00	...	- 1	- 1	-	
1						
3473	85.30	...	376	- 1	-	
1						
3548	67.00	...	- 1	- 1	-	
1						
3595	91.60	...	- 1	- 1	-	
1						
3674	52.00	...	- 1	- 1	-	
1						
3694	72.00	...	- 1	- 1	-	
1						
3778	87.20	...	346	- 1	-	
1						
TelecomEngg CivilEngg conscientiousness agreeableness						
extraversion \						
63	- 1	- 1	-2.2351	-2.6847	-	
2.6028						
159	- 1	- 1	-2.8879	-4.2831	-	
3.2176						
335	- 1	- 1	-3.6060	-5.6151	-	
4.6009						
408	- 1	- 1	-3.3188	-1.6191	-	
3.5250						
523	- 1	- 1	-3.1752	-5.1156	-	
3.0639						
666	- 1	- 1	0.4155	-1.2861	-	
3.2176						
726	- 1	- 1	-1.9629	-2.1903	-	

2.7750					
1169	-1	-1	-2.1175	-3.0874	-
2.6662					
1211	-1	-1	-3.4624	-5.7816	-
4.6009					
1217	-1	322	-2.0262	-1.9521	-
2.6028					
1242	-1	-1	-0.8810	1.1248	-
2.9565					
1353	-1	-1	-3.1752	-4.2831	-
4.2935					
1538	-1	-1	-2.7443	-2.4516	-
3.0639					
1566	-1	-1	-2.0262	-3.7836	-
2.7565					
1649	473	-1	-2.1175	-1.8393	-
3.5370					
1728	473	-1	-0.3027	-0.6201	-
3.5250					
1785	-1	-1	-2.1175	-1.3713	-
2.6662					
1789	-1	-1	0.4155	0.5454	-
2.7565					
1822	-1	-1	-0.1590	-1.2861	-
2.7565					
1860	-1	-1	-2.2720	-3.1264	-
3.8636					
2060	-1	-1	-1.3080	-1.1196	-
3.0639					
2224	-1	-1	-2.8879	-3.9501	-
2.7565					
2305	-1	-1	-1.5953	0.5454	-
2.9102					
2377	206	-1	-2.8879	-4.2831	-
3.2176					
2396	-1	-1	-2.8879	-4.7826	-
3.2176					
2403	366	-1	0.7027	0.7119	-
3.3713					
3141	-1	-1	-2.2720	-0.5913	-
2.6662					
3150	-1	-1	-3.8933	-5.6151	-
3.9861					
3174	-1	-1	-1.0355	-0.4353	-
2.6662					
3202	-1	-1	-1.8083	-1.9953	-
2.5210					
3263	-1	-1	-2.2720	-0.1232	-
2.8113					

3273	-1	-1	0.0464	0.1888	-
2.8113					
3372	313	-1	-3.1752	-3.4506	-
3.0639					
3434	-1	-1	-0.4463	0.0459	-
2.6028					
3473	-1	-1	-3.7496	-5.6151	-
3.8324					
3548	-1	-1	-1.3080	-3.7836	-
2.6028					
3595	-1	-1	1.2772	0.3789	-
2.6028					
3674	-1	-1	-2.0262	-2.7846	-
2.6028					
3694	292	-1	-3.3188	-5.7816	-
4.4472					
3778	-1	-1	-0.3027	-0.4536	-
2.6028					
nueroticism openness_to_experience					
63	0.39950		-5.4770		
159	-1.12180		-5.2679		
335	-2.00920		-6.9925		
408	0.27270		-0.4776		
523	-0.74150		-5.2679		
666	-1.75560		-3.3518		
726	0.41480		-0.4455		
1169	0.06230		-3.4471		
1211	-0.36120		-6.9925		
1217	0.01920		-2.5853		
1242	-0.78967		-1.2354		
1353	-2.13600		-5.8428		
1538	-0.48790		-3.5434		
1566	0.14590		-6.8009		
1649	2.17740		-0.4455		
1728	-0.23440		-1.4356		
1785	1.47240		0.0284		
1789	-1.62890		0.2889		
1822	0.01920		-2.5853		
1860	0.29730		-3.6051		
2060	-0.36120		-0.6692		
2224	-1.24860		-5.6512		
2305	1.79400		1.0554		
2377	-1.12180		-5.4595		
2396	-0.48790		-5.8428		
2403	0.27270		0.4805		
3141	0.76730		0.1864		
3150	-0.86820		-6.6092		
3174	-0.76030		0.3444		

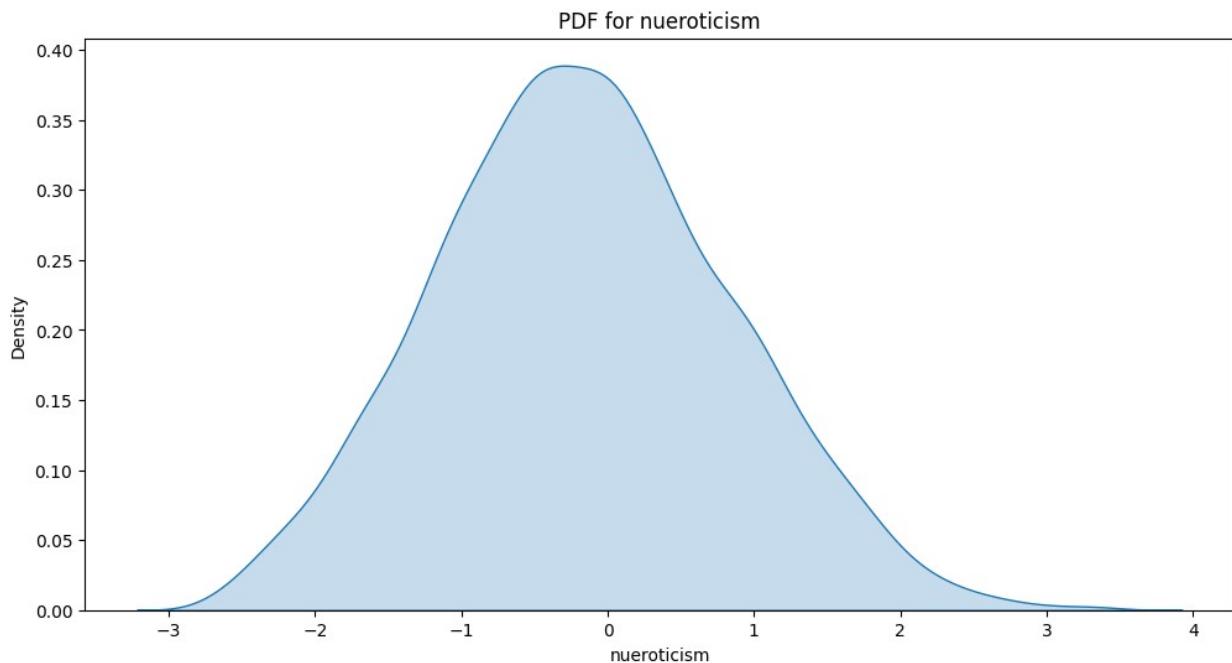
```
3202      1.07470      -2.0253
3263      0.06230      0.0284
3273     -0.26090      0.8183
3372     -0.74150     -5.2679
3434     -1.24860     -1.6273
3473     -0.48790     -7.3757
3548      0.39950     -1.6273
3595     -0.86820      0.0973
3674      1.03330     -2.7769
3694     -0.74150     -6.9925
3778      0.77980      0.2889
```

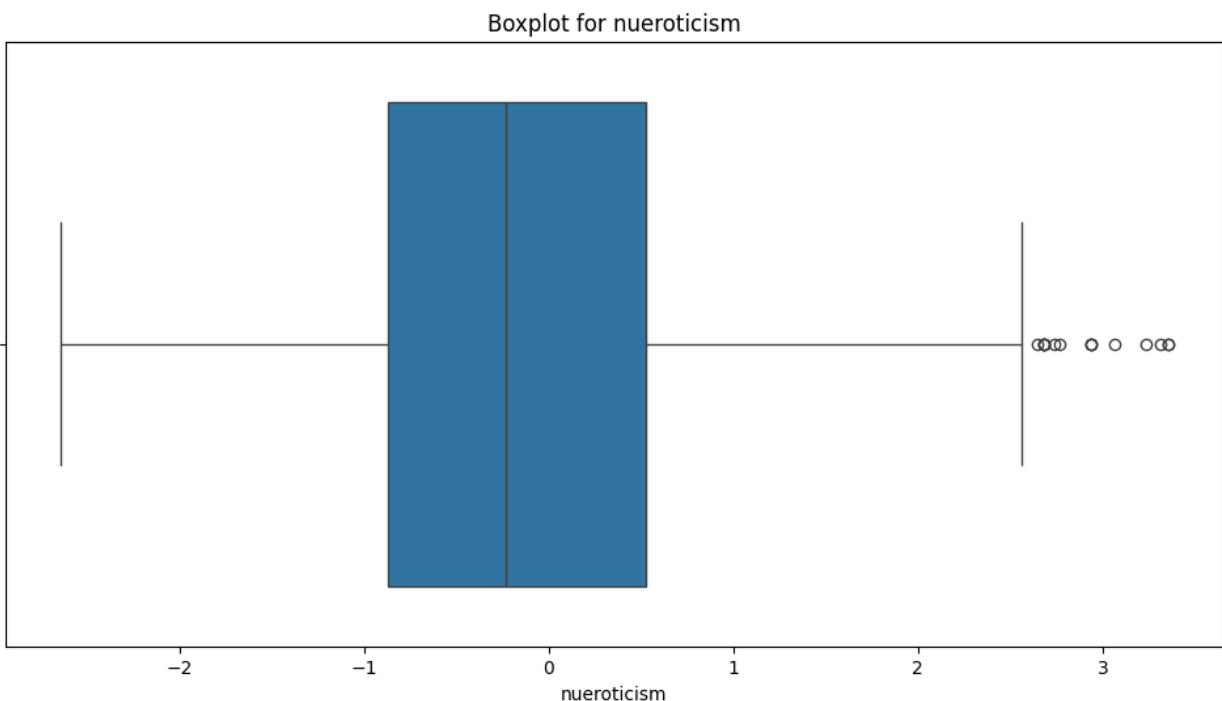
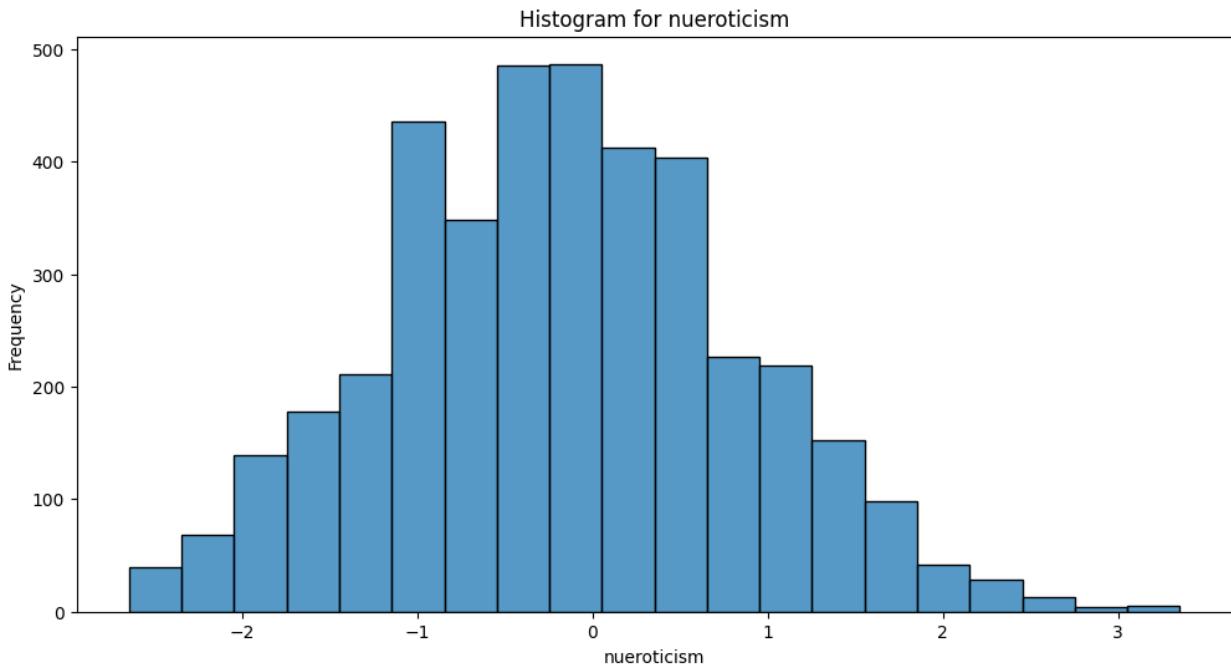
```
[40 rows x 39 columns]
```

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```





Outliers in nueroticism:

	Unnamed: 0	ID	Salary	DOJ	DOL	\
222	train	226736	1000000.0	3/1/13 0:00	6/1/13 0:00	
405	train	601563	145000.0	10/1/13 0:00	7/1/14 0:00	
1151	train	346395	140000.0	7/1/12 0:00	1/1/14 0:00	
1191	train	356498	445000.0	3/1/13 0:00	5/1/15 0:00	
1383	train	349752	550000.0	6/1/12 0:00	present	

EmployeeID	Department	EmployeeNumber	AnnualSalary	HireDate	Shift	LeaveBalance
1602	train	862240	180000.0	4/1/14 0:00	4/1/15 0:00	
1843	train	843714	280000.0	8/1/13 0:00		present
2054	train	348114	335000.0	7/1/13 0:00		present
2234	train	530441	360000.0	2/1/14 0:00		present
2275	train	1052796	100000.0	1/1/14 0:00		present
2608	train	914037	180000.0	10/1/14 0:00	1/1/15 0:00	
2859	train	1152368	180000.0	1/1/14 0:00	2/1/15 0:00	
3089	train	690389	180000.0	2/1/13 0:00		present
3384	train	1264544	120000.0	10/1/14 0:00	6/1/14 0:00	
3880	train	1233727	300000.0	6/1/15 0:00		present
EmployeeID	Designation	JobCity	Gender	DOB		
222	programmer	Coimbatore	m	5/13/89	0:00	
405	sales executive	-1	m	3/11/91	0:00	
1151	software engineer	Bangalore	m	8/18/84	0:00	
1191	system engineer	Mumbai	m	6/9/91	0:00	
1383	assistant manager	Hyderabad	m	5/25/91	0:00	
1602	software test engineer	Noida	m	9/4/91	0:00	
1843	software test engineer	HYDERABAD	m	4/2/91	0:00	
2054	systems engineer	Bangalore	f	6/29/89	0:00	
2234	project management officer	Delhi	m	1/14/89	0:00	
2275	software developer	pune	m	11/5/90	0:00	
2608	asp.net developer	-1	m	12/26/87	0:00	
2859	salesforce developer	Pune	m	5/8/90	0:00	
3089	java developer	-1	m	9/27/91	0:00	
3384	software developer	-1	m	11/11/91	0:00	
3880	programmer analyst	Gurgaon	m	6/30/94	0:00	
EmployeeID	10percentage	...	ComputerScience	MechanicalEngg		
ElectricalEngg						
222	77.00	...	-1	260		-
1						
405	79.00	...	-1	-1		-
1						
1151	80.64	...	-1	-1		-
1						
1191	79.80	...	-1	-1		-
1						
1383	80.50	...	-1	332		-
1						
1602	71.50	...	376	-1		-
1						
1843	61.00	...	-1	-1		-
1						
2054	90.00	...	-1	-1		-
1						
2234	54.00	...	-1	-1		-
1						
2275	70.58	...	-1	-1		-

1						
2608	57.00	...	469	-1		-
1						
2859	69.20	...	-1	-1		-
1						
3089	79.00	...	-1	-1		-
1						
3384	76.00	...	192	-1		-
1						
3880	81.00	...	592	-1		-
1						
TelecomEngg CivilEngg conscientiousness agreeableness						
extraversion \						
222	-1	260	0.6646	1.2808		
1.9782						
405	-1	-1	1.2772	1.7109		
2.3154						
1151	473	-1	1.9011	1.2808	-	
0.0537						
1191	-1	-1	0.6646	1.9048		
2.1234						
1383	-1	-1	0.8192	1.5928		
0.6720						
1602	-1	-1	-1.8825	0.5454		
0.4711						
1843	-1	-1	-2.4570	-0.4536	-	
0.2974						
2054	-1	-1	0.9737	0.9688		
0.2366						
2234	-1	-1	-1.1128	-0.5913	-	
1.2148						
2275	-1	-1	1.2772	0.7119		
2.1617						
2608	-1	-1	-0.8772	-0.7866	-	
1.9881						
2859	324	-1	0.4155	1.3779		
1.5470						
3089	-1	-1	-0.8772	0.5454		
1.8543						
3384	-1	-1	-0.5899	-1.4526		
2.0080						
3880	-1	-1	-1.3080	0.2124		
1.3933						
nueroticism openness_to_experience						
222	2.6475		1.2923			
405	2.9349		1.6302			
1151	3.3525		0.9763			

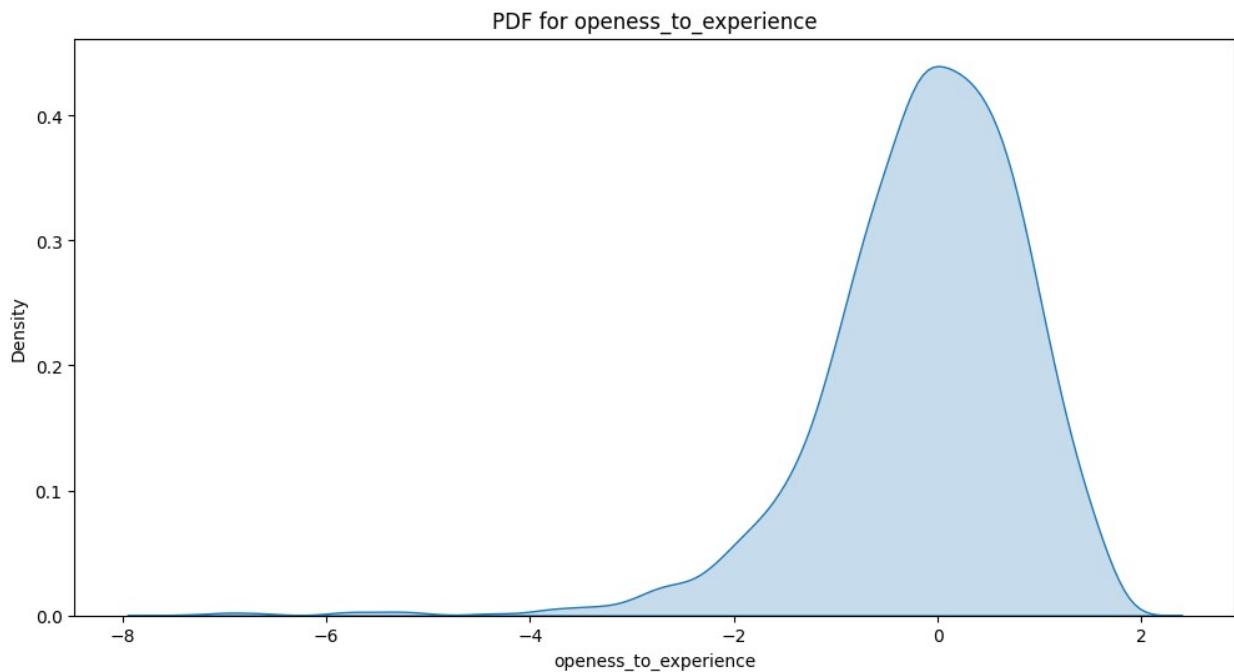
```
1191      3.3525      1.1343
1383      3.2350     -0.8799
1602      2.6814     -1.0524
1843      3.0617      1.2470
2054      2.7650     -0.0167
2234      2.7356      0.3444
2275      2.9349      0.6721
2608      2.6814     -0.2859
2859      3.3152      0.6721
3089      2.6814     -1.0524
3384      2.6814      1.2470
3880      2.9349      0.4805
```

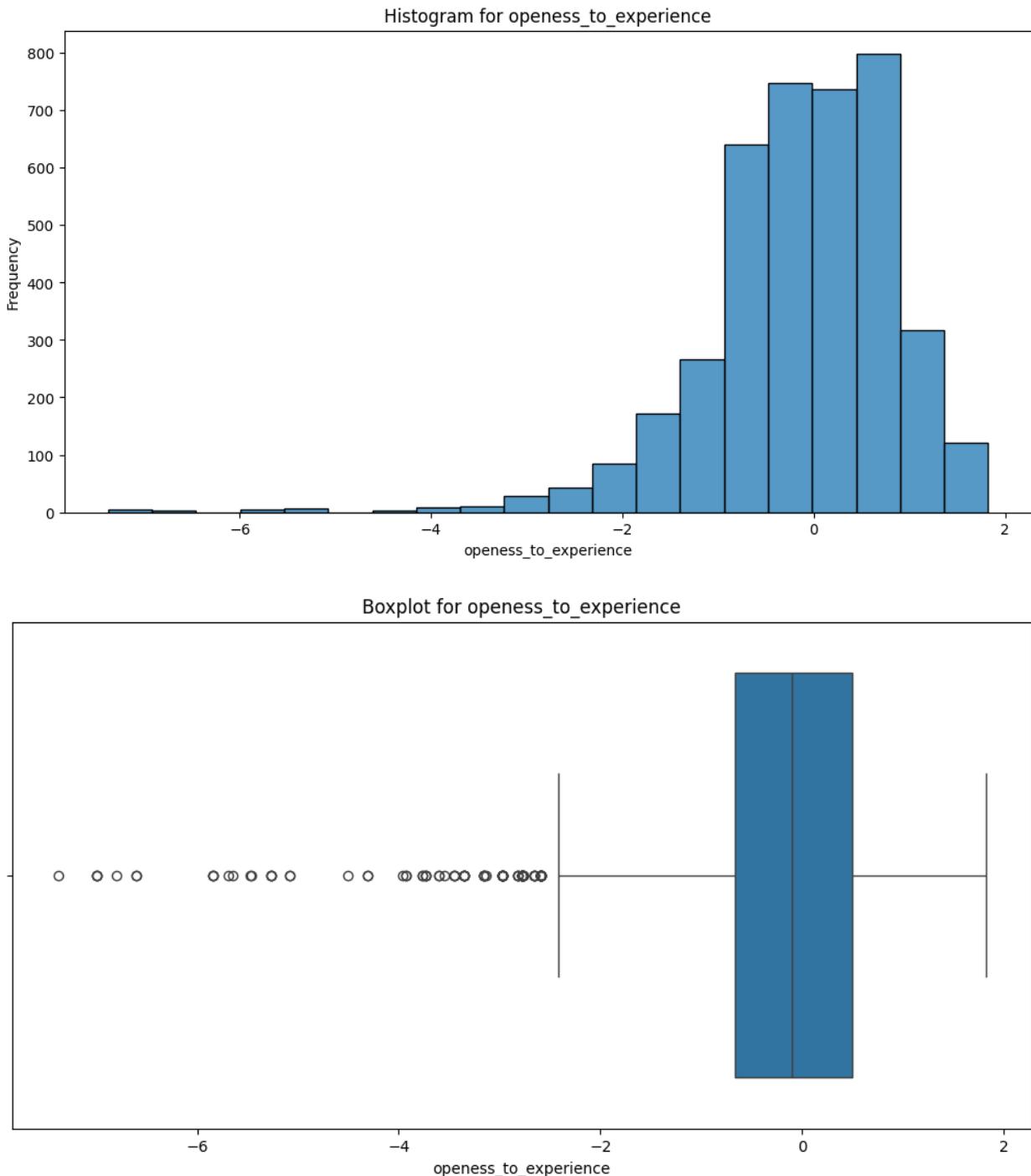
```
[15 rows x 39 columns]
```

```
<ipython-input-6-5c2bd027771c>:8: FutureWarning:
```

```
`shade` is now deprecated in favor of `fill`; setting `fill=True`.  
This will become an error in seaborn v0.14.0; please update your code.
```

```
sns.kdeplot(data[column], shade=True)
```





Outliers in openness_to_experience:

		Unnamed: 0	ID	Salary	DOJ	DOL	\
22		train	995191	190000.0	10/1/13 0:00	4/1/15 0:00	
23		train	990077	180000.0	8/1/14 0:00	4/1/15 0:00	
43		train	1207660	120000.0	4/1/14 0:00	4/1/15 0:00	
63		train	636871	150000.0	10/1/14 0:00	4/1/15 0:00	
128		train	206734	675000.0	11/1/11 0:00	present	

...
3868	train	618243	320000.0	6/1/13 0:00		present
3892	train	1089287	300000.0	8/1/14 0:00		present
3901	train	677204	390000.0	7/1/13 0:00	4/1/15 0:00	
3918	train	988486	120000.0	8/1/14 0:00		present
3957	train	425242	180000.0	9/1/12 0:00	10/1/13 0:00	
			Designation	JobCity	Gender	DOB
\			developer	Hyderabad	m	1/23/92 0:00
22			electrical project engineer	Bangalore	m	7/30/86 0:00
23			.net developer	Hyderabad	m	7/5/93 0:00
43			management trainee	Bhiwadi	m	1/10/92 0:00
63			senior software engineer	Noida	m	11/7/88 0:00
...		
3868			project engineer	jAipur	m	9/14/91 0:00
3892			manufacturing engineer	Noida	m	4/4/92 0:00
3901			software engineering associate	Pune	m	1/6/92 0:00
3918			system administrator	Noida	f	8/20/93 0:00
3957			network administrator	Meerut	m	8/22/89 0:00
ElectricalEngg	10percentage	...	ComputerScience	MechanicalEngg		
\						
22	92.50	...	-1	-1		-
1						
23	70.00	...	-1	-1		-
1						
43	59.00	...	-1	-1		-
1						
63	60.66	...	-1	446		-
1						
128	60.00	...	-1	-1		-
1						
...
.						
3868	87.40	...	-1	-1		-
1						
3892	78.00	...	-1	-1		-
1						

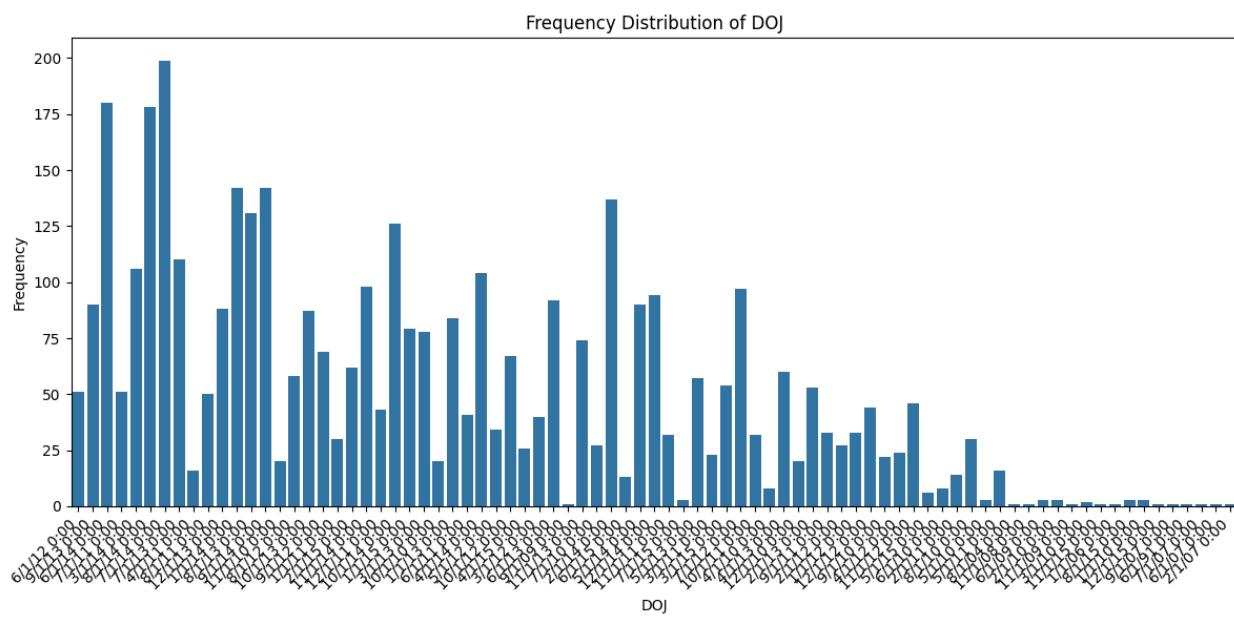
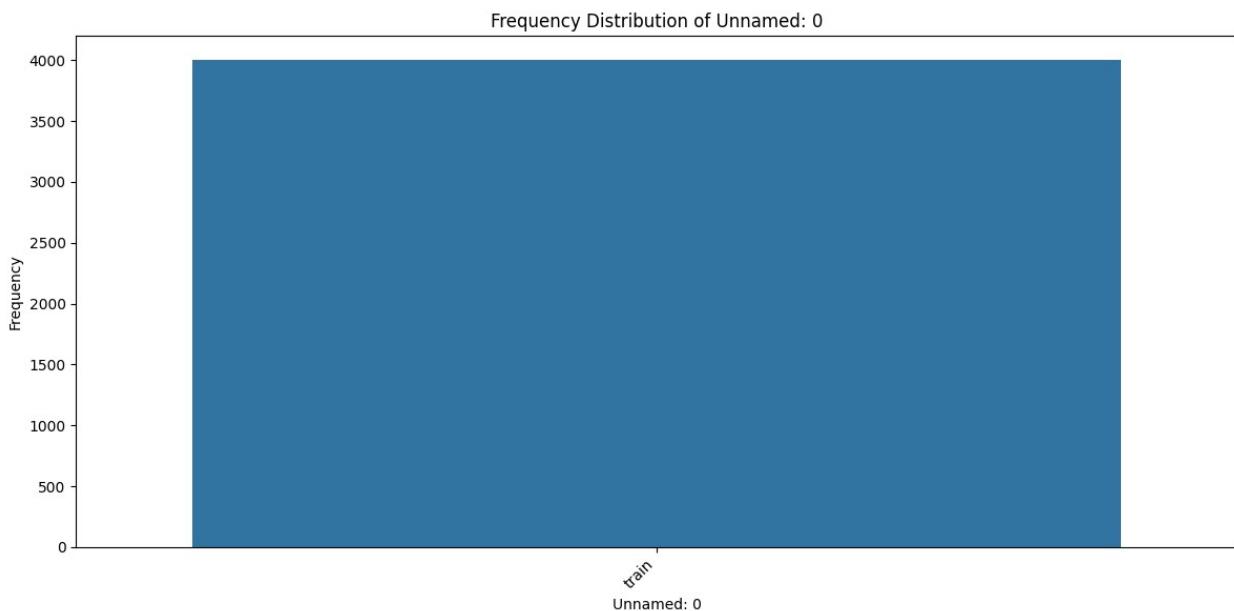
3901	73.20	...	-1	-1	-
1					
3918	62.00	...	-1	-1	-
1					
3957	71.00	...	-1	-1	-
1					
TelecomEngg CivilEngg conscientiousness agreeableness					
extraversion \					
22	-1	-1	-0.4463	-0.6201	-
0.6048					
23	-1	-1	-0.7335	-2.1186	-
1.9881					
43	-1	-1	-0.0154	-2.4516	-
0.4511					
63	-1	-1	-2.2351	-2.6847	-
2.6028					
128	-1	-1	-0.8810	-0.2793	-
0.6343					
...
...					
3868	-1	388	0.5591	-0.6201	
0.0100					
3892	-1	-1	-0.8772	-1.1196	
0.0100					
3901	-1	-1	0.1282	0.2124	-
0.1437					
3918	-1	-1	-0.8772	-1.6191	-
1.6807					
3957	-1	-1	-2.4266	-1.8393	-
1.2511					
nueroticism openness_to_experience					
22	0.7798		-2.7769		
23	-0.4879		-5.0763		
43	0.2727		-3.1602		
63	0.3995		-5.4770		
128	-0.6428		-2.9731		
...		
3868	-1.1218		-2.5853		
3892	-1.5021		-2.7769		
3901	-1.3753		-2.7769		
3918	-0.3612		-2.9686		
3957	-0.6428		-2.9731		
[95 rows x 39 columns]					

```

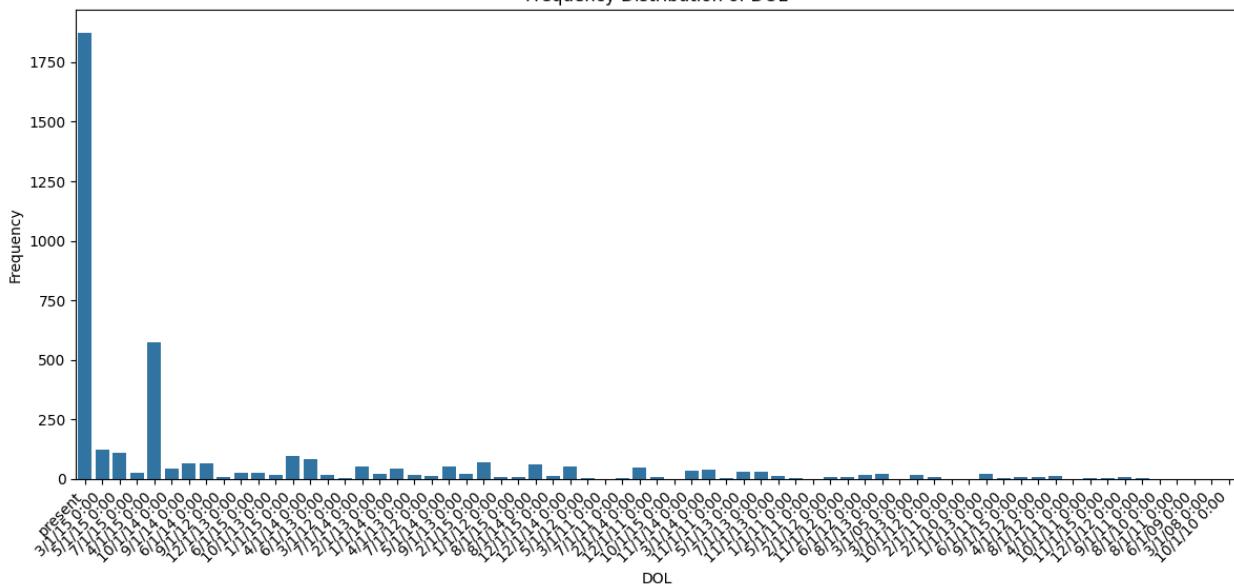
categorical_columns = data.select_dtypes(include=['object']).columns

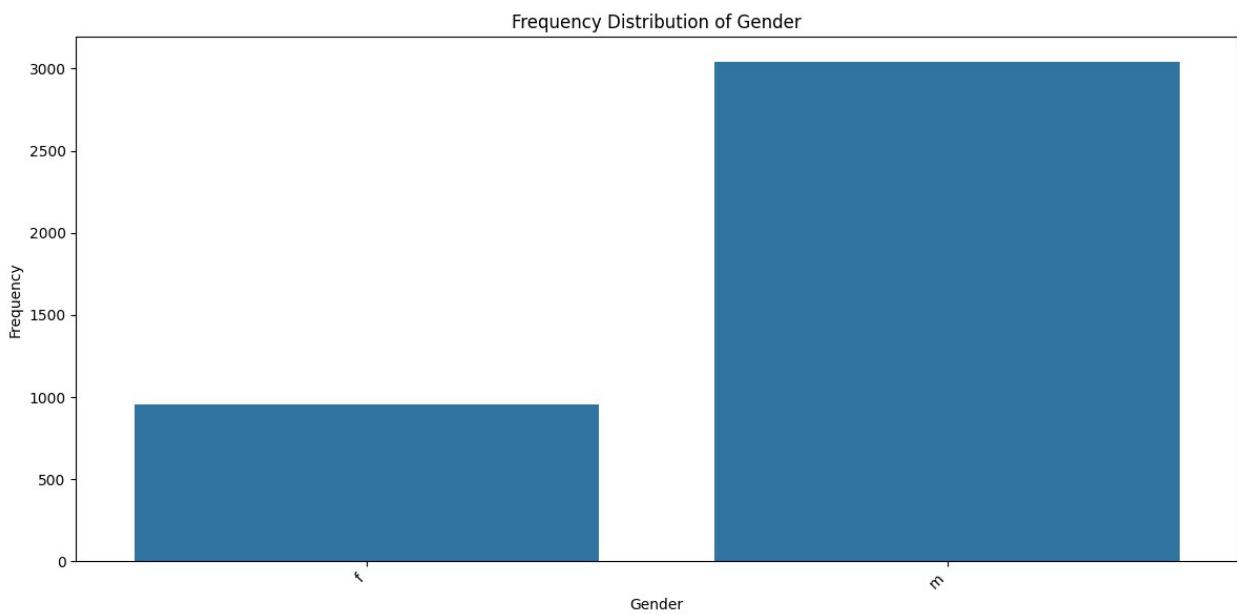
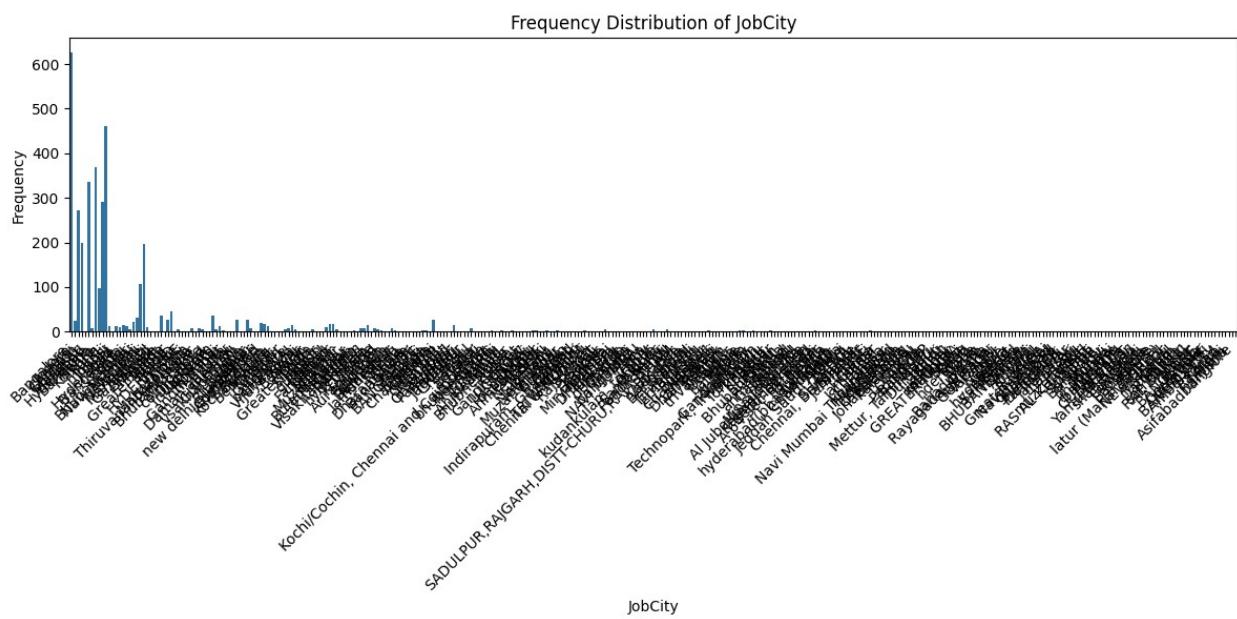
for column in categorical_columns:
    plt.figure(figsize=(12, 6))
    sns.countplot(data=data, x=column)
    plt.title(f'Frequency Distribution of {column}')
    plt.xlabel(column)
    plt.ylabel('Frequency')
    plt.xticks(rotation=45, ha='right')
    plt.tight_layout()
    plt.show()

```

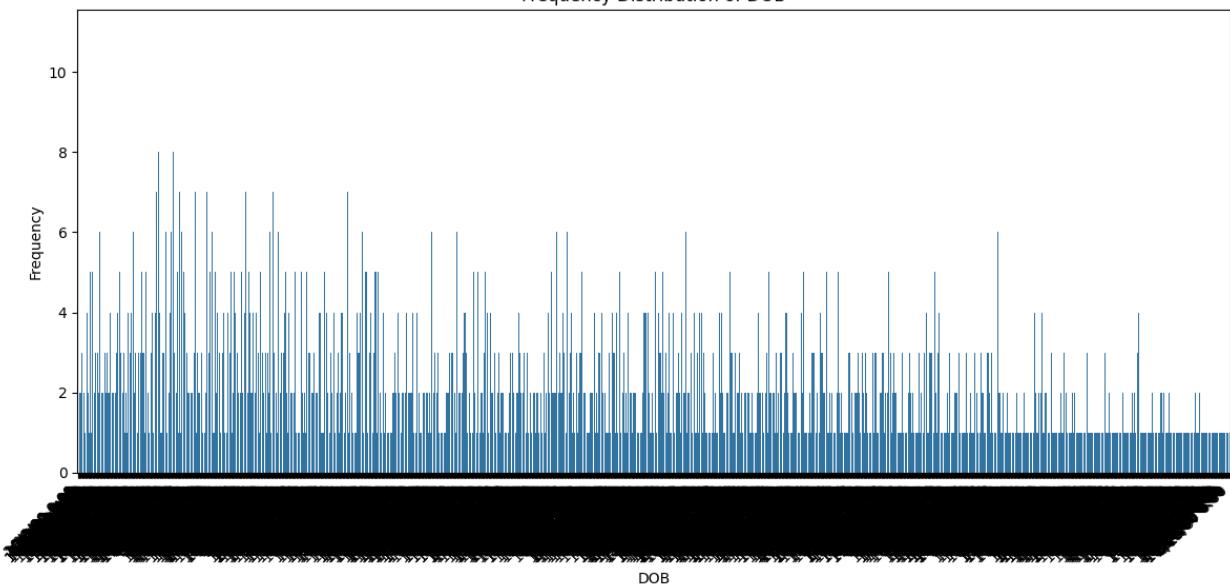


Frequency Distribution of DOL

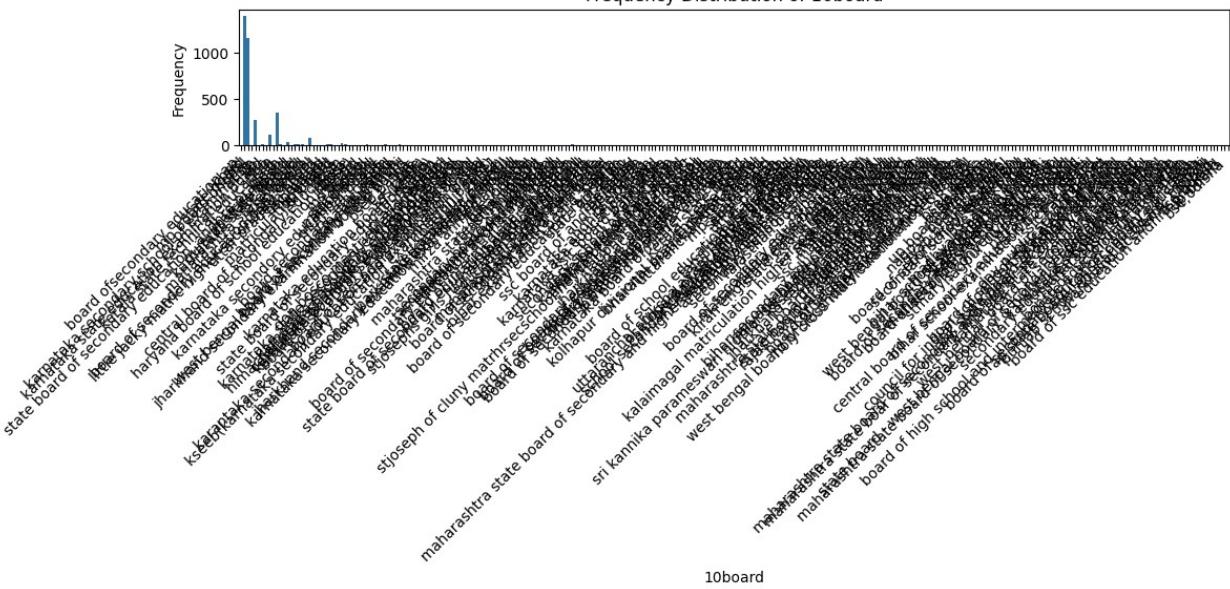


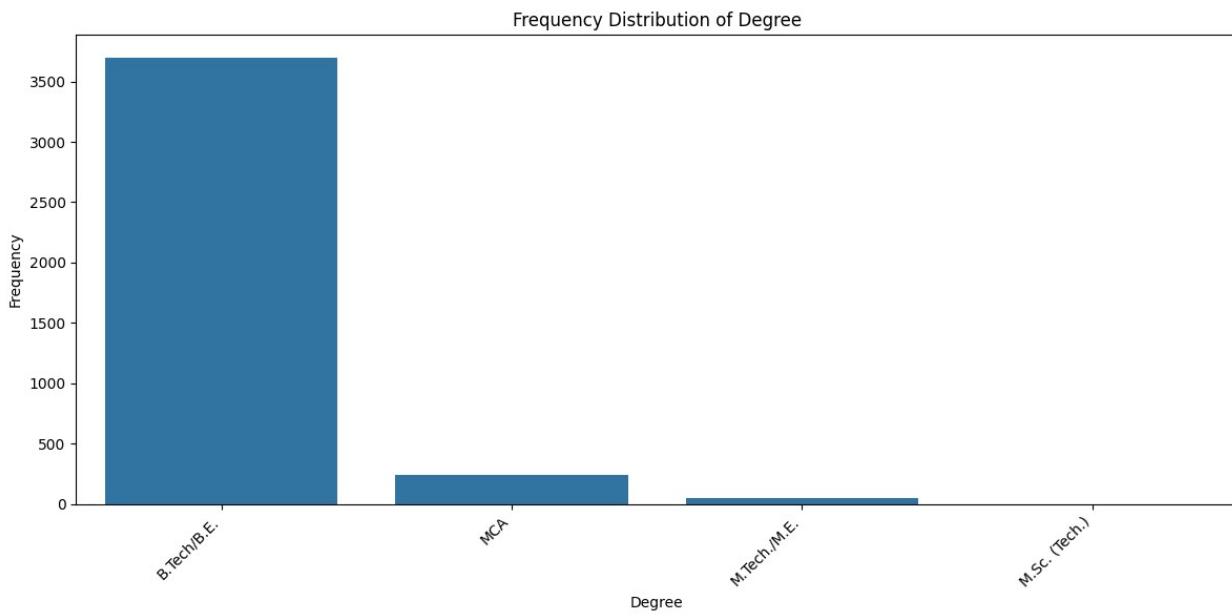
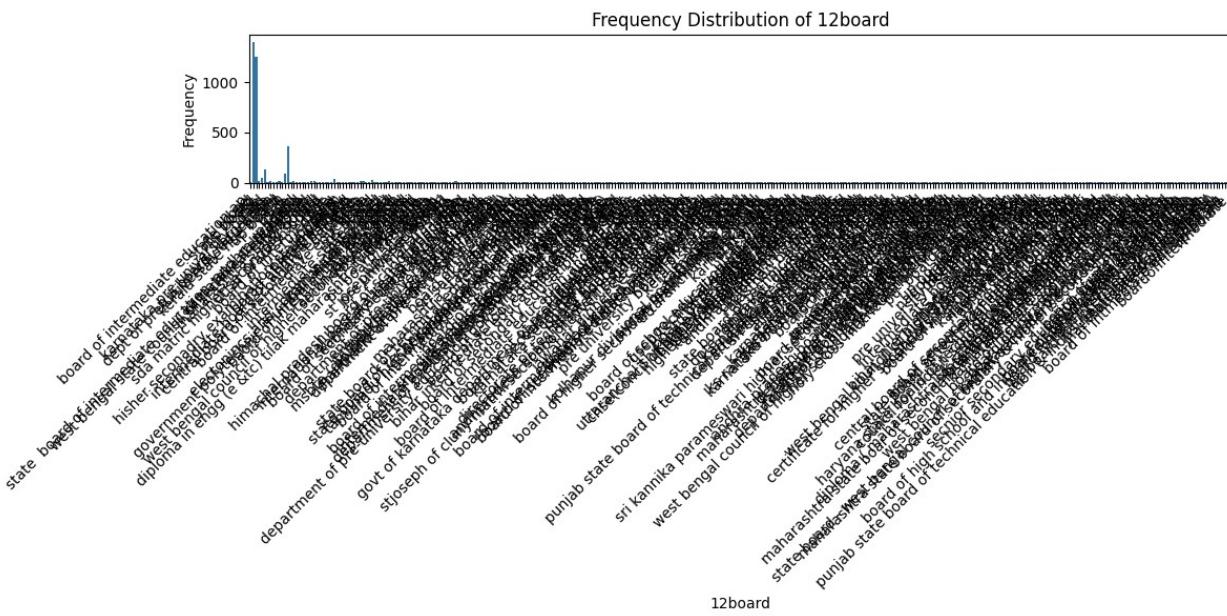


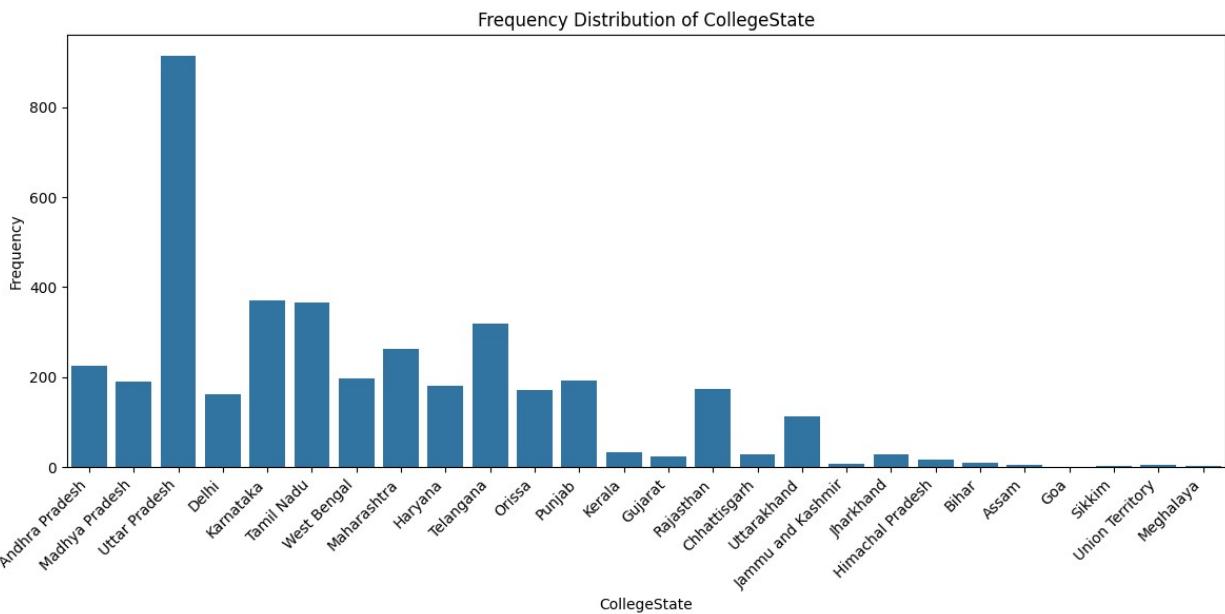
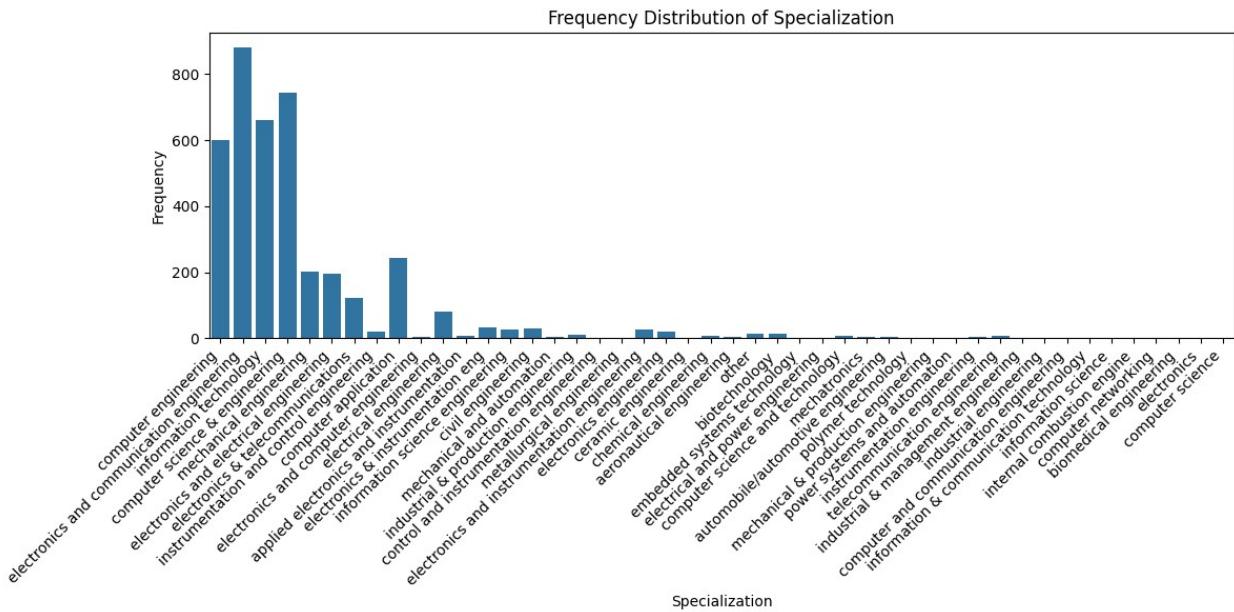
Frequency Distribution of DOB



Frequency Distribution of 10board







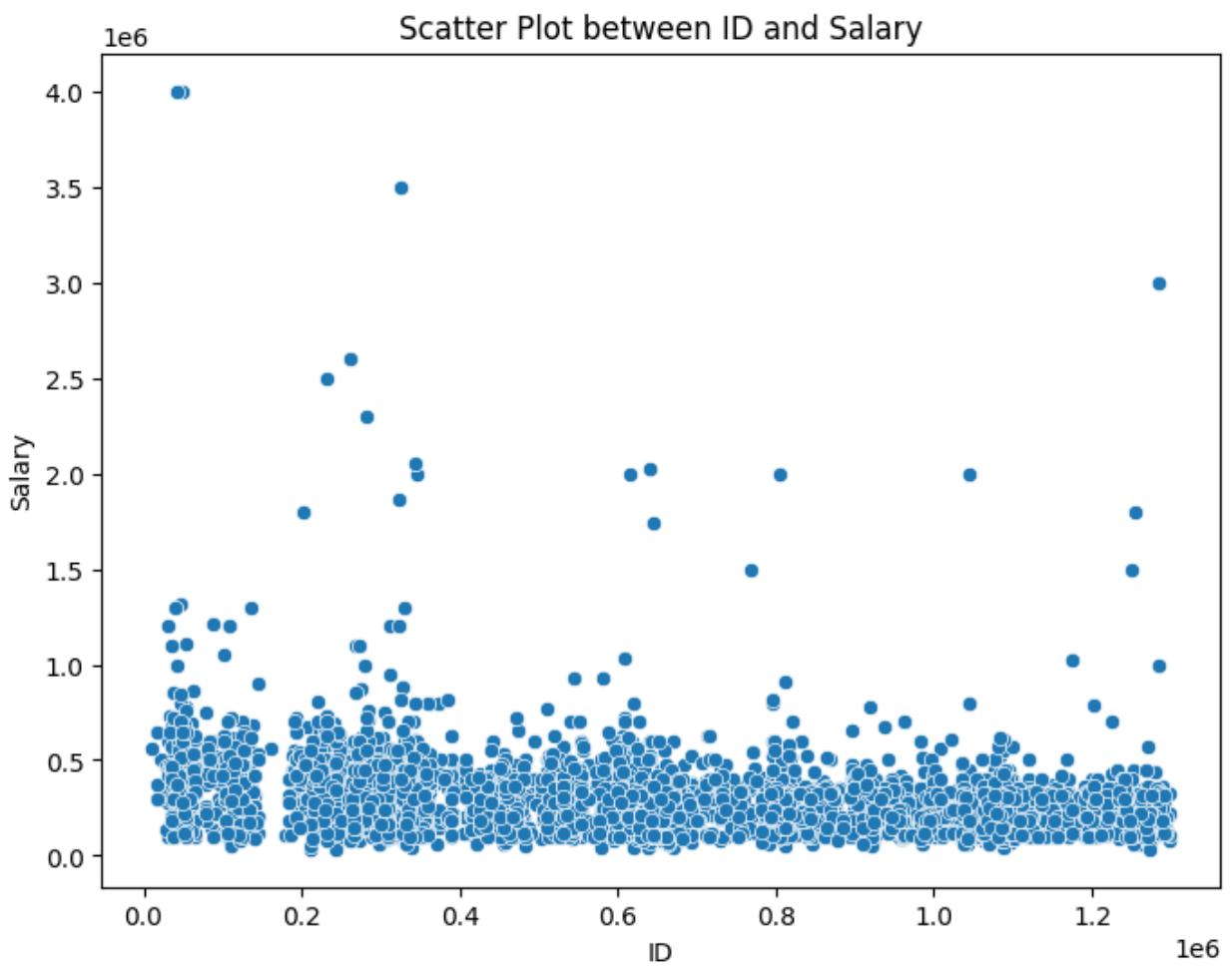
Step - 4: Bivariate Analysis

Relationships between Numerical Columns

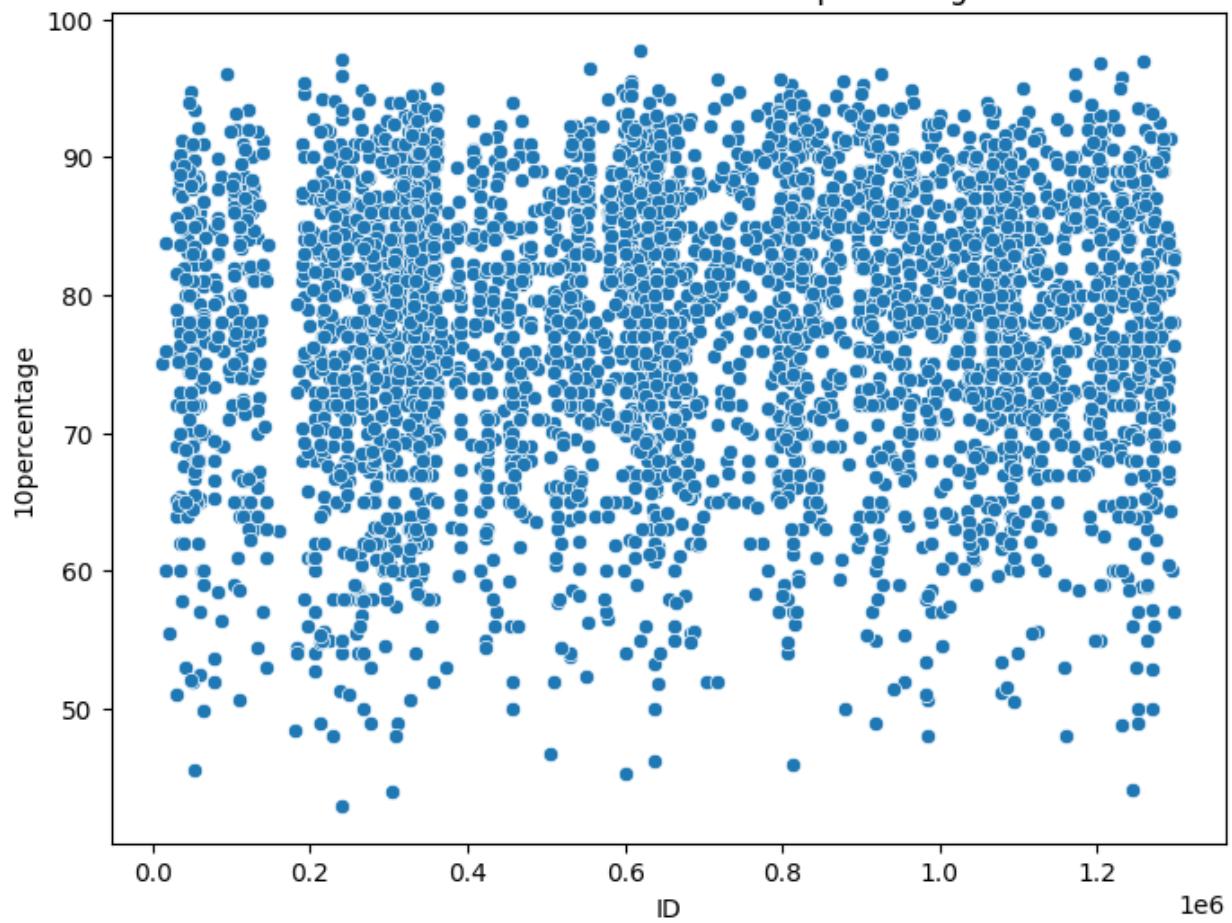
```

for i in range(len(numerical_columns)):
    for j in range(i+1, len(numerical_columns)):
        plt.figure(figsize=(8, 6))
        sns.scatterplot(x=numerical_columns[i],
y=numerical_columns[j], data=data)
        plt.title(f'Scatter Plot between {numerical_columns[i]} and
{numerical_columns[j]}' )
        plt.xlabel(numerical_columns[i])
    
```

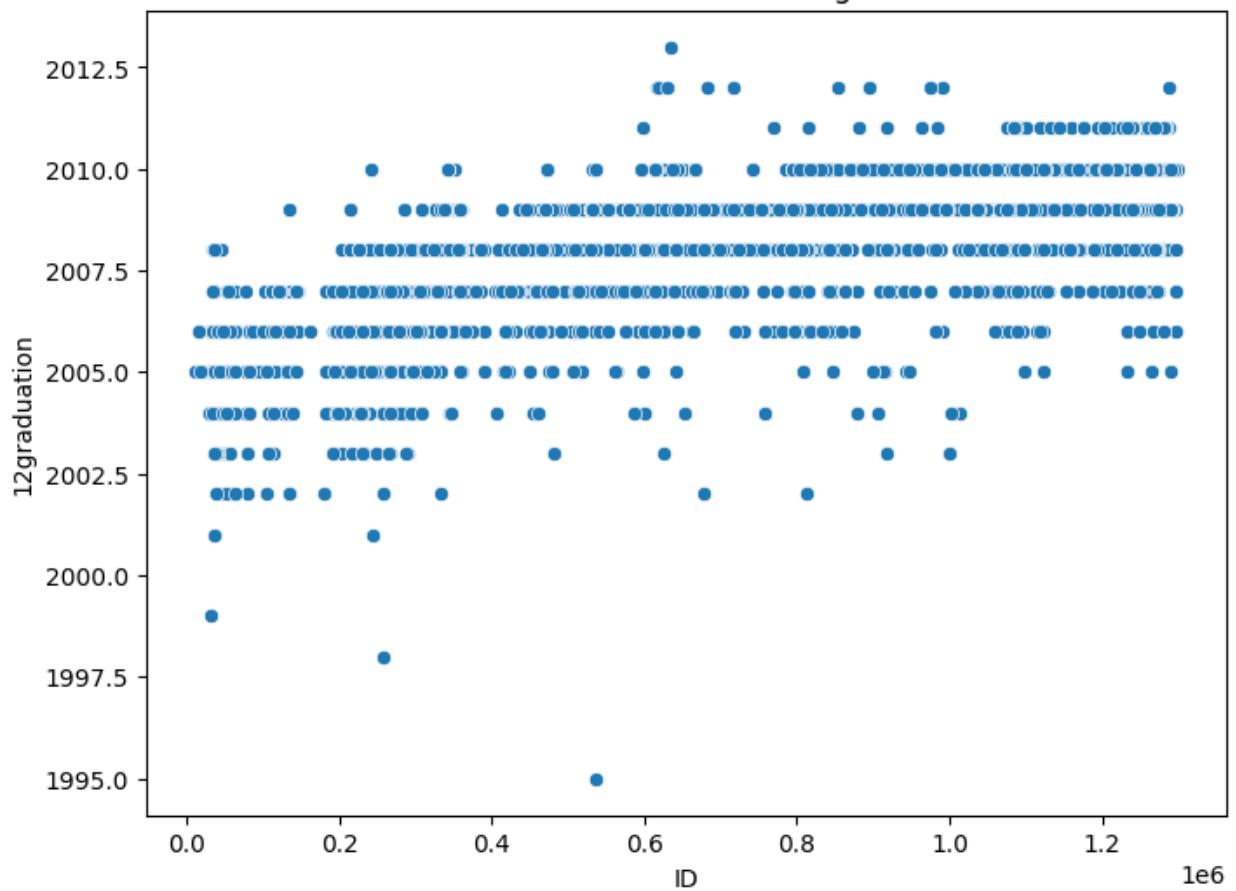
```
plt.ylabel(numerical_columns[j])  
plt.show()
```



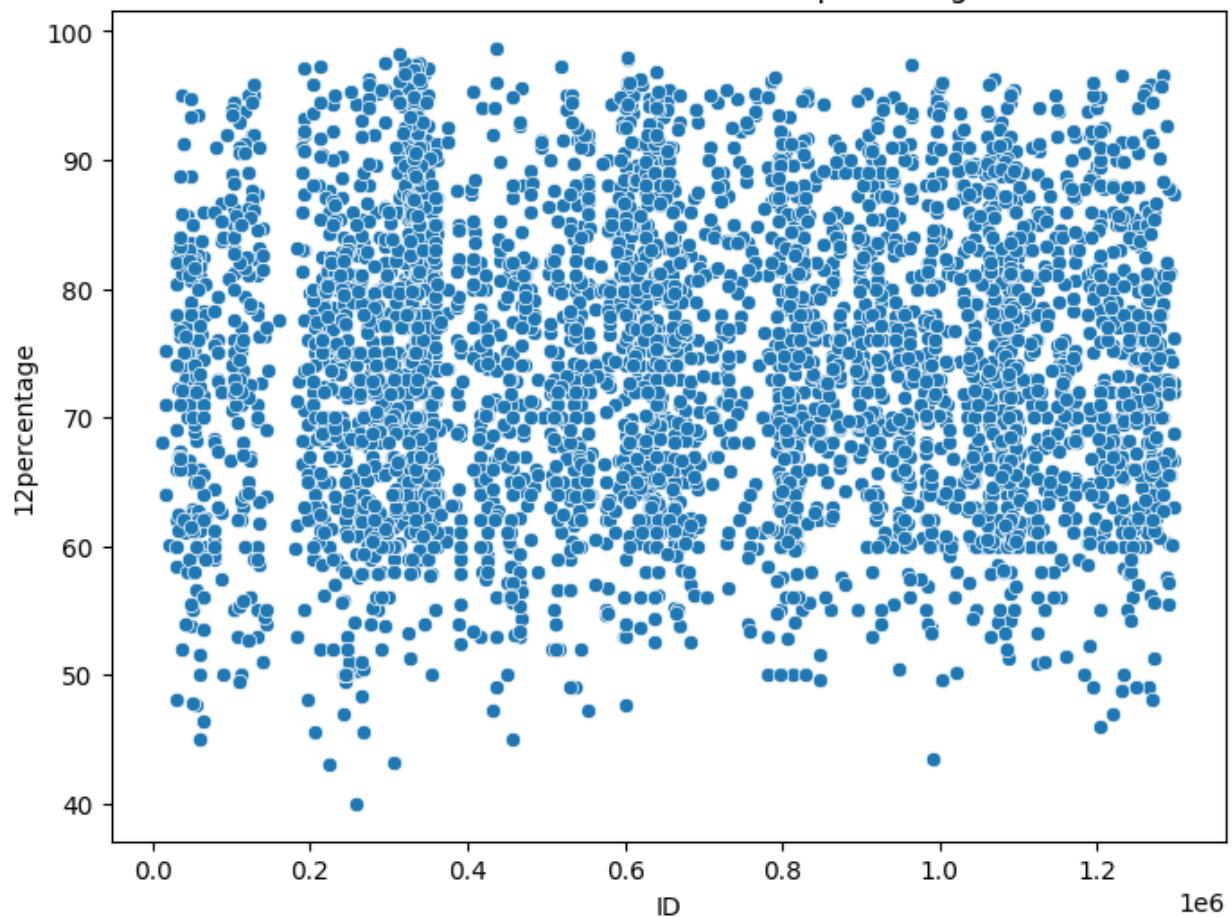
Scatter Plot between ID and 10percentage



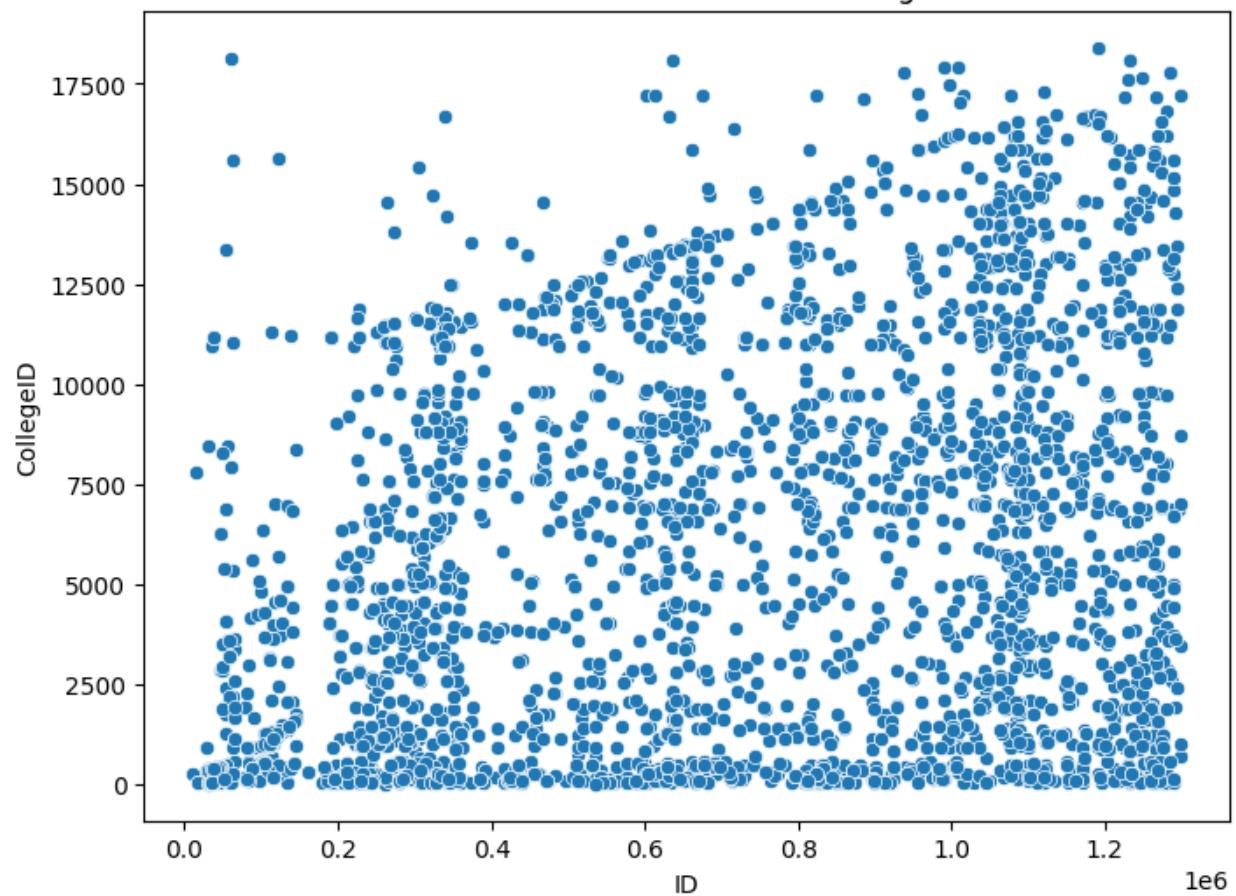
Scatter Plot between ID and 12graduation



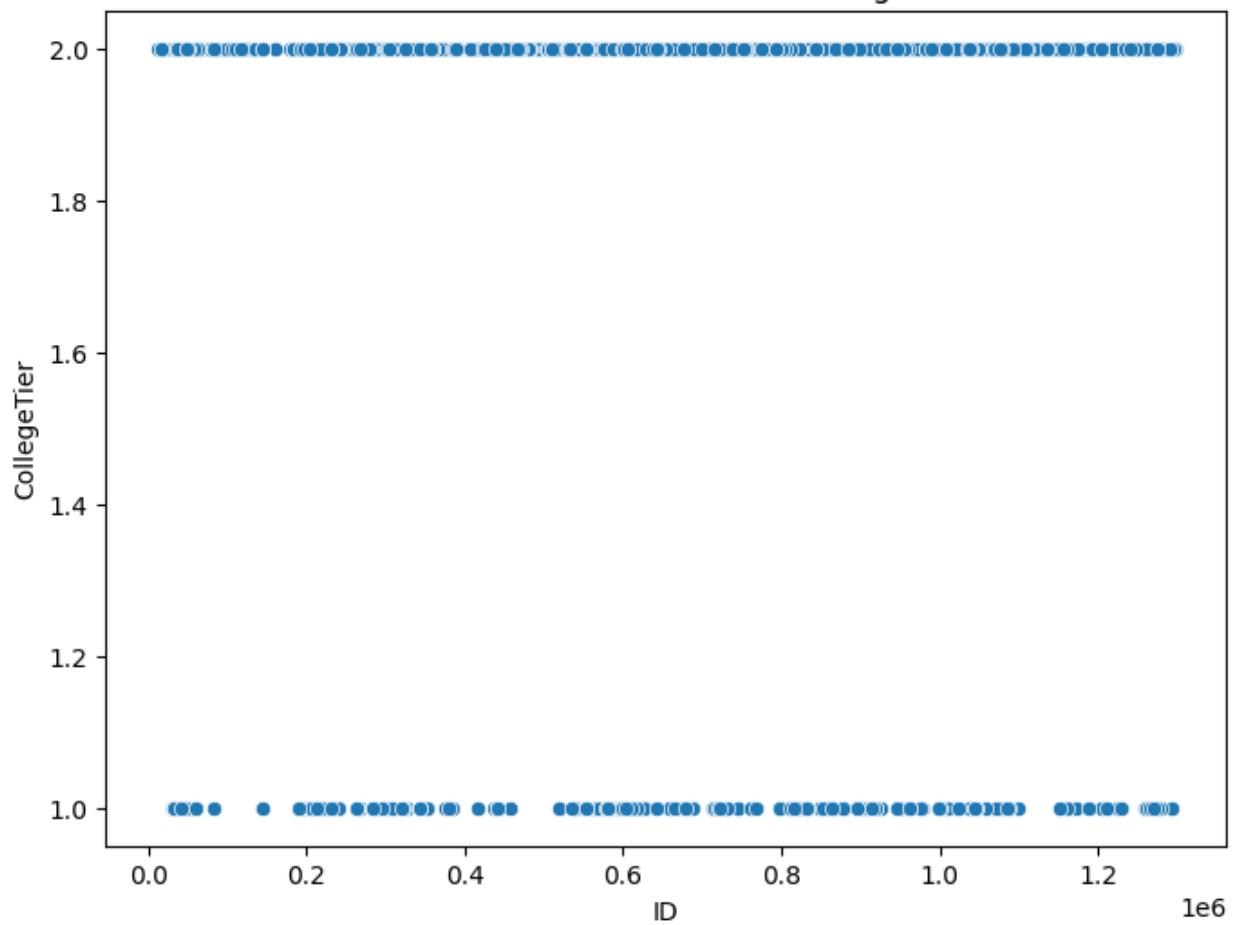
Scatter Plot between ID and 12percentage



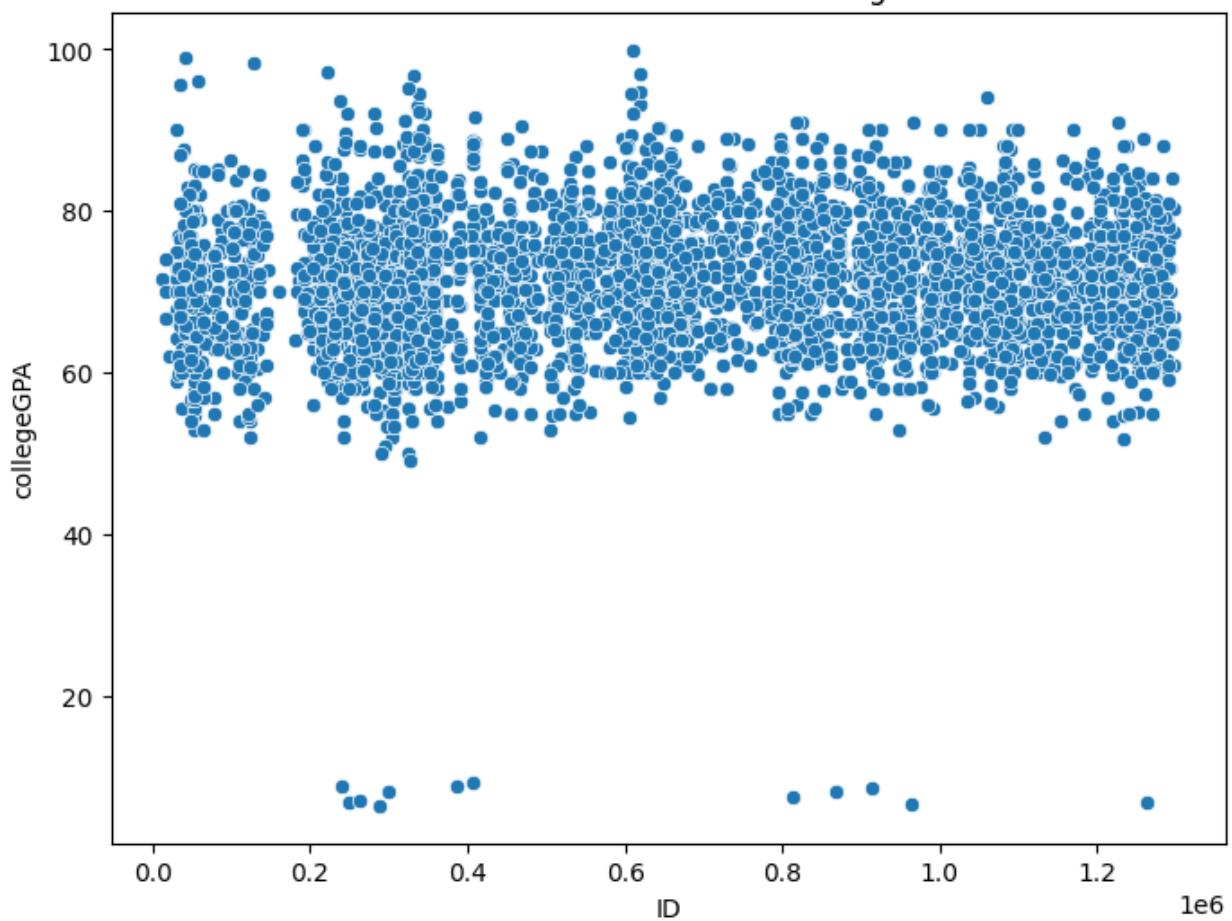
Scatter Plot between ID and CollegelD



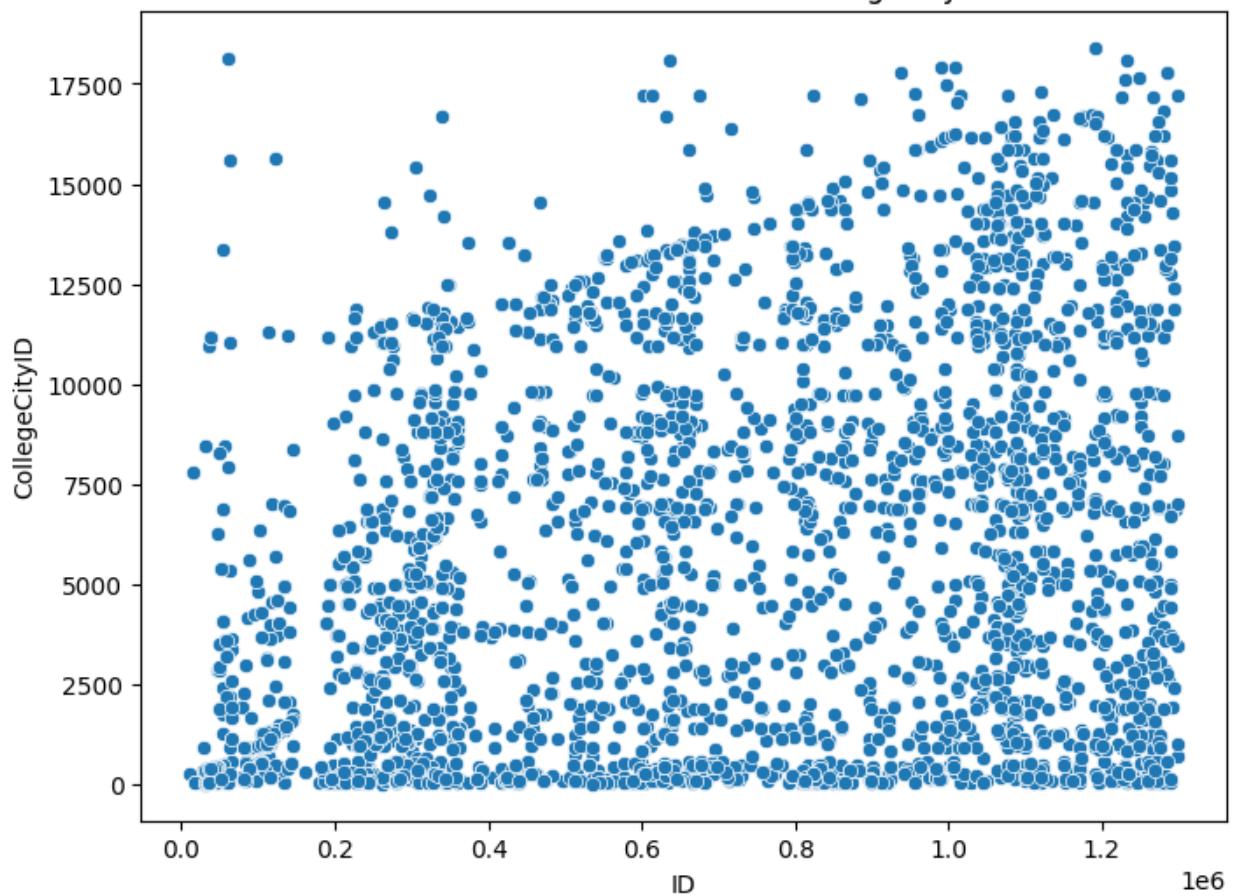
Scatter Plot between ID and CollegeTier



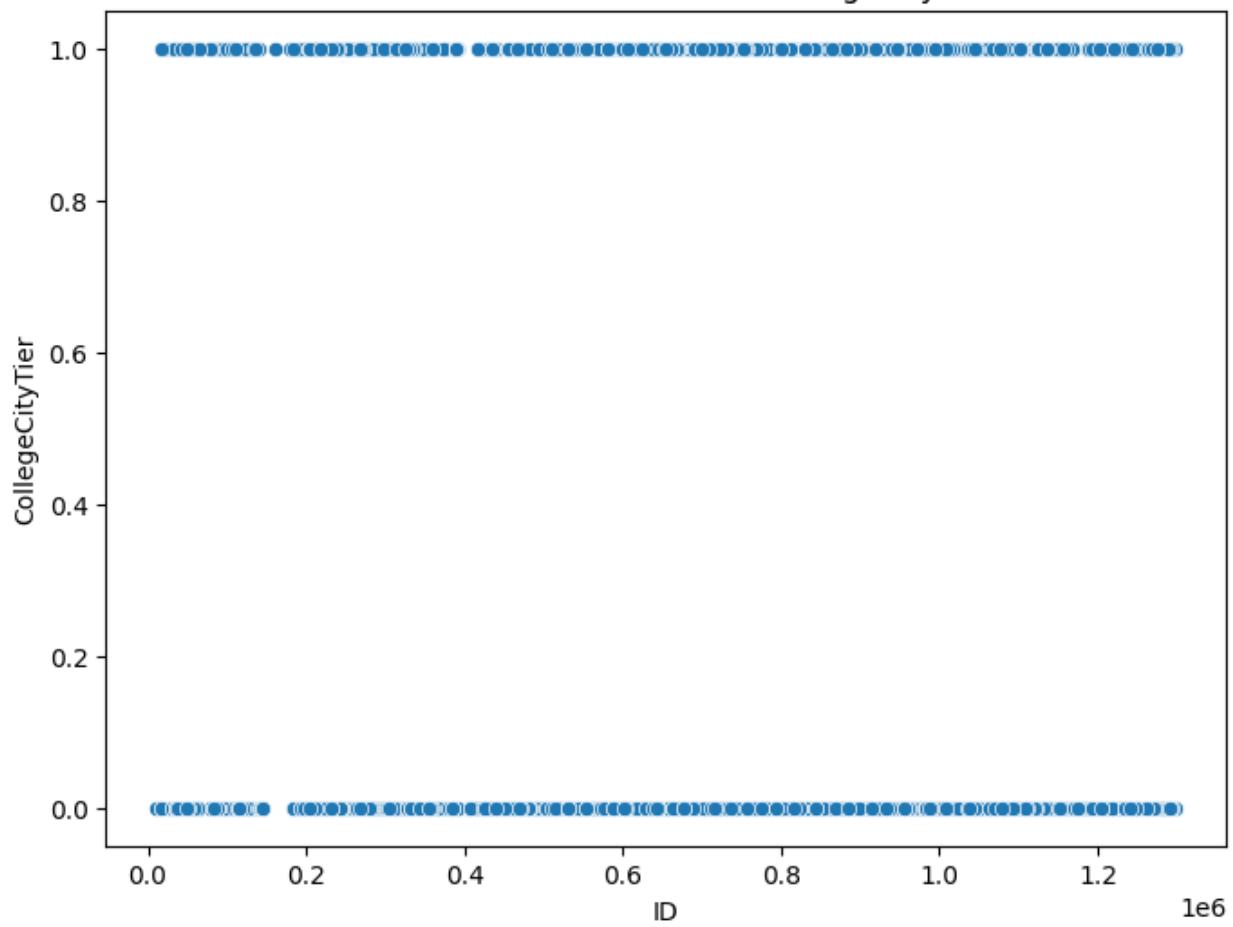
Scatter Plot between ID and collegeGPA



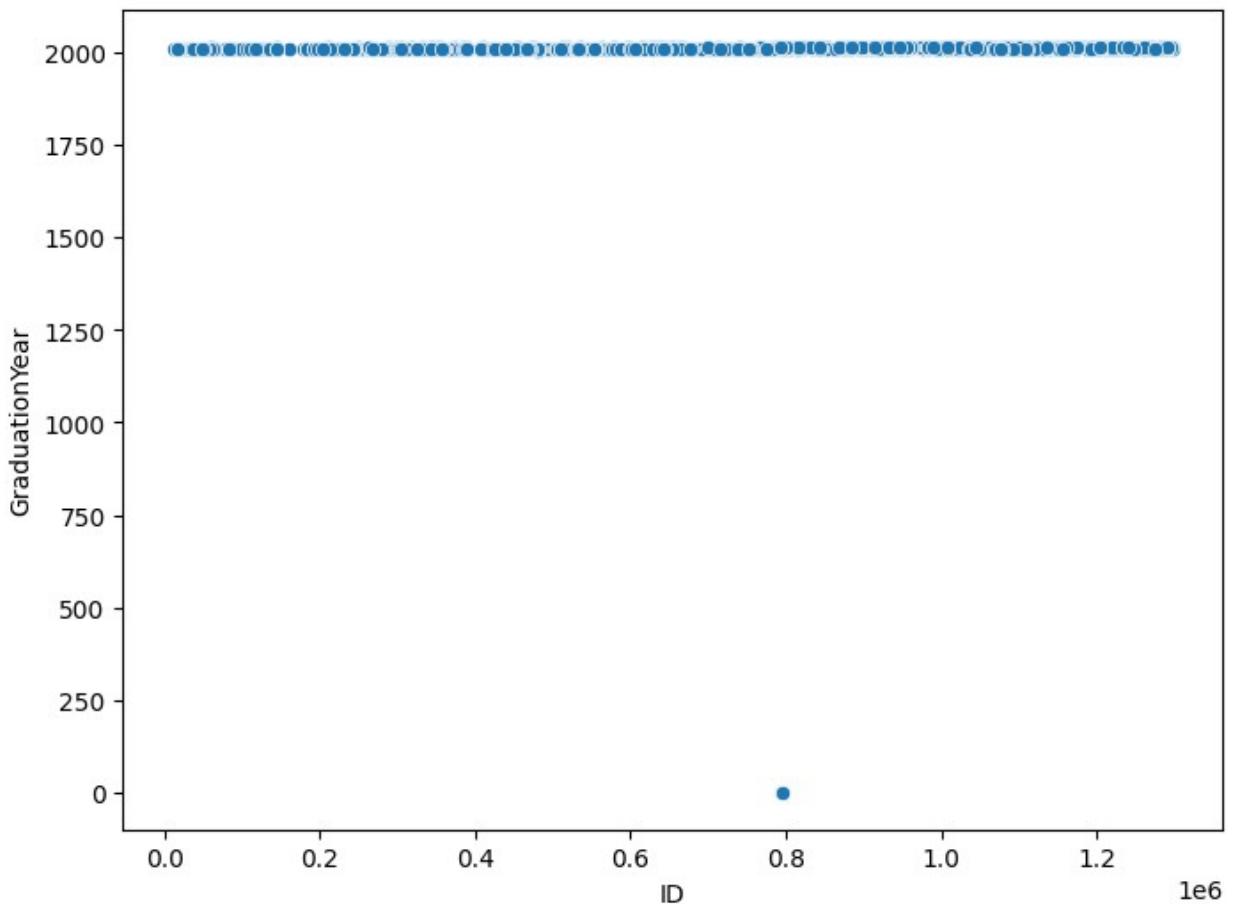
Scatter Plot between ID and CollegeCityID



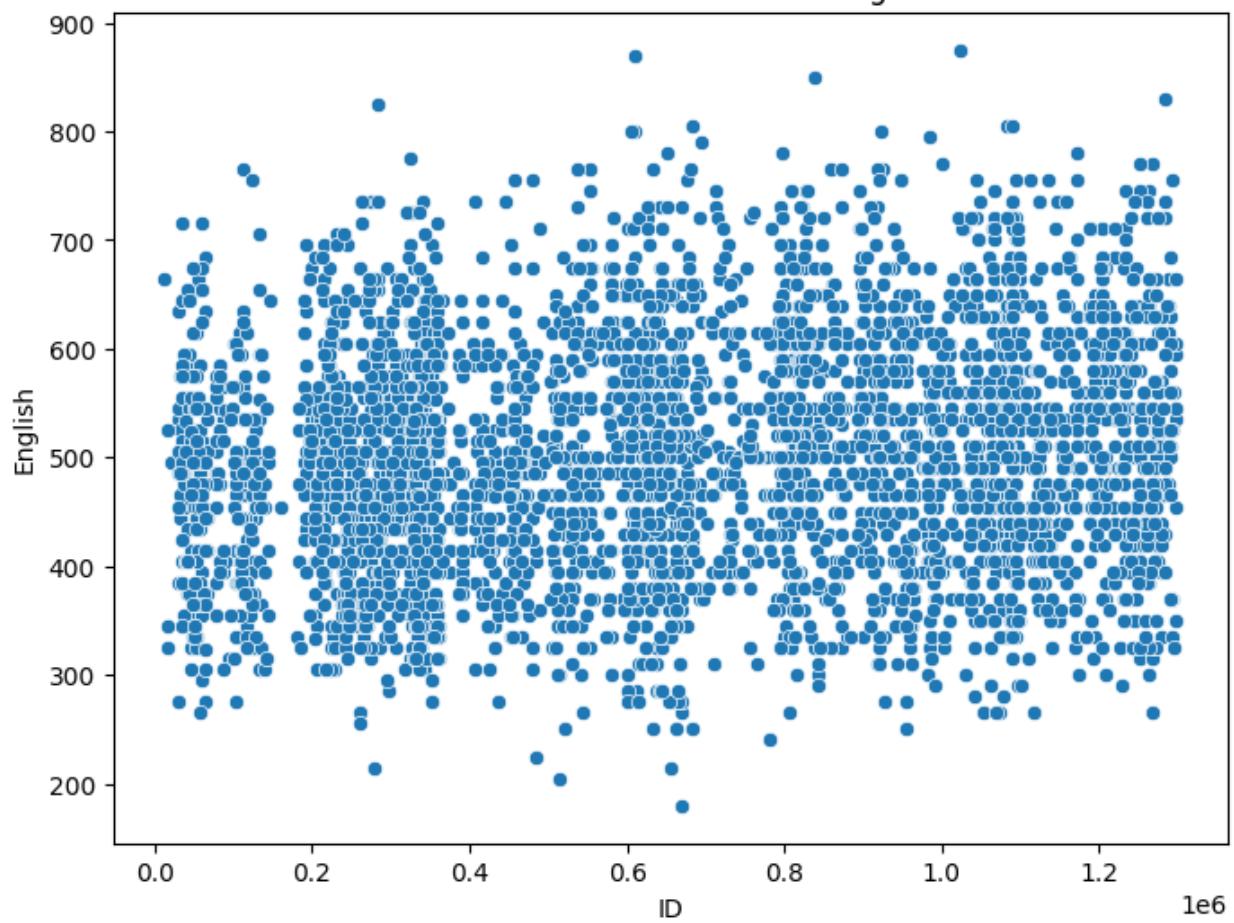
Scatter Plot between ID and CollegeCityTier



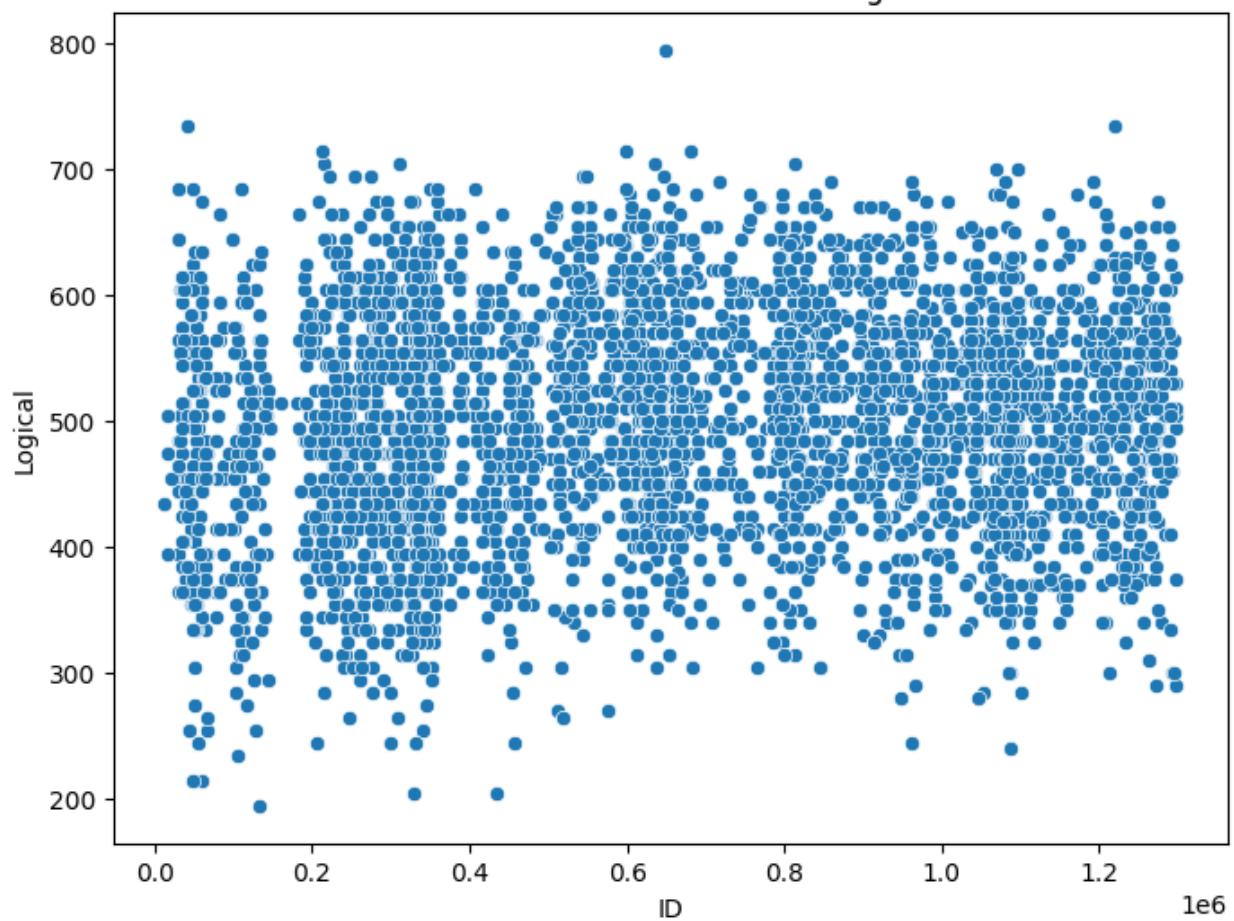
Scatter Plot between ID and GraduationYear



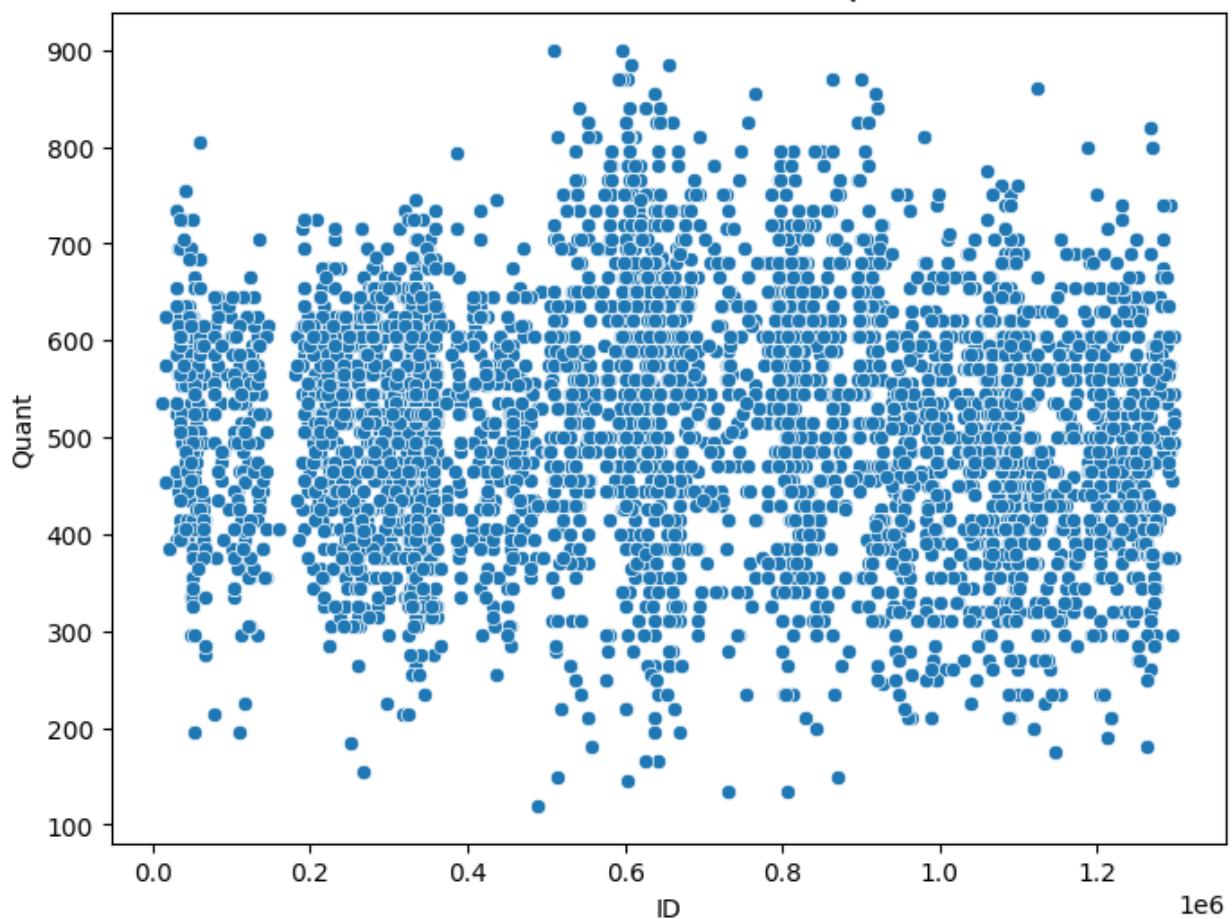
Scatter Plot between ID and English



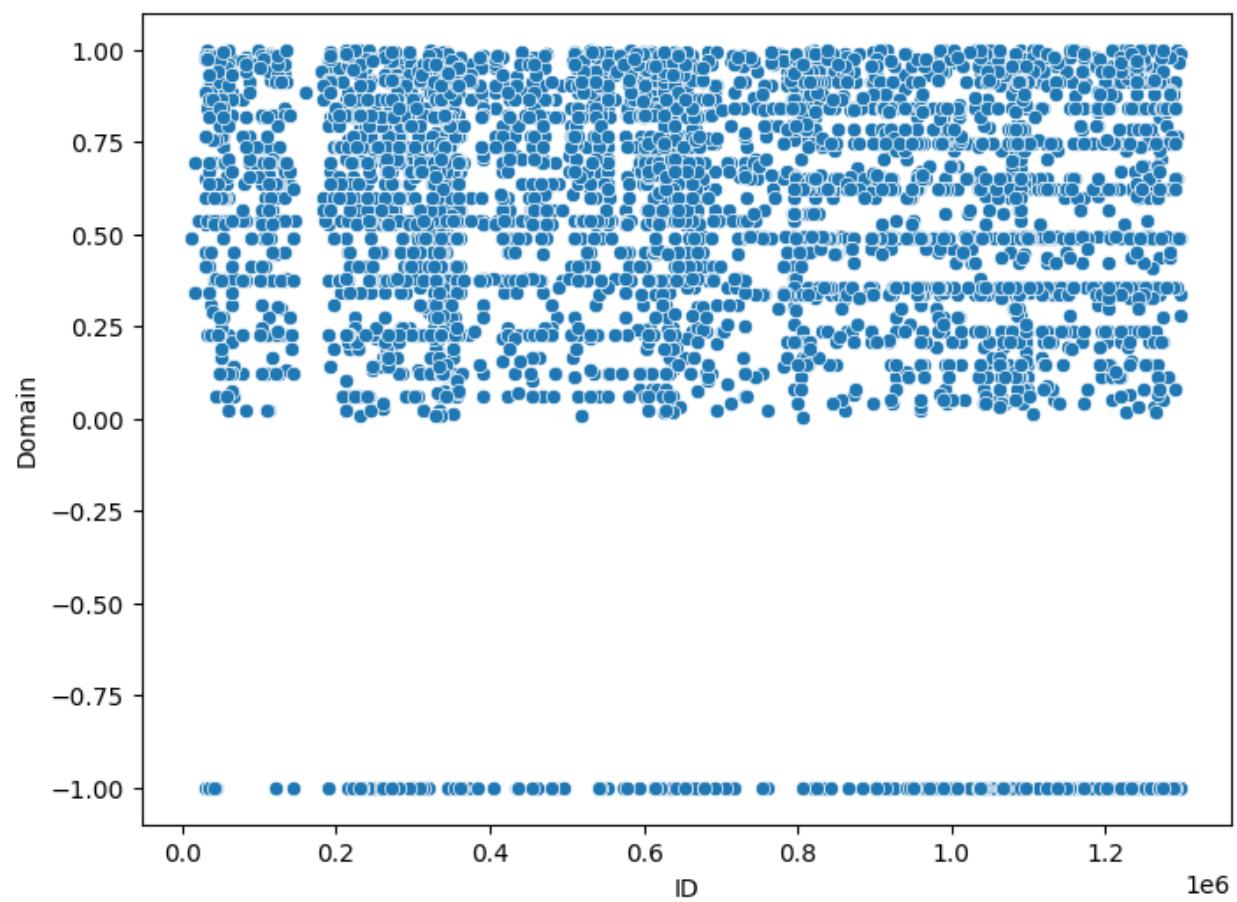
Scatter Plot between ID and Logical

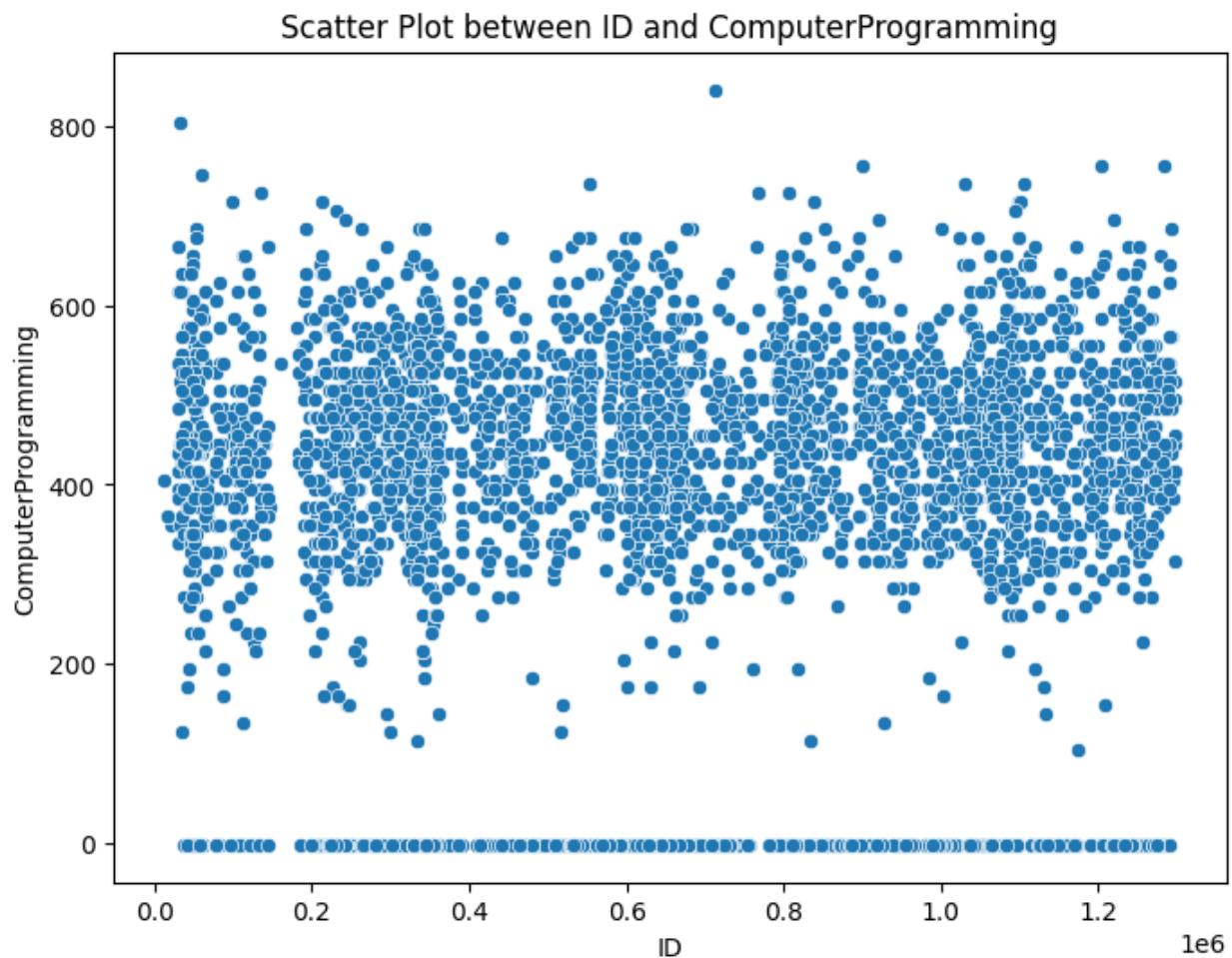


Scatter Plot between ID and Quant

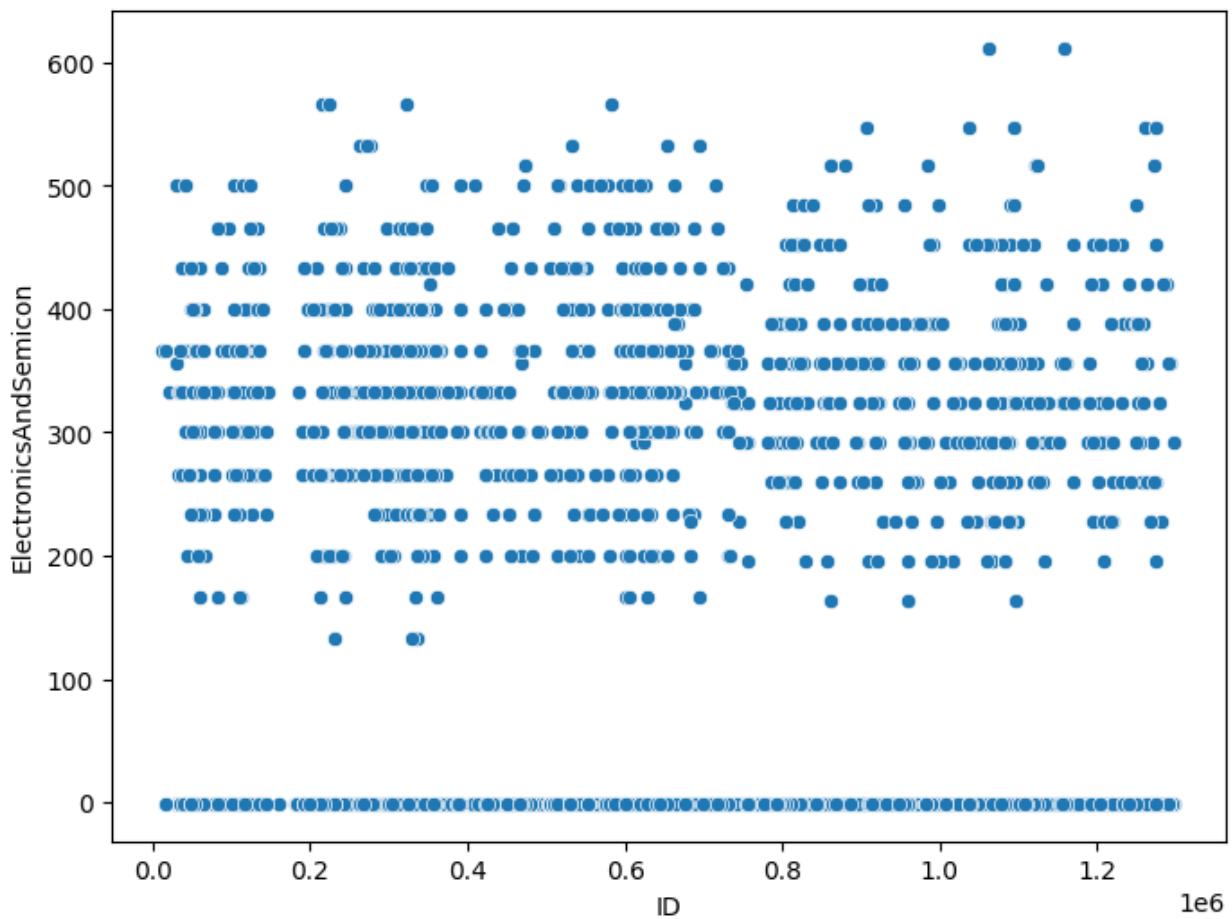


Scatter Plot between ID and Domain

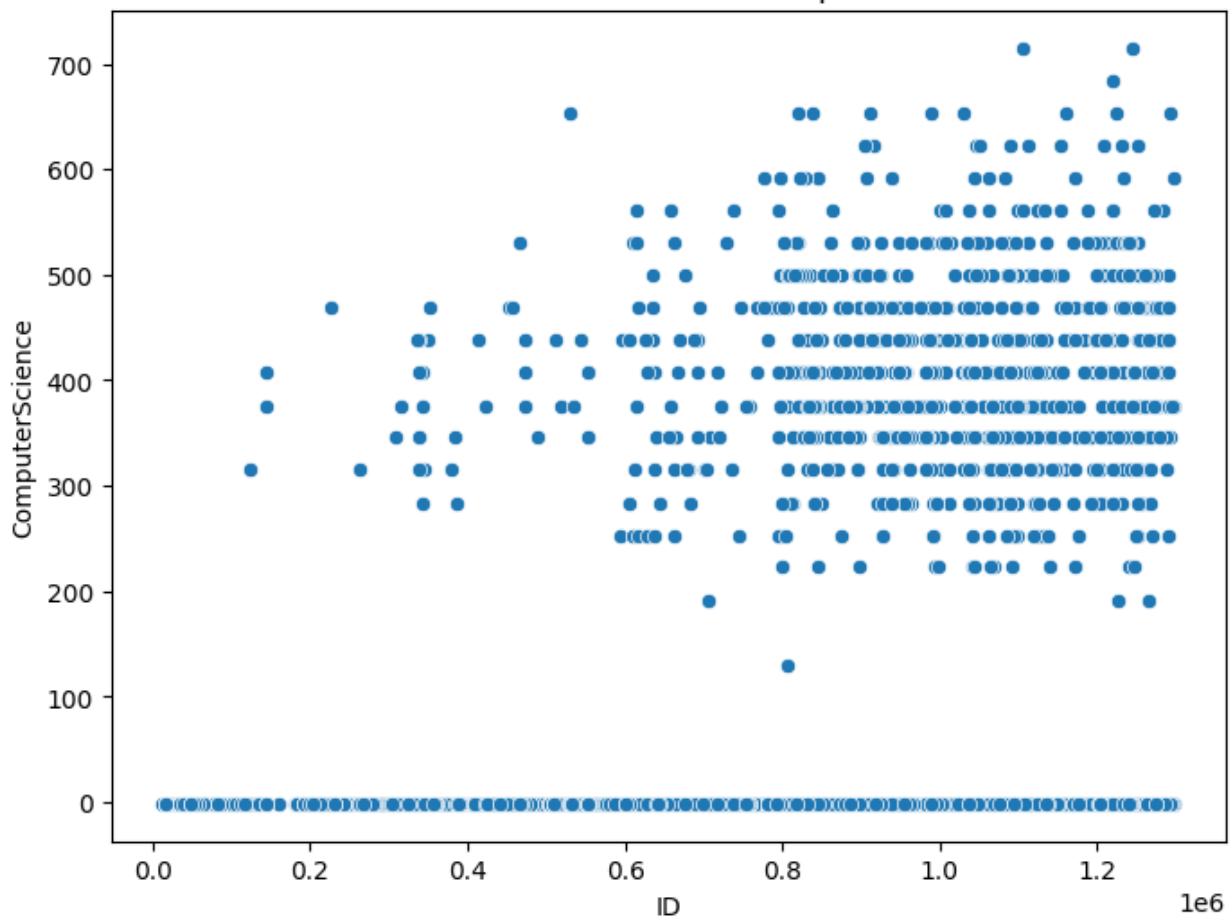




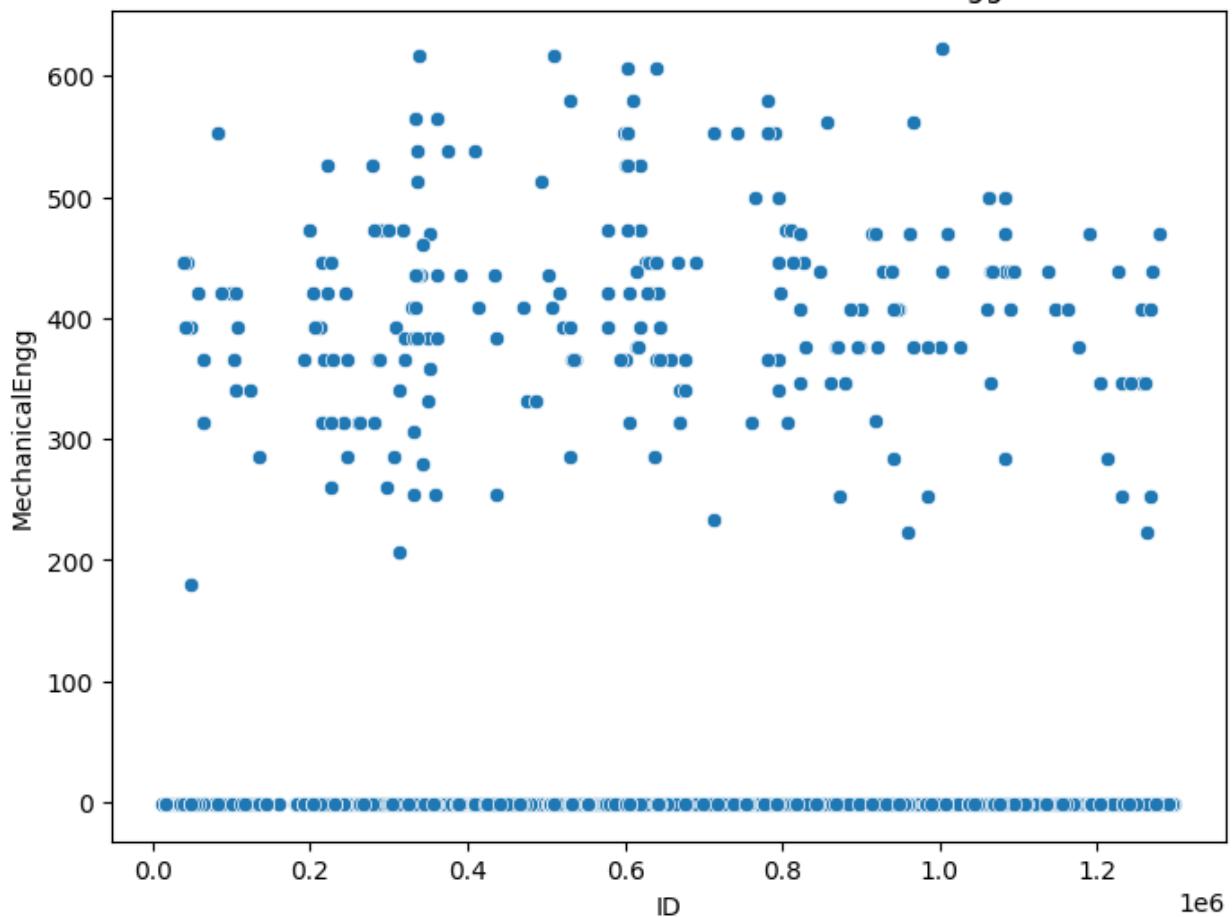
Scatter Plot between ID and ElectronicsAndSemicon



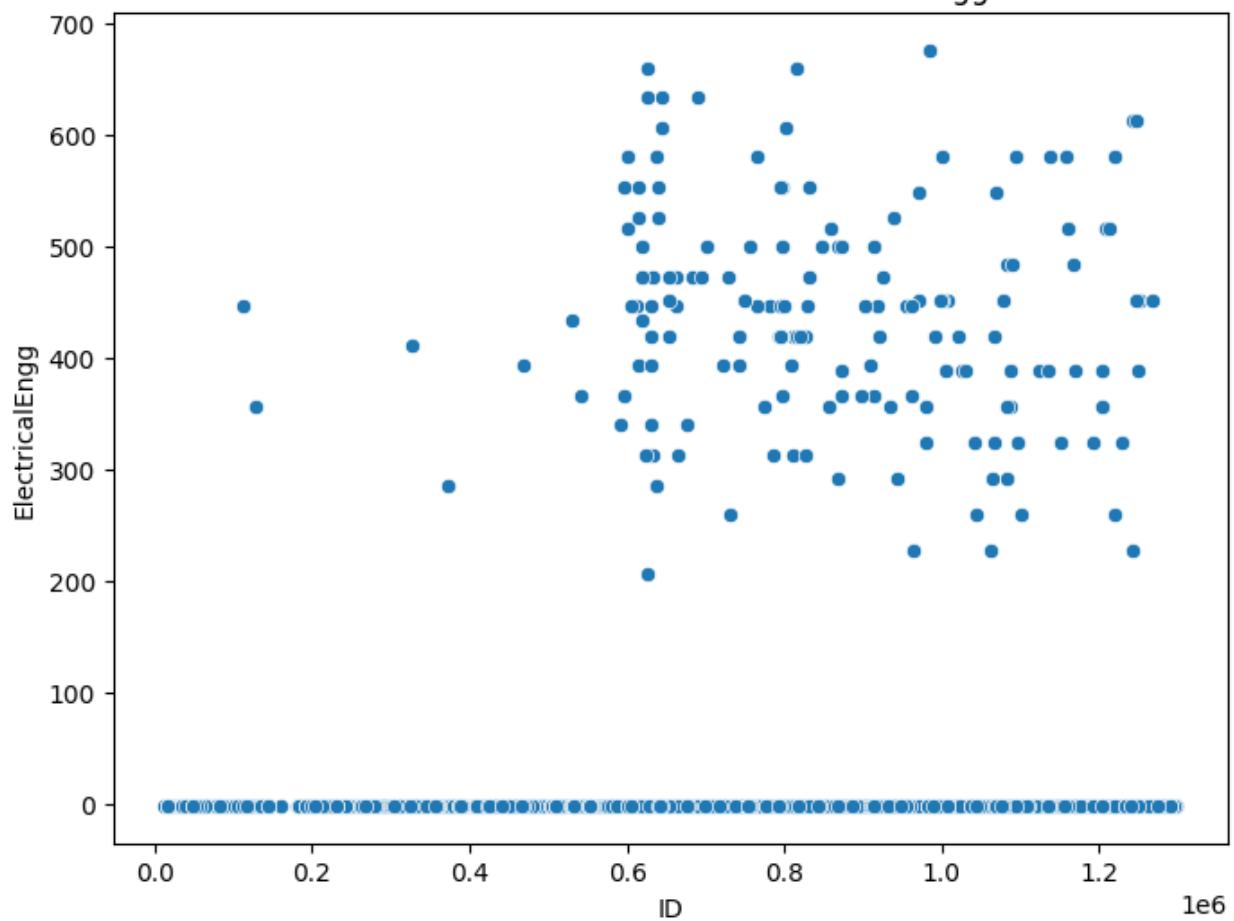
Scatter Plot between ID and ComputerScience



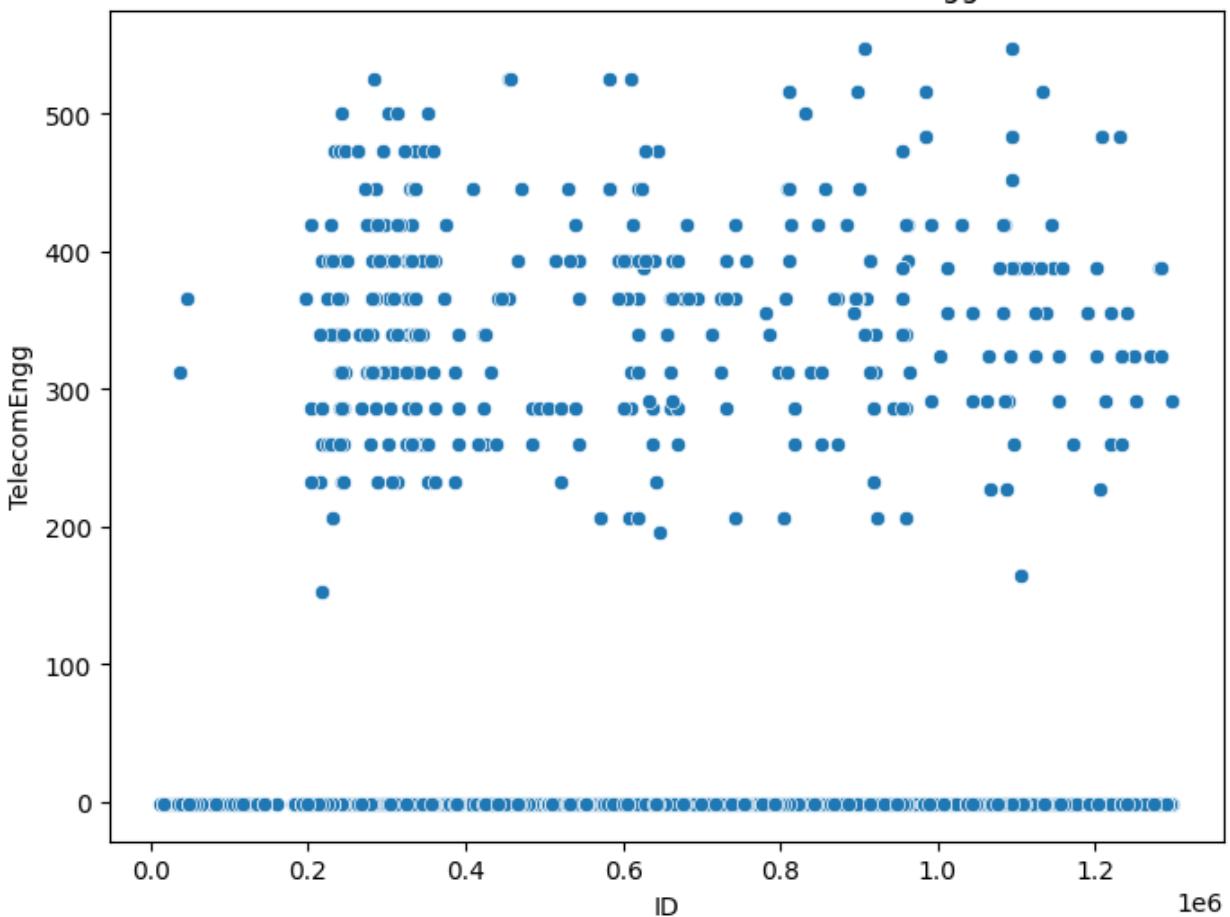
Scatter Plot between ID and MechanicalEngg



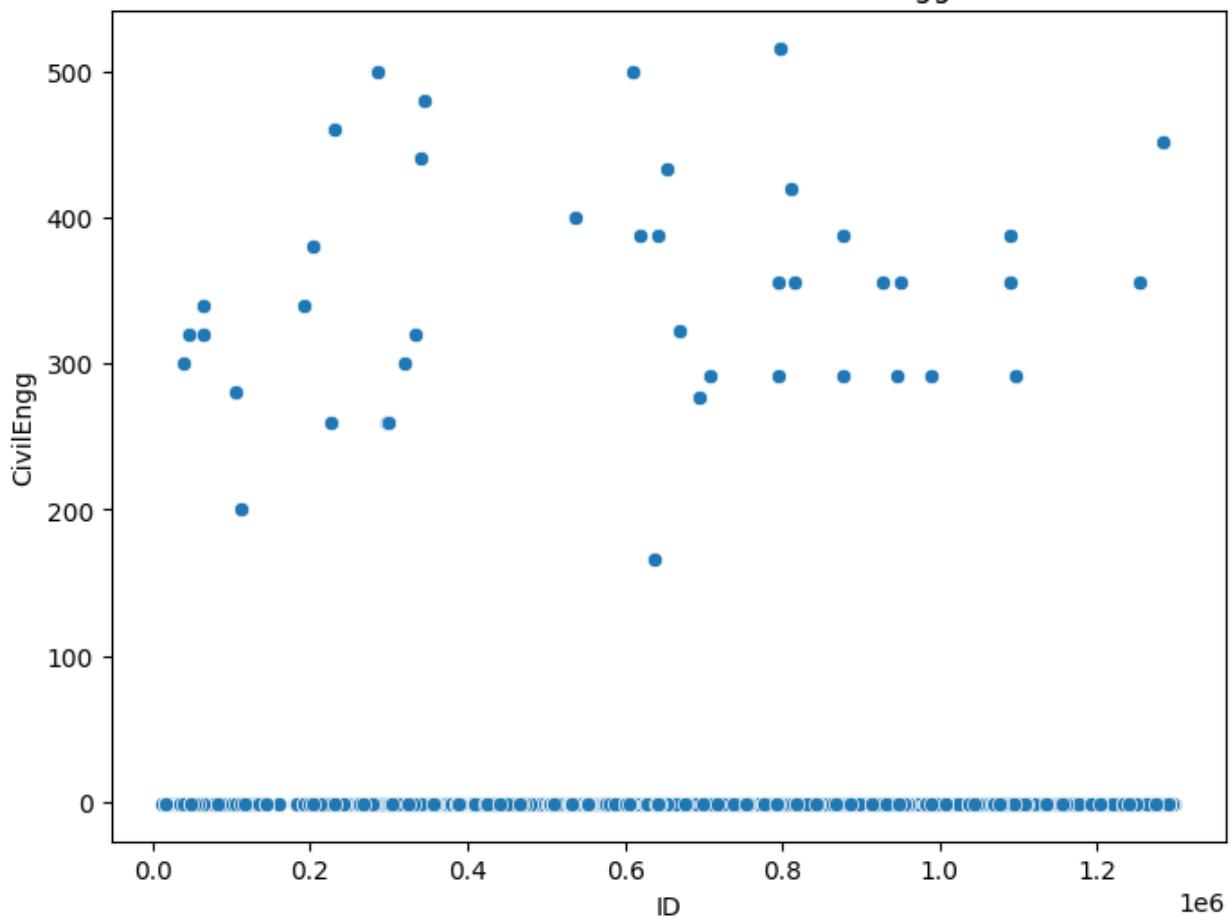
Scatter Plot between ID and ElectricalEngg



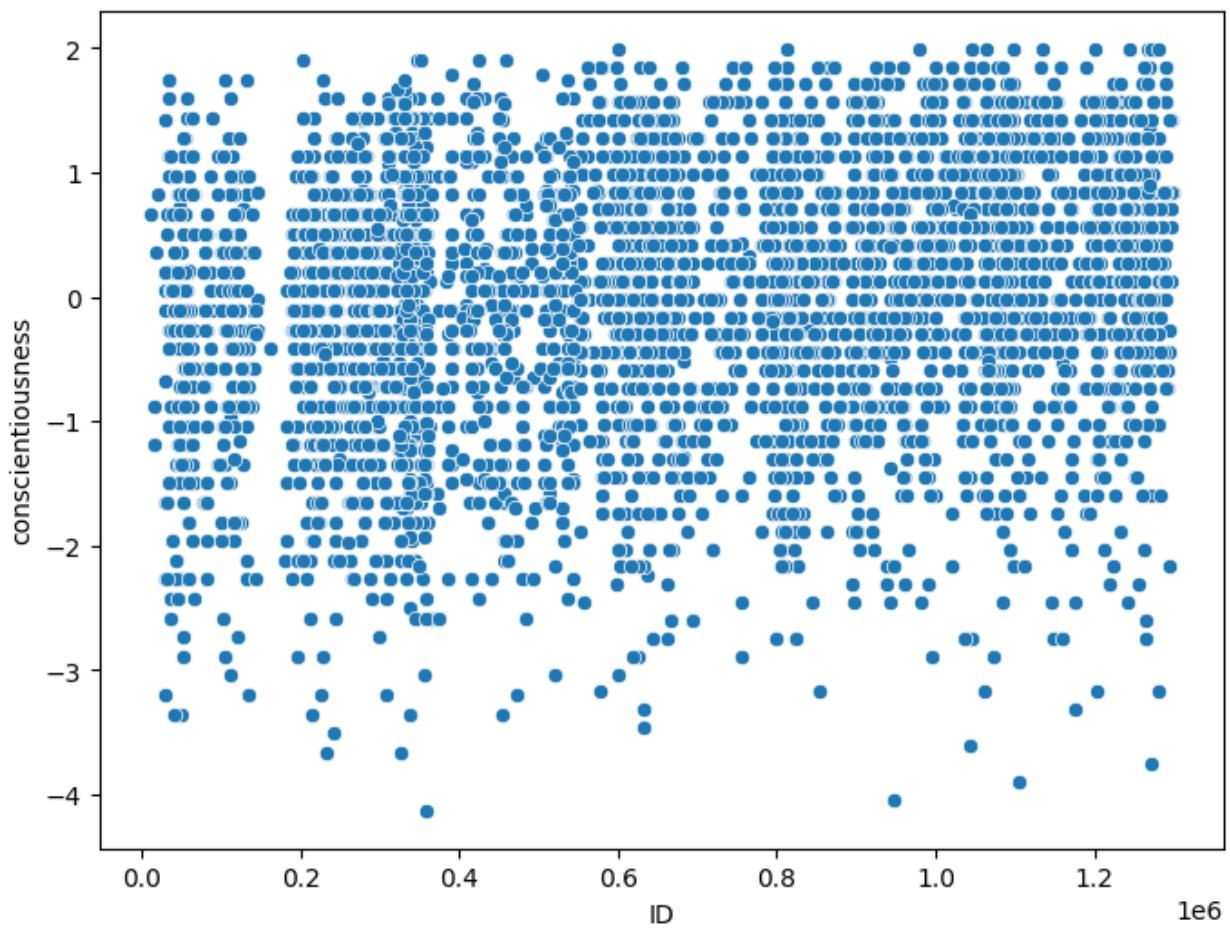
Scatter Plot between ID and TelecomEngg



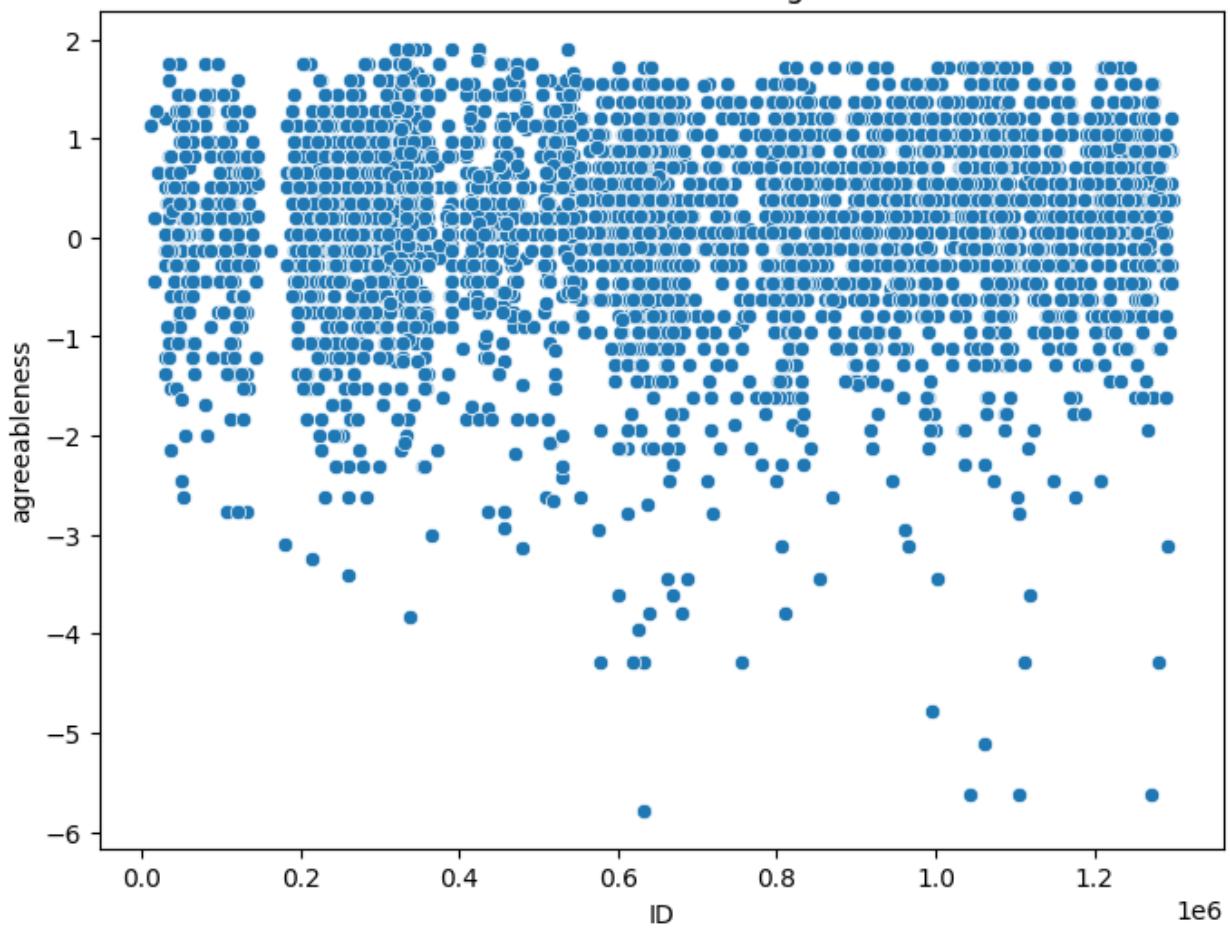
Scatter Plot between ID and CivilEngg



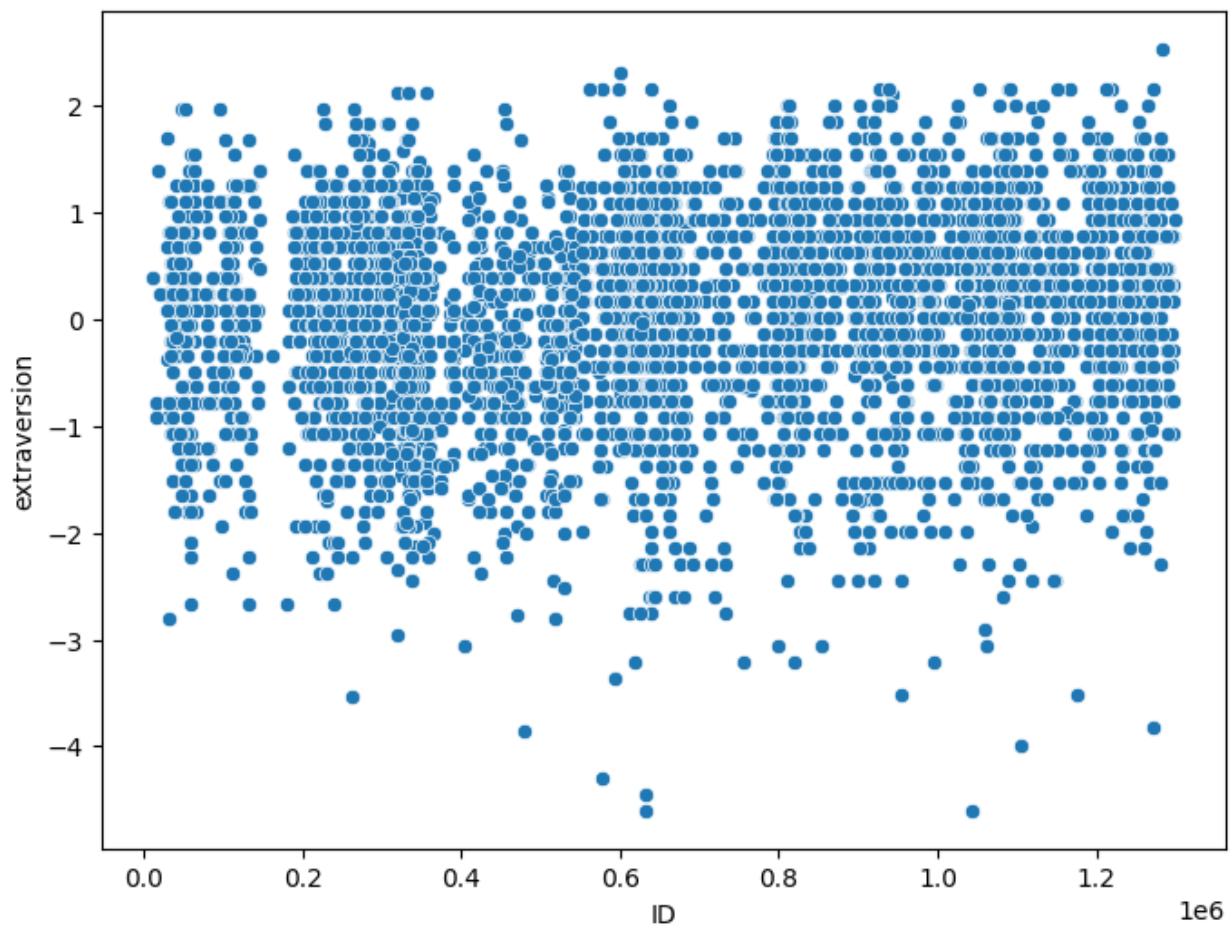
Scatter Plot between ID and conscientiousness



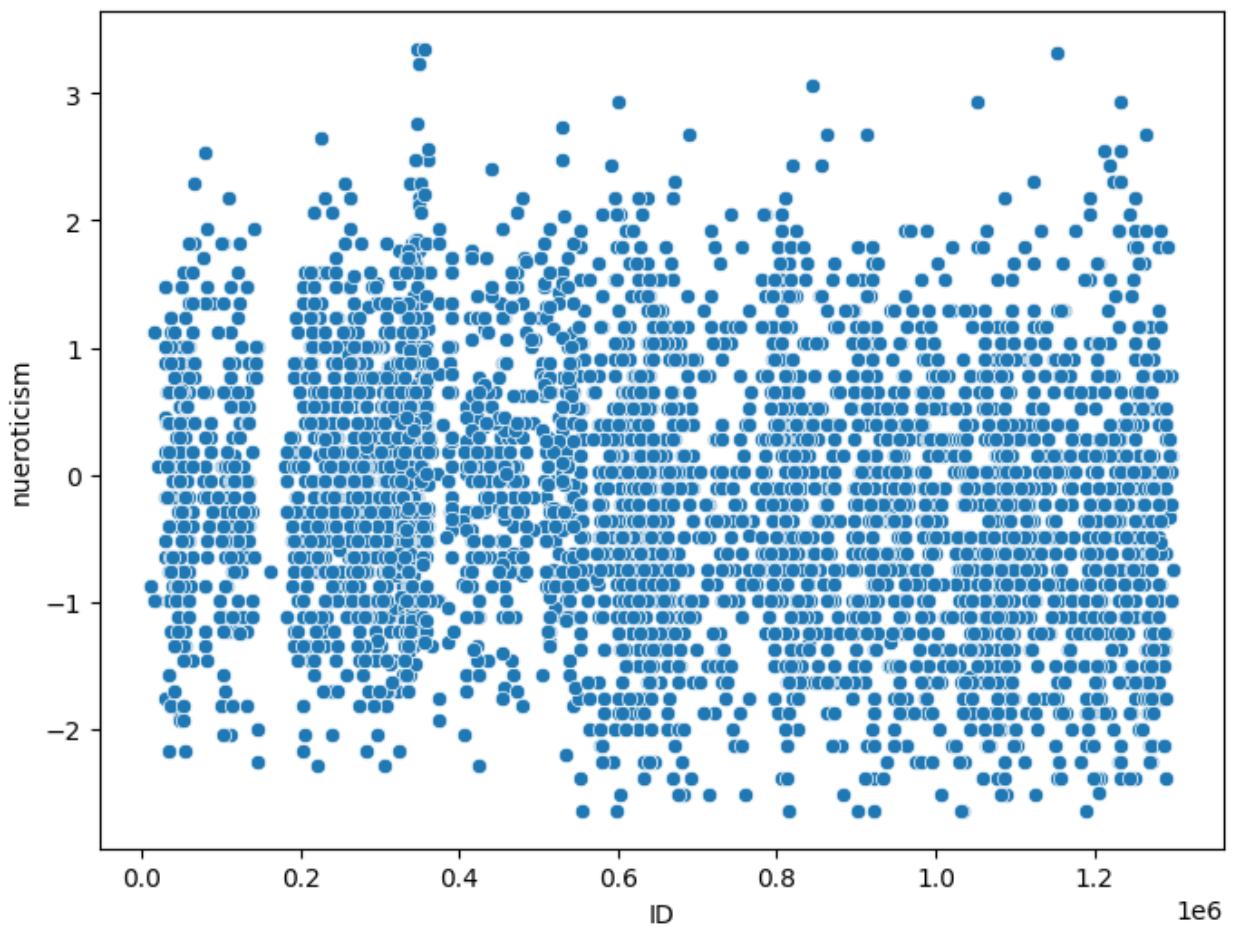
Scatter Plot between ID and agreeableness



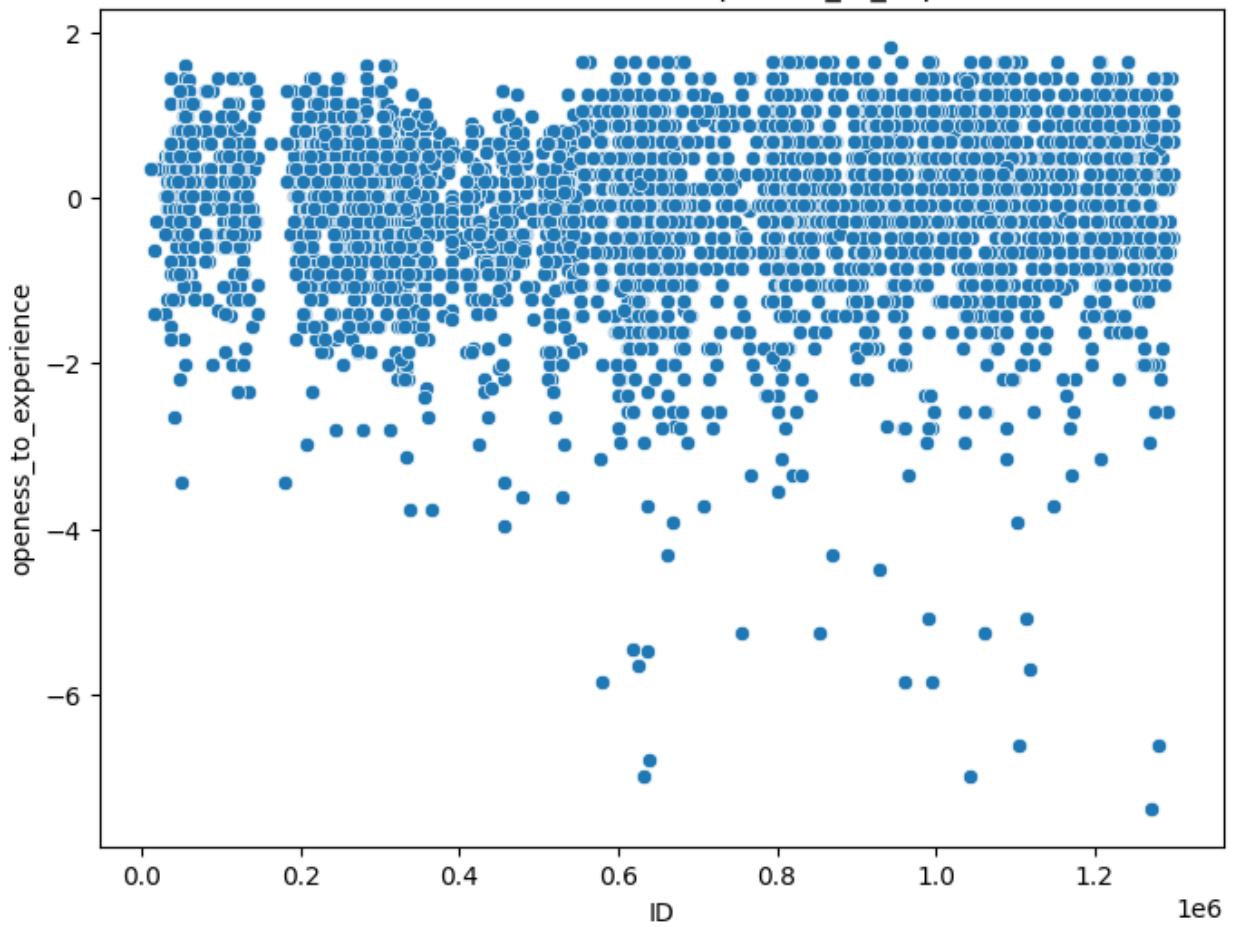
Scatter Plot between ID and extraversion



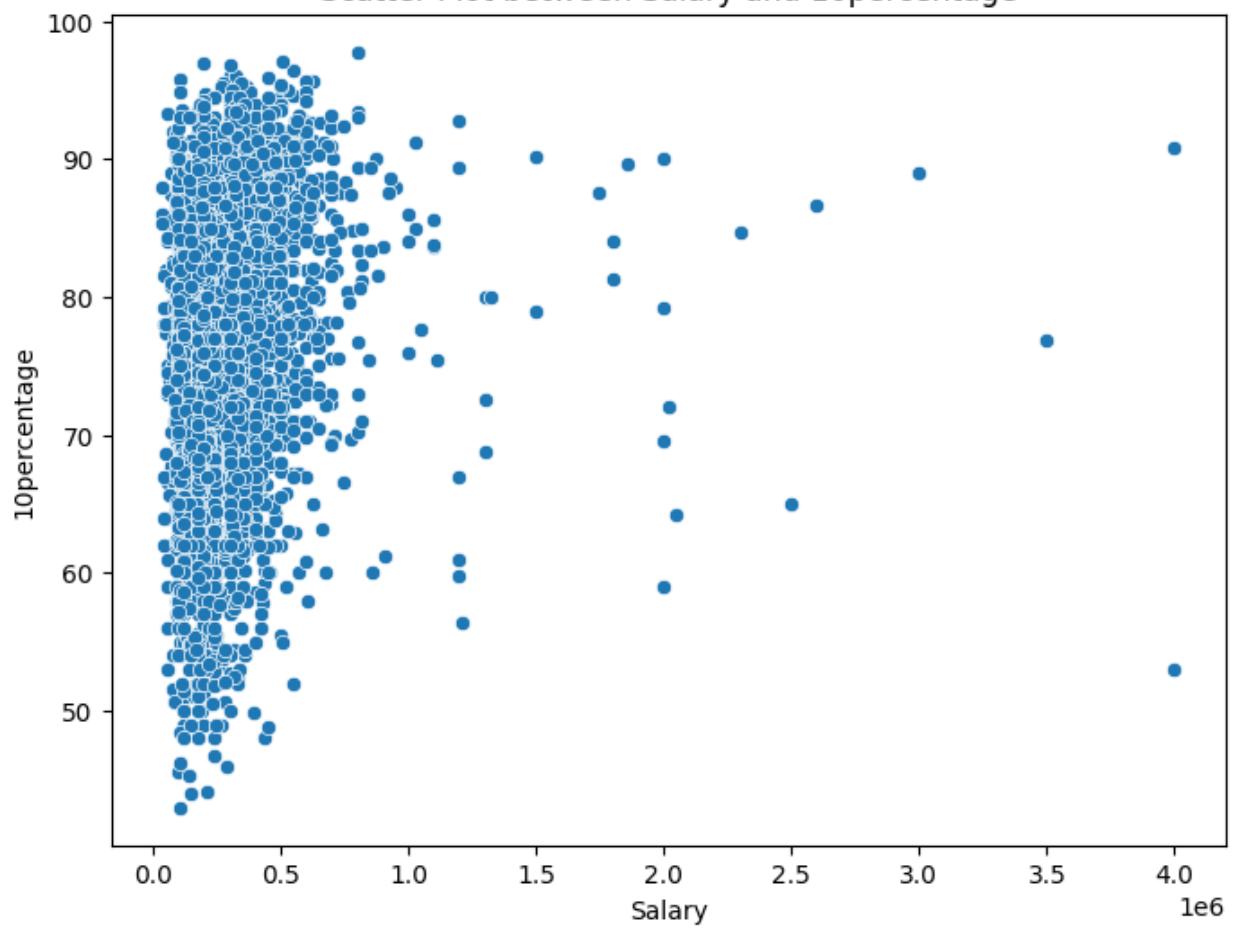
Scatter Plot between ID and nueroticism



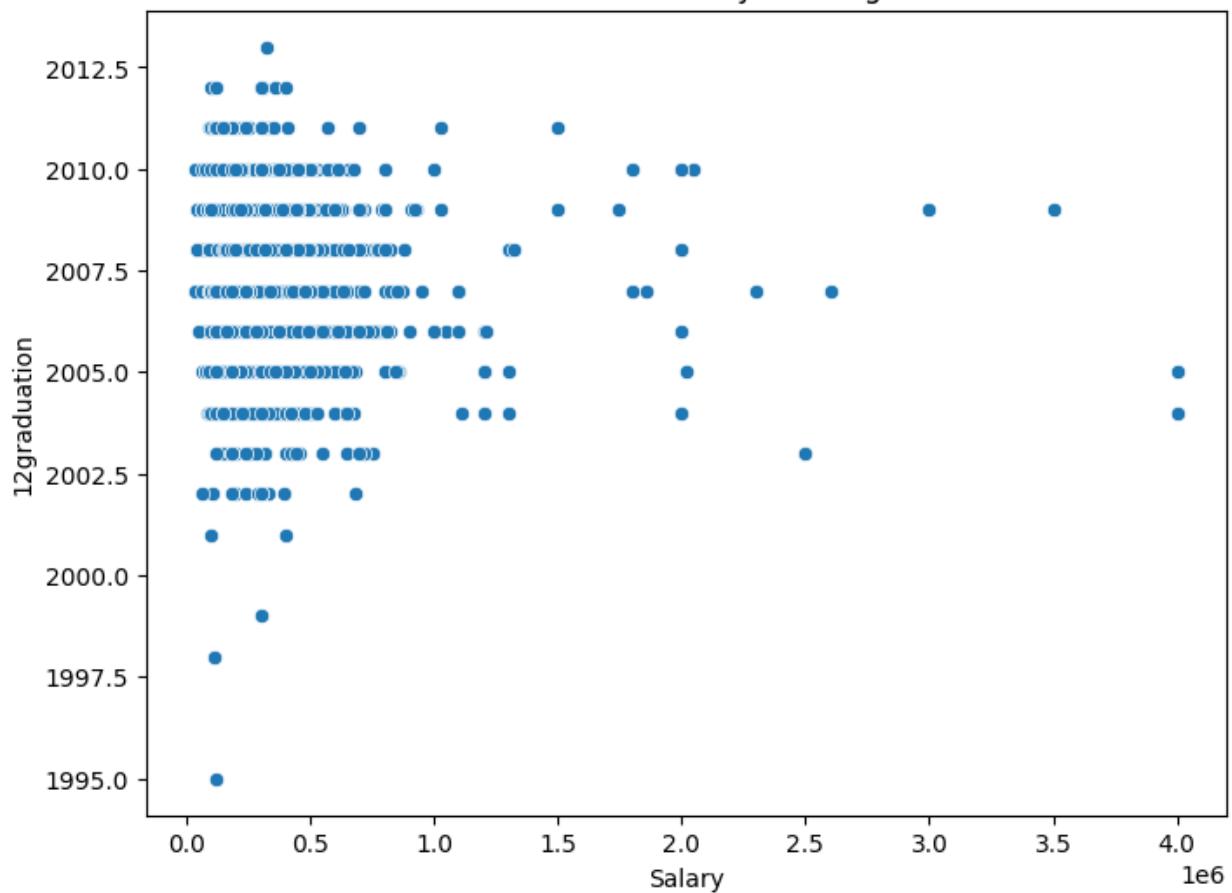
Scatter Plot between ID and openness_to_experience



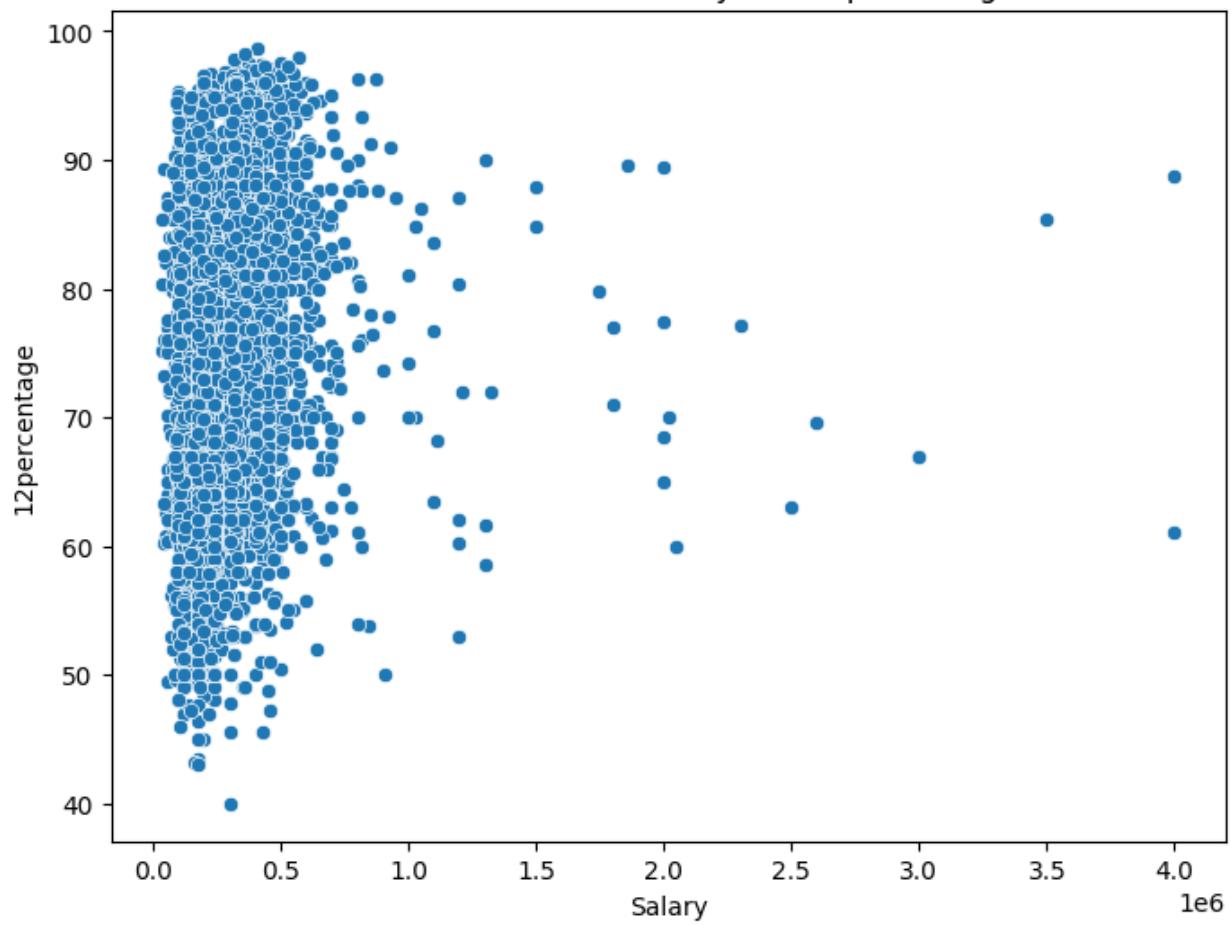
Scatter Plot between Salary and 10percentage



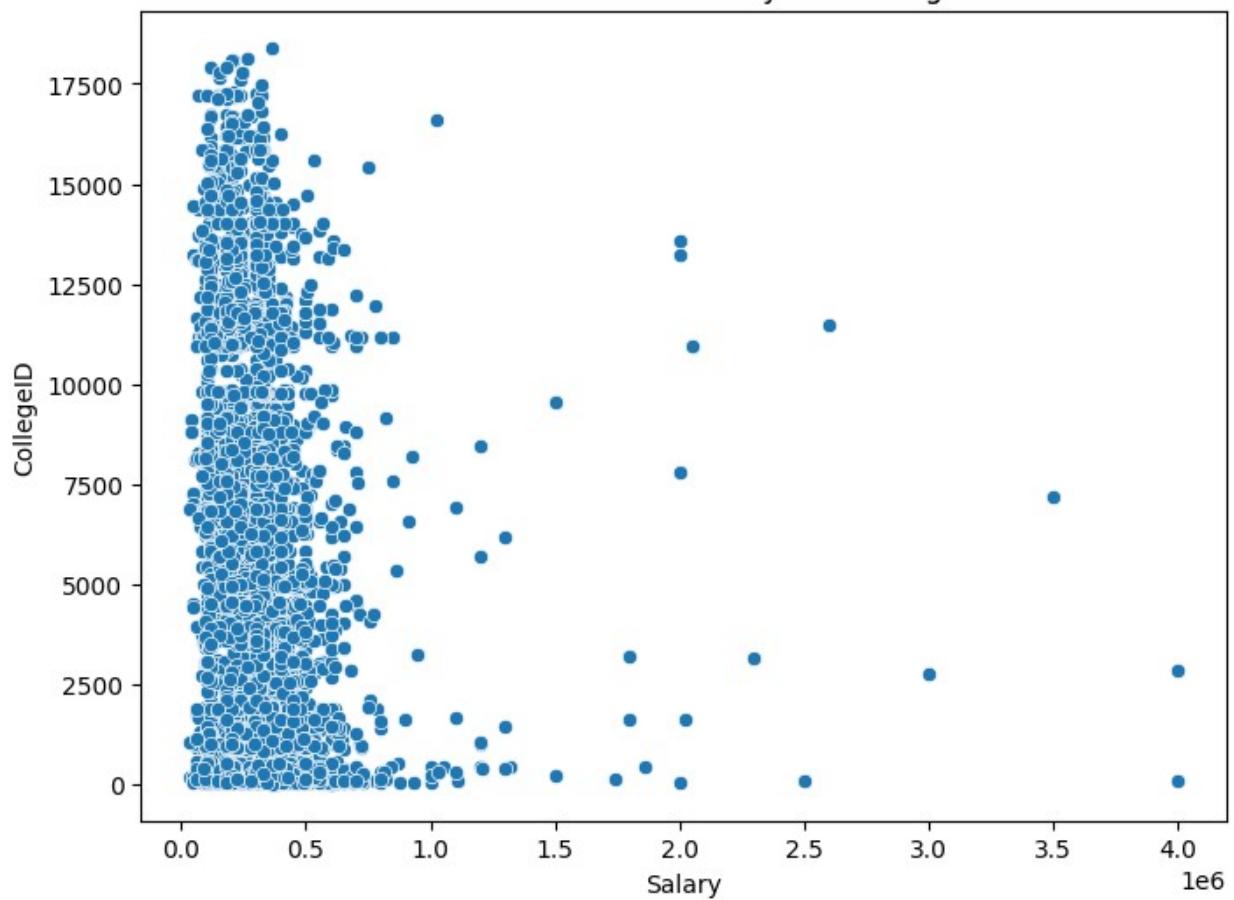
Scatter Plot between Salary and 12graduation



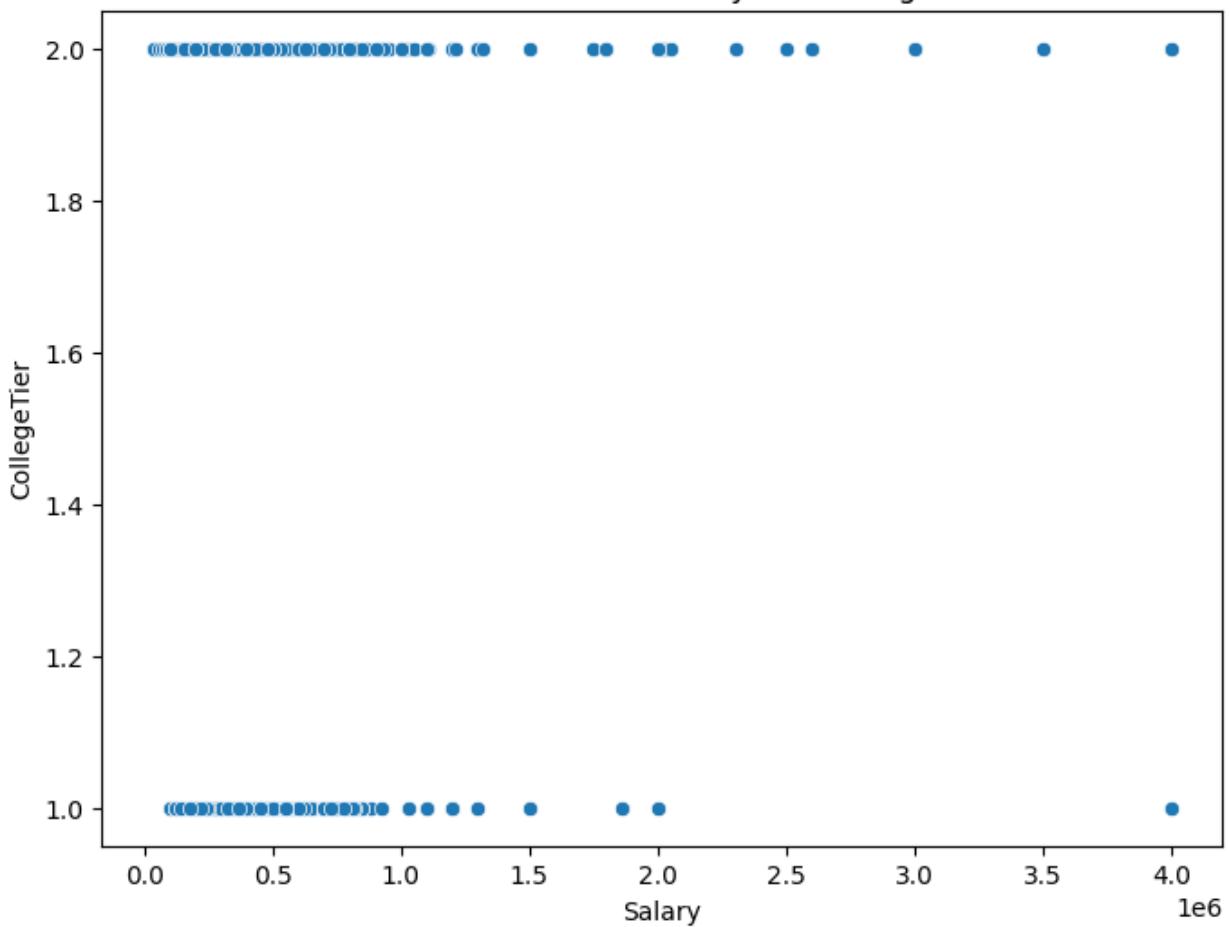
Scatter Plot between Salary and 12percentage



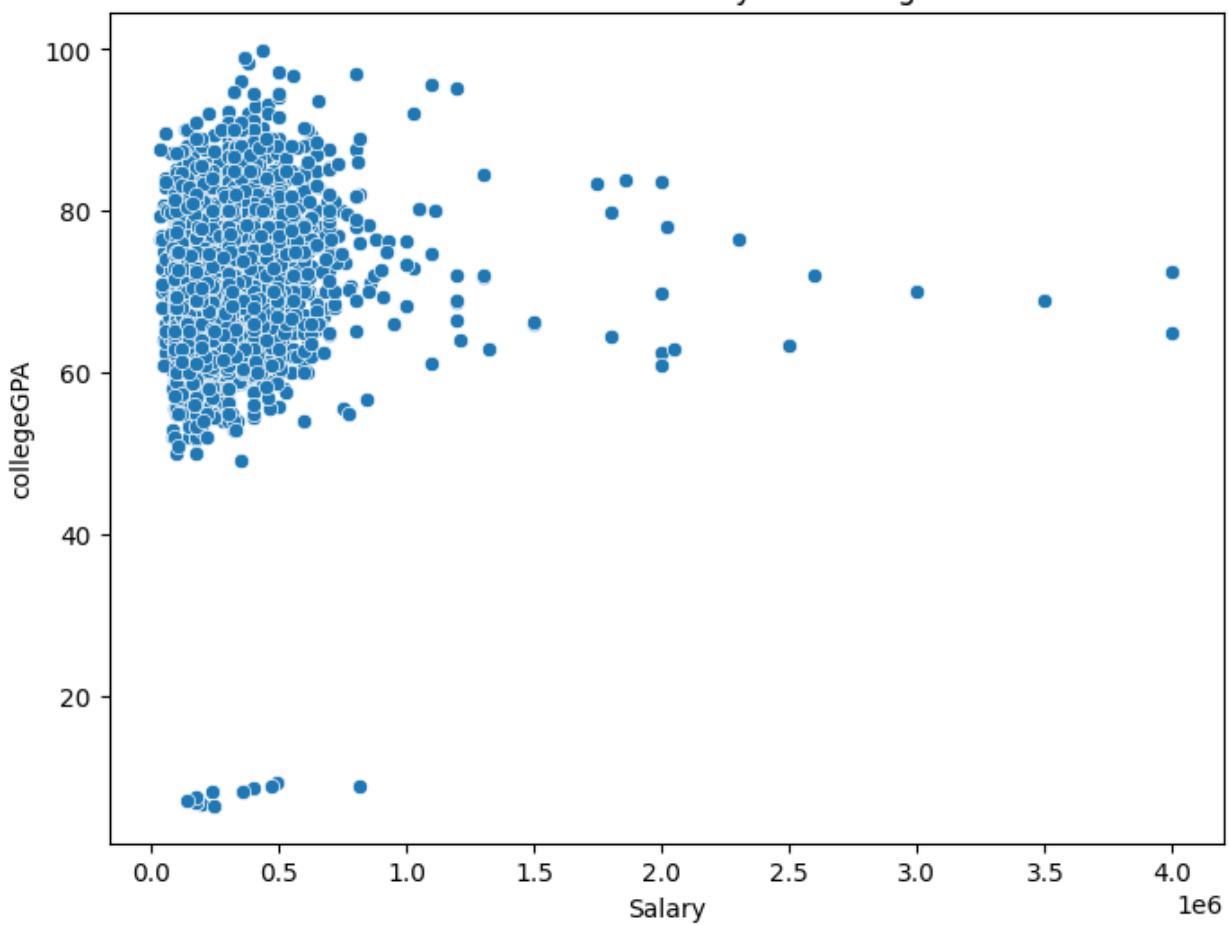
Scatter Plot between Salary and CollegelD



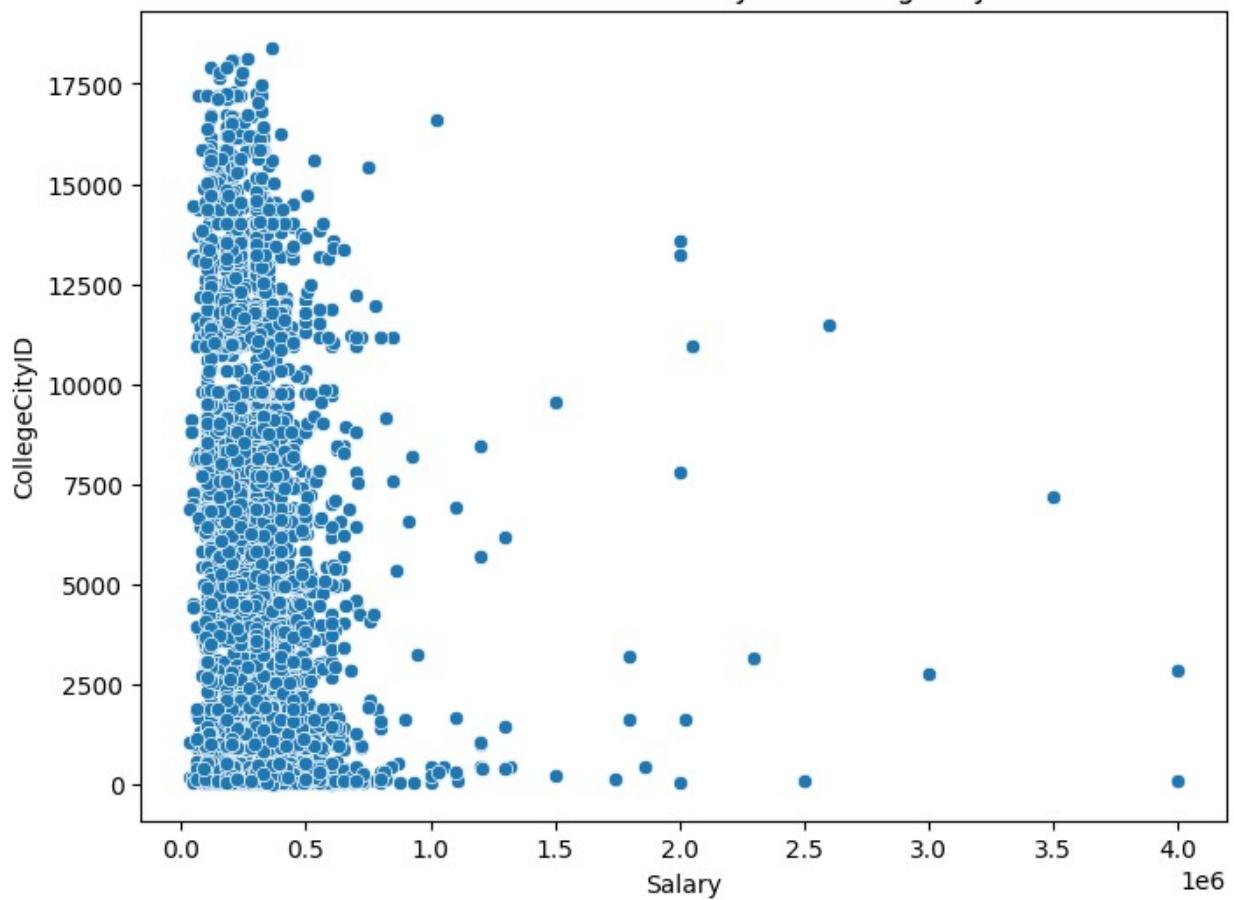
Scatter Plot between Salary and CollegeTier



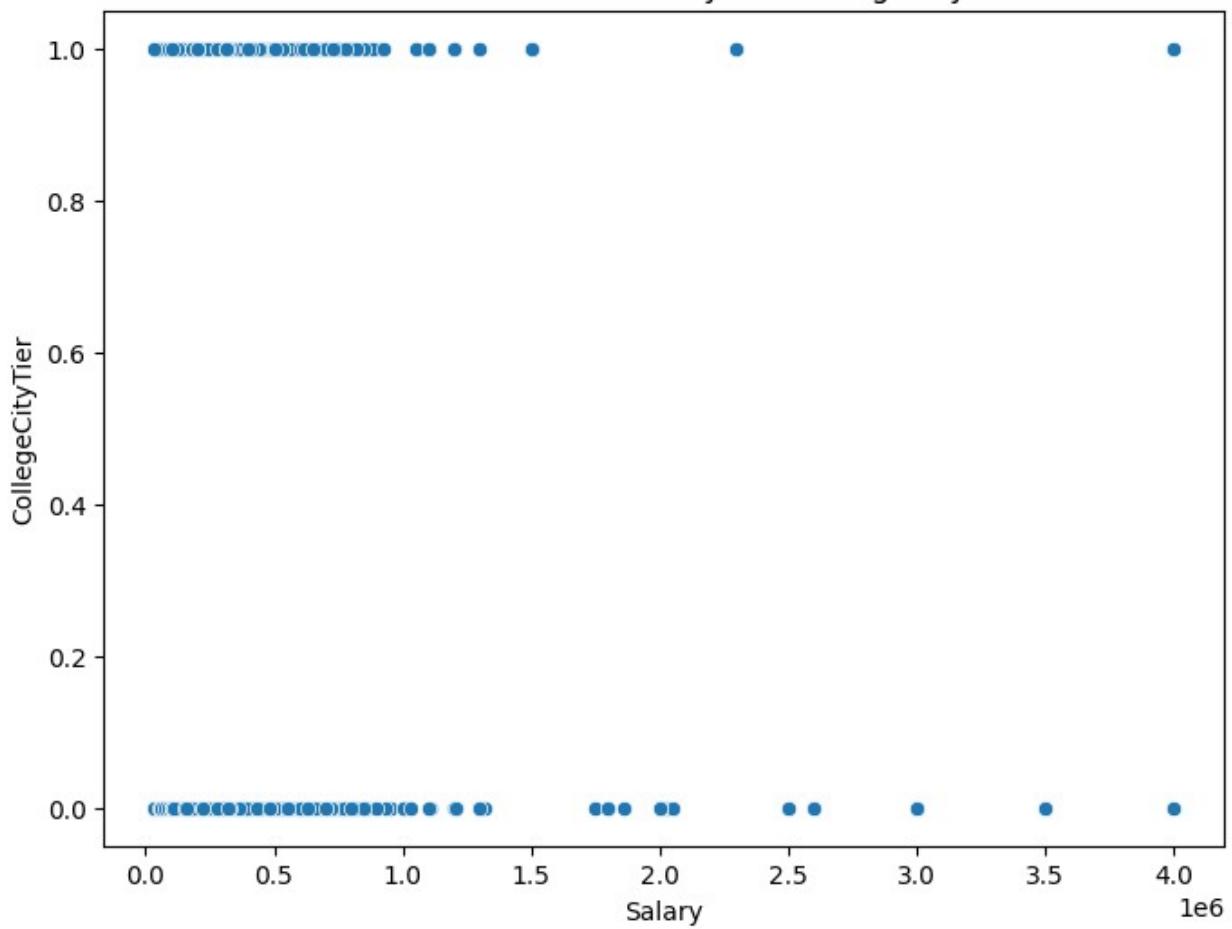
Scatter Plot between Salary and collegeGPA



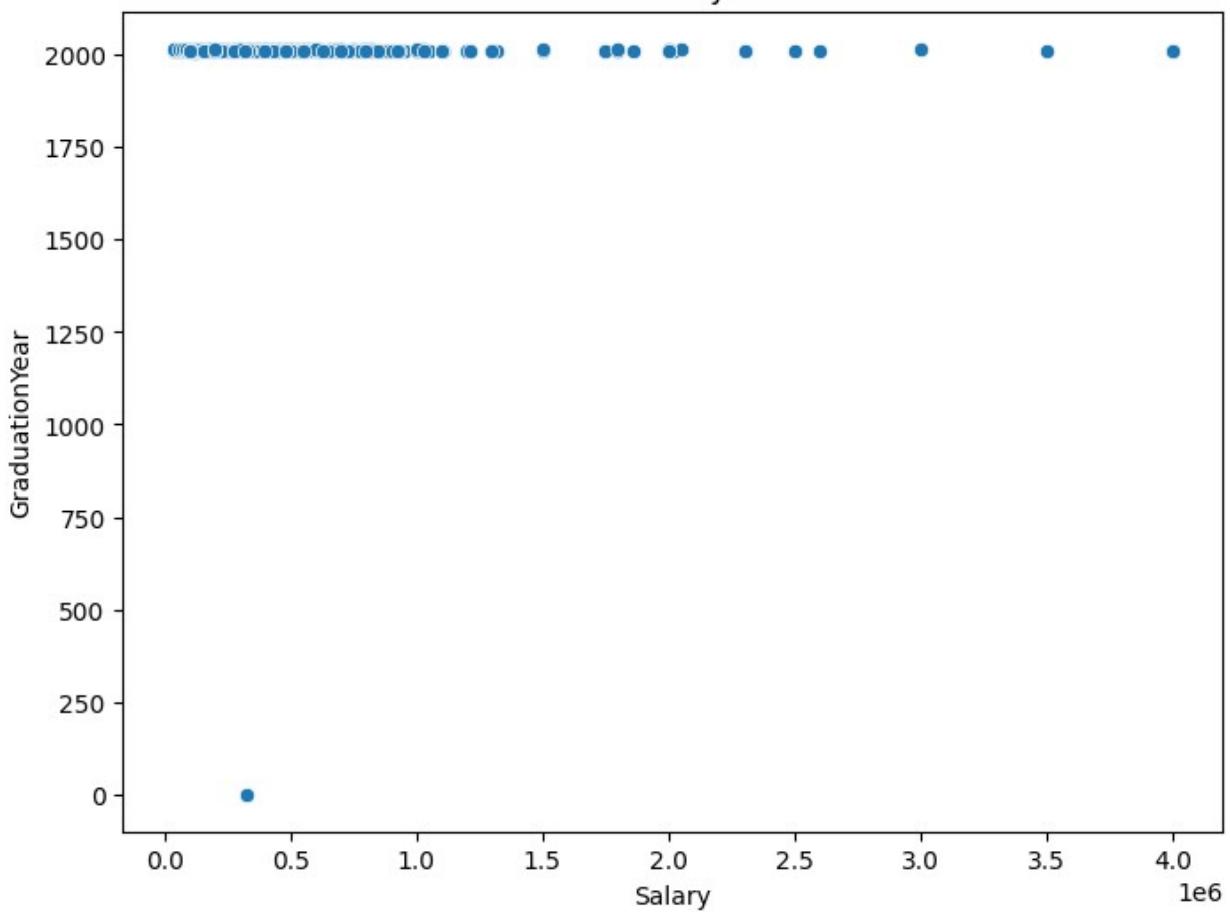
Scatter Plot between Salary and CollegeCityID



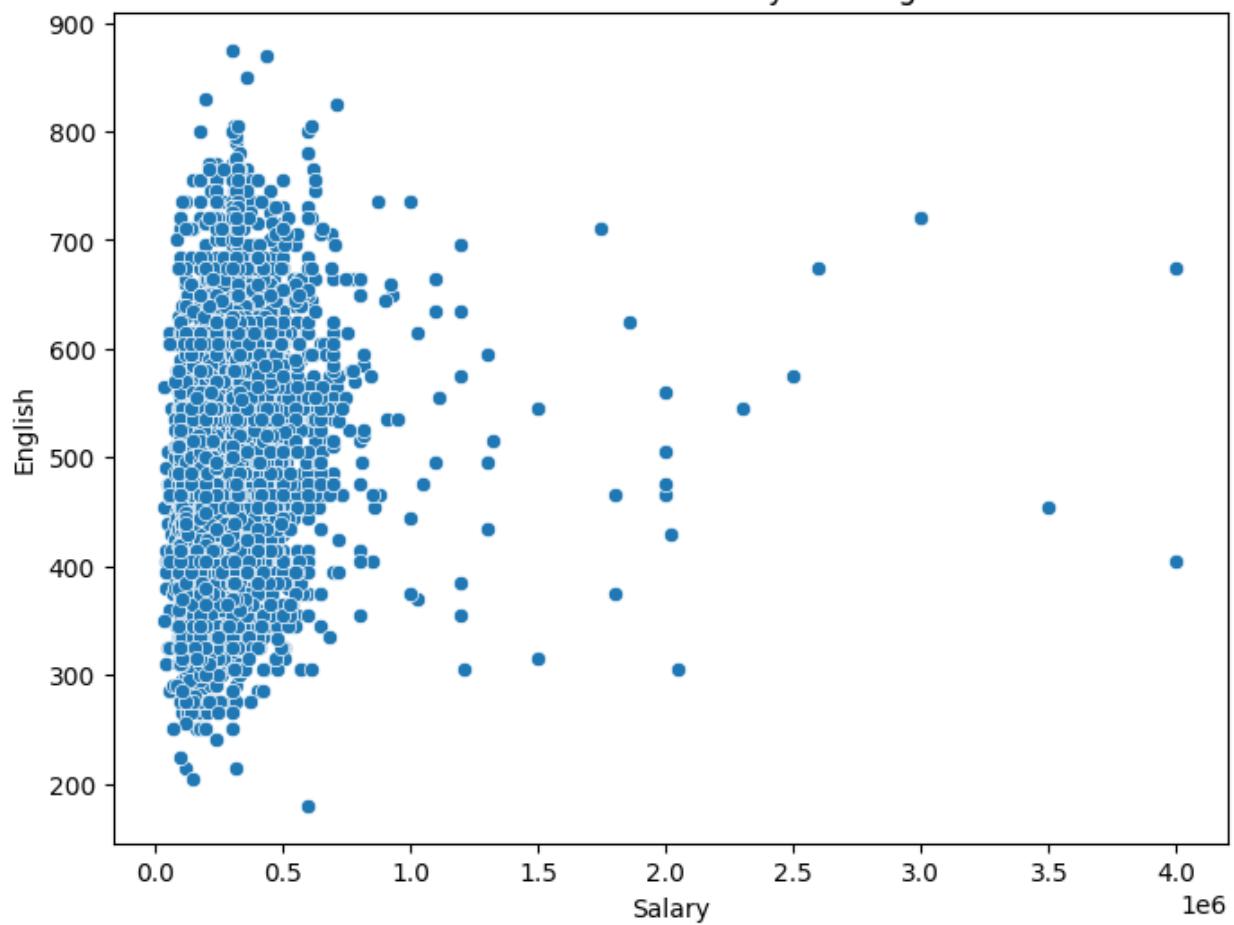
Scatter Plot between Salary and CollegeCityTier



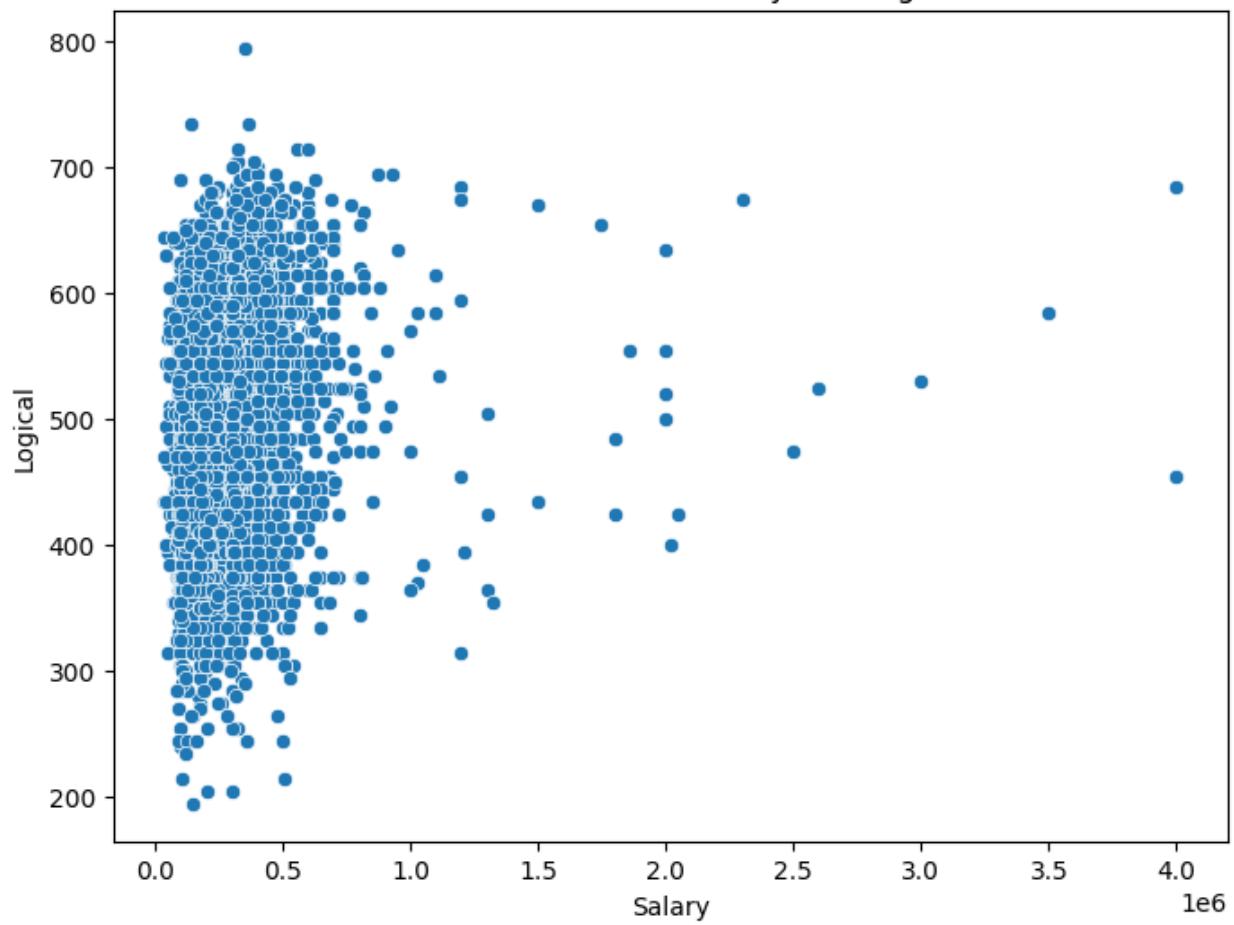
Scatter Plot between Salary and GraduationYear



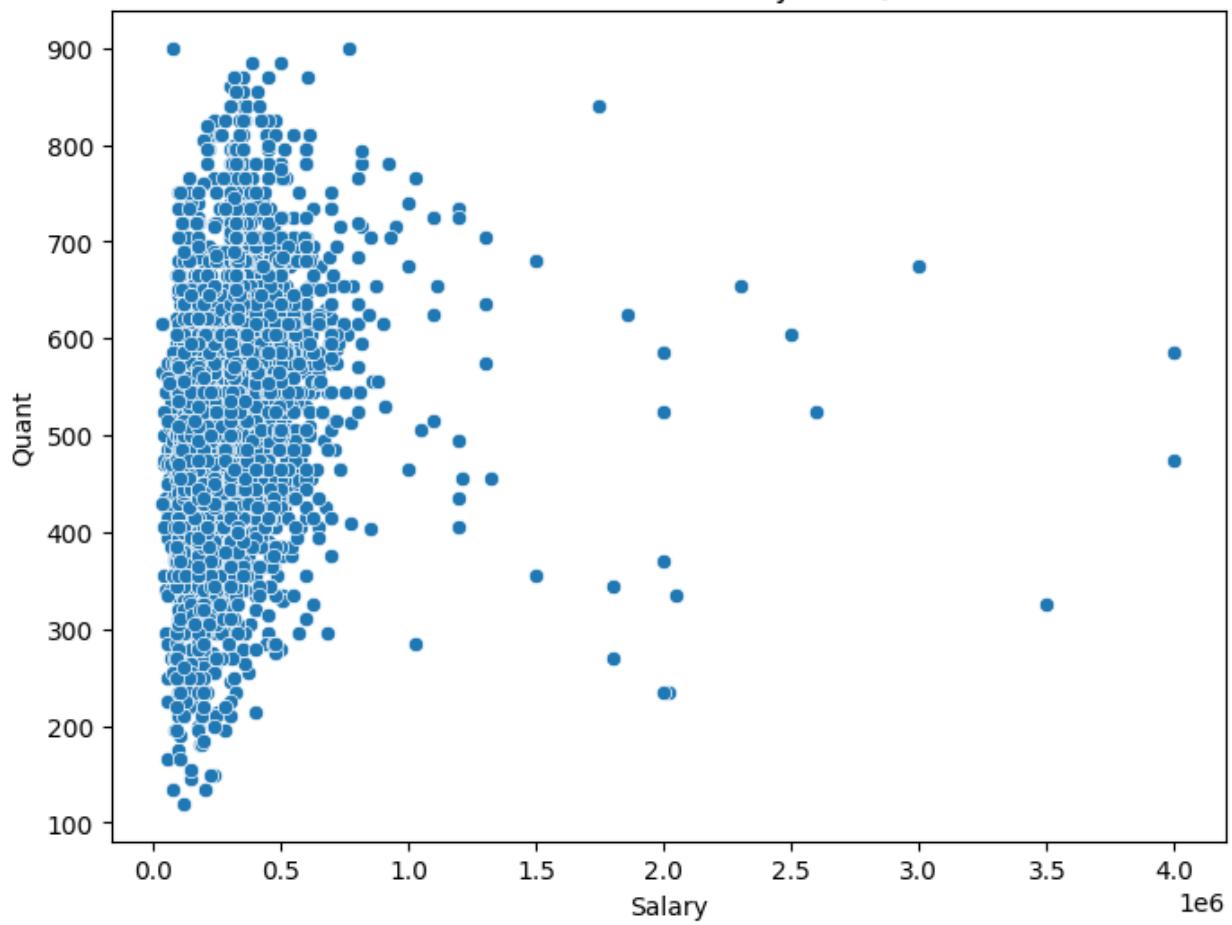
Scatter Plot between Salary and English



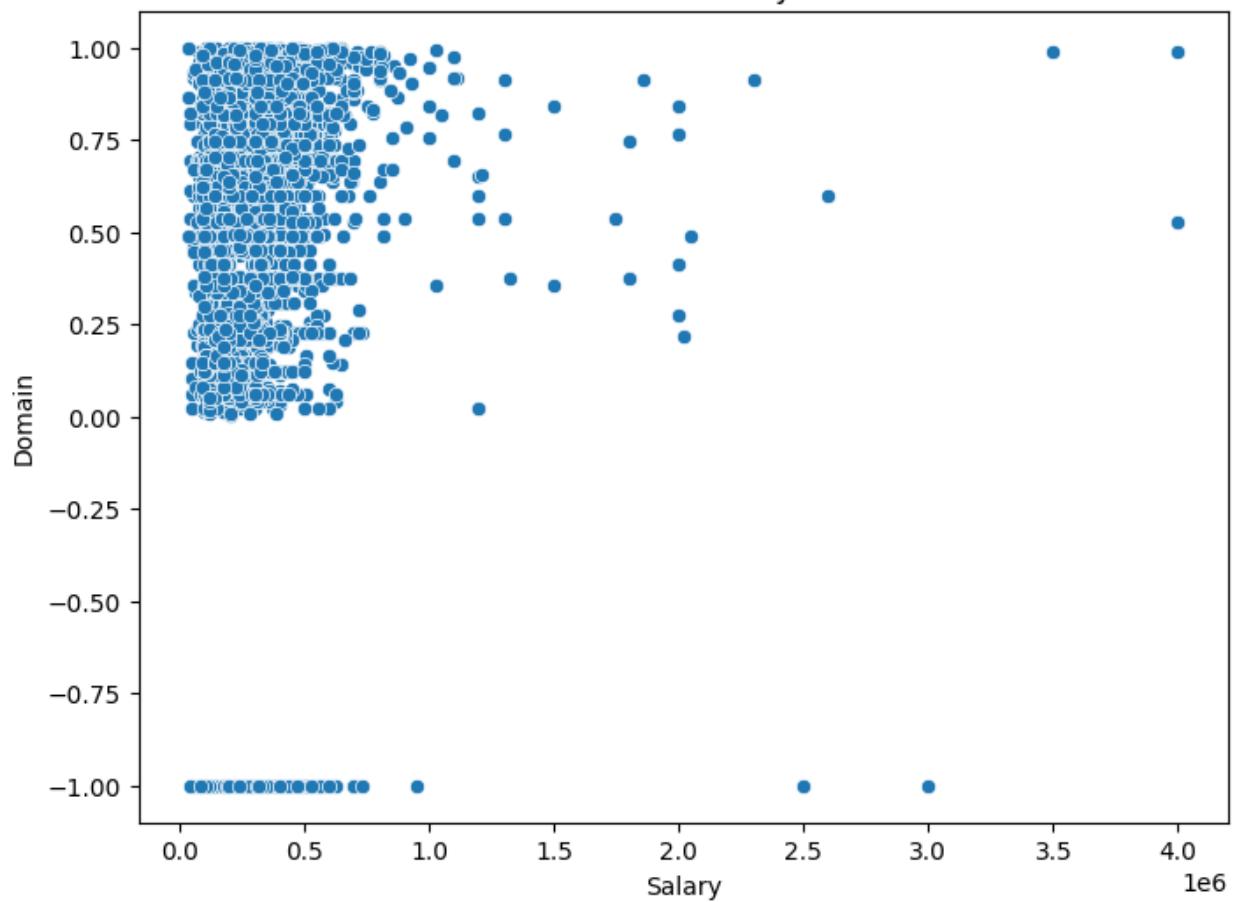
Scatter Plot between Salary and Logical



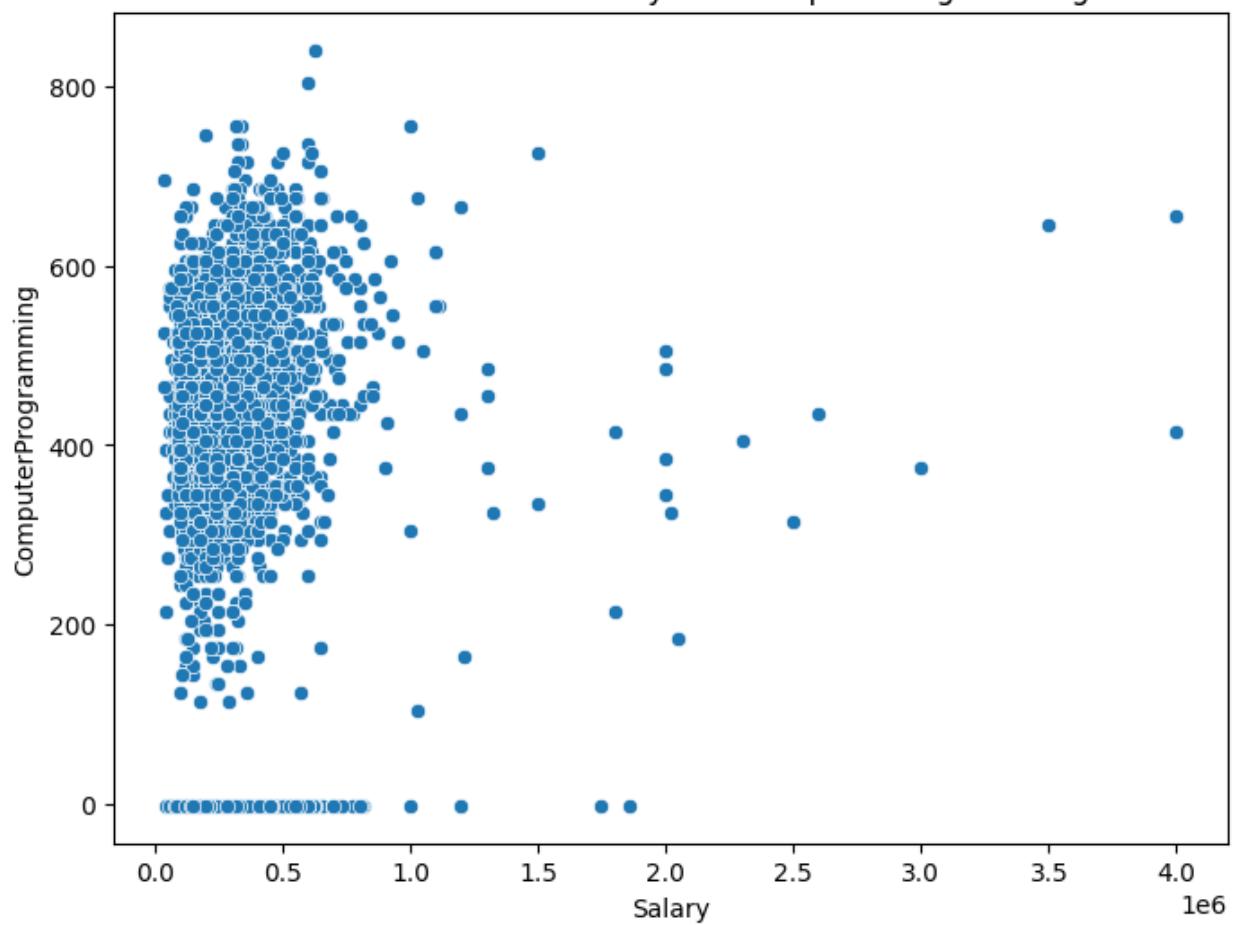
Scatter Plot between Salary and Quant



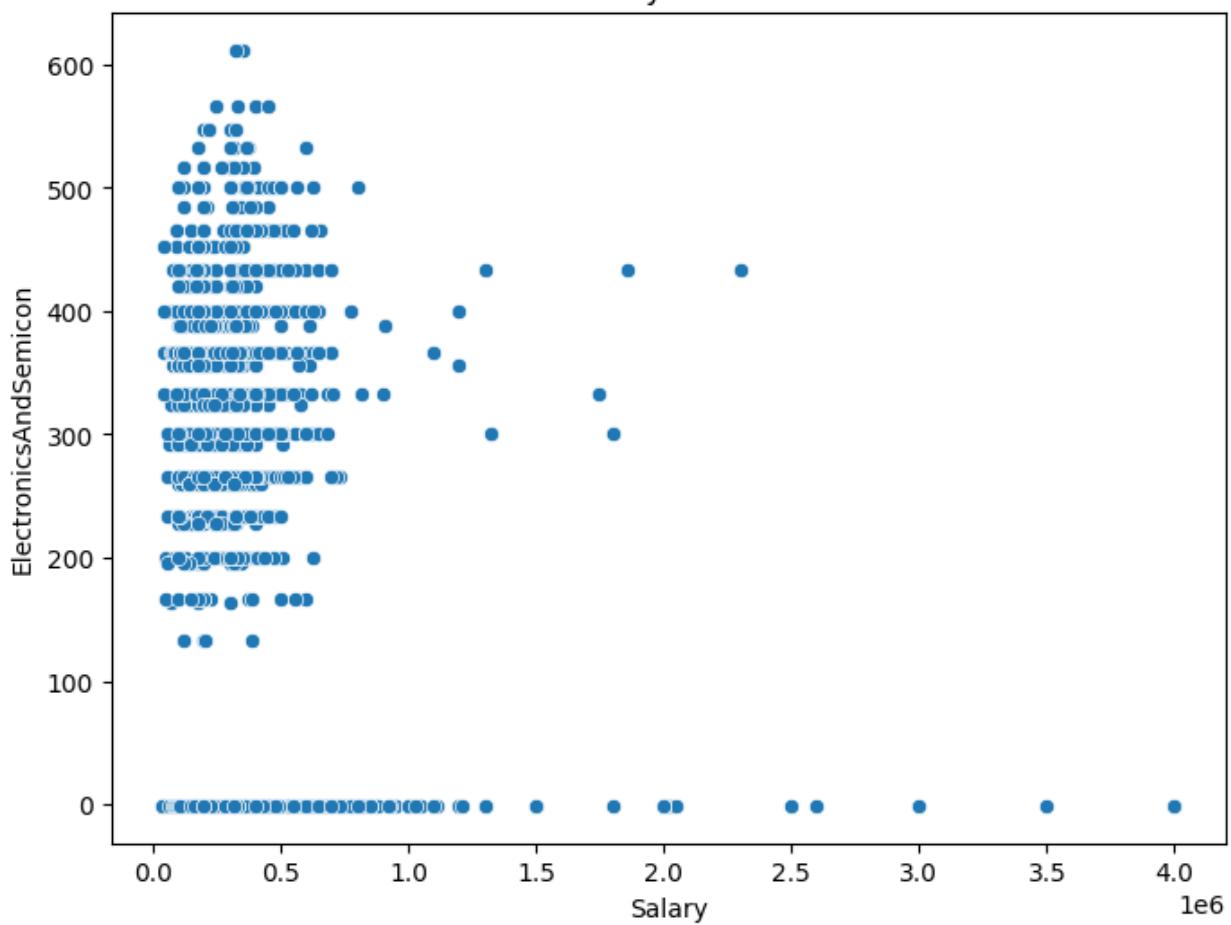
Scatter Plot between Salary and Domain



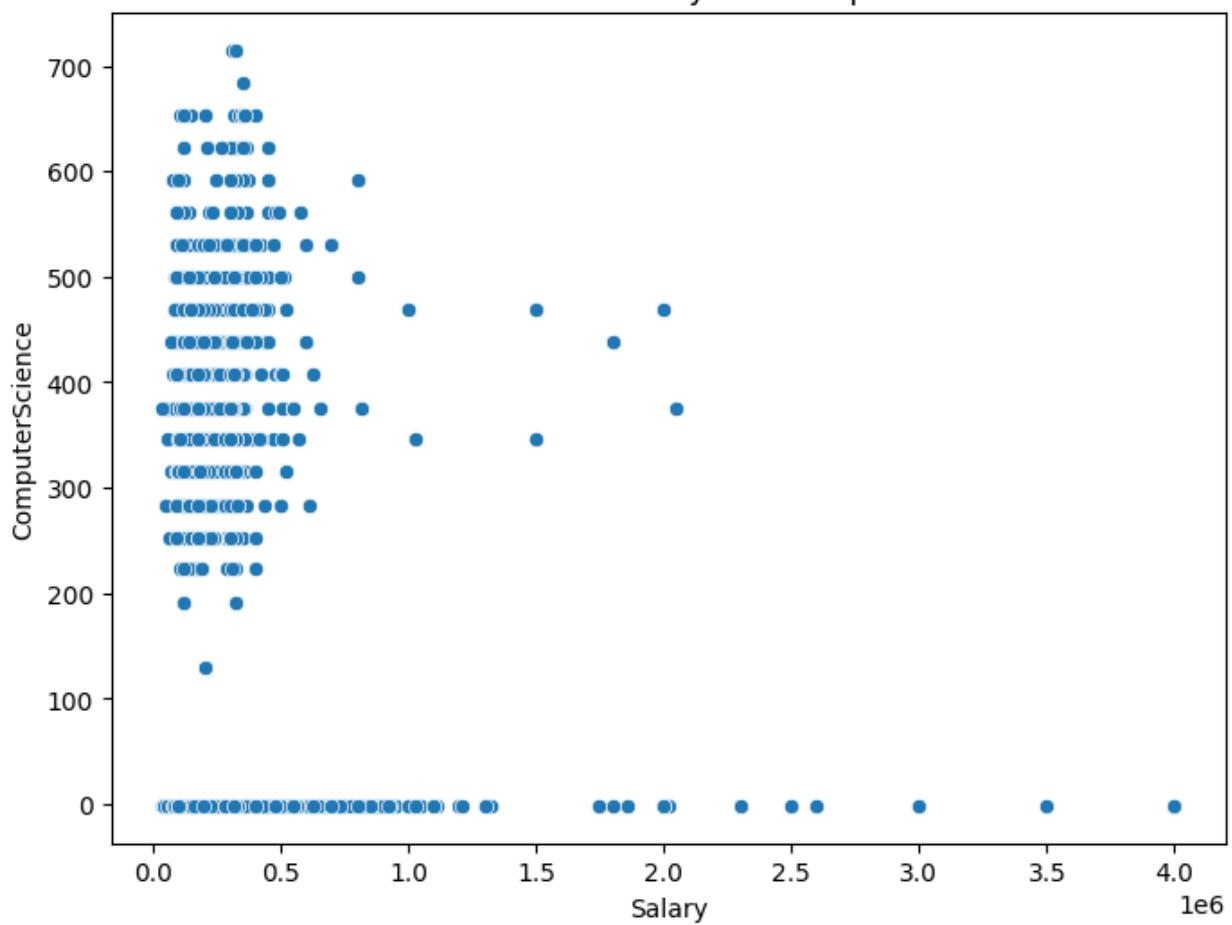
Scatter Plot between Salary and ComputerProgramming



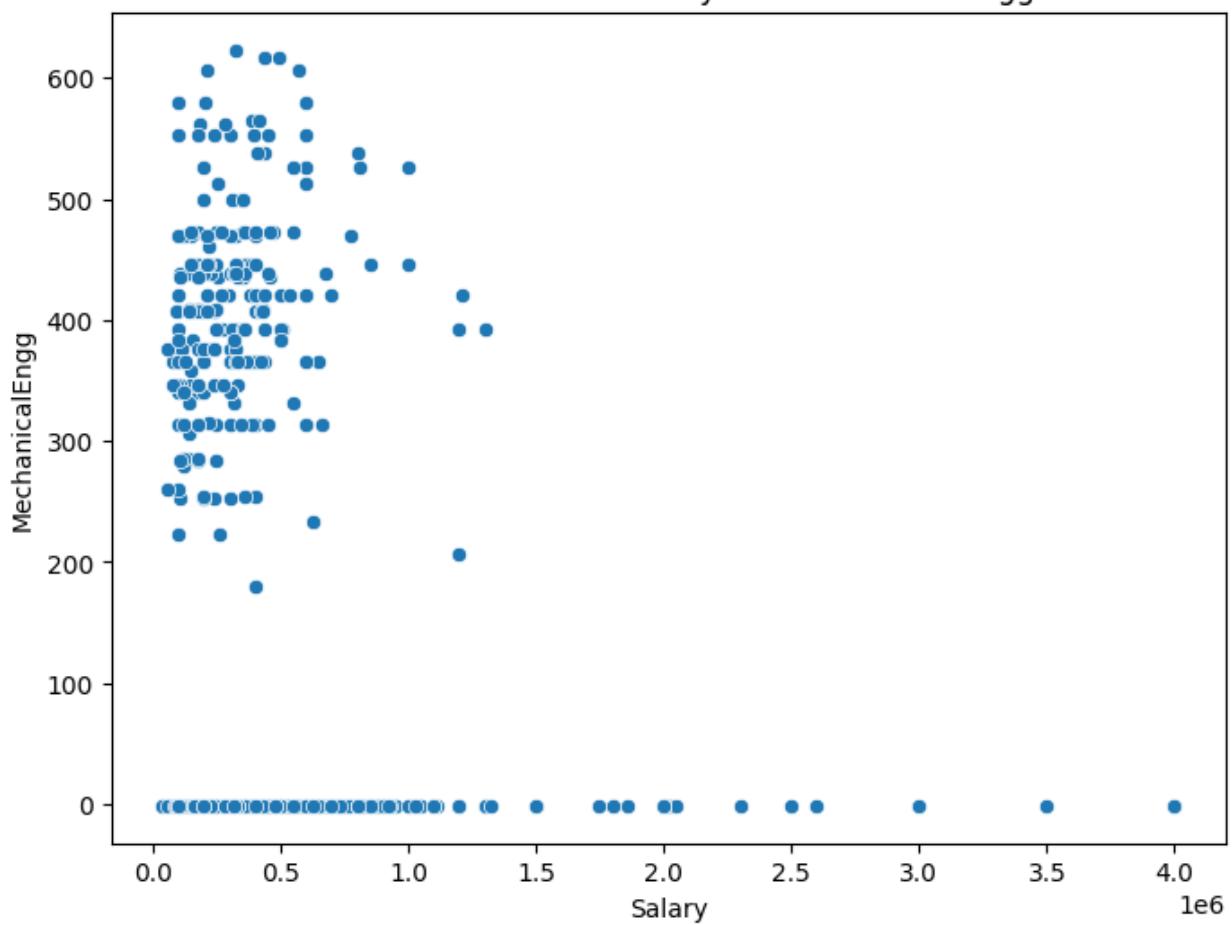
Scatter Plot between Salary and ElectronicsAndSemicon



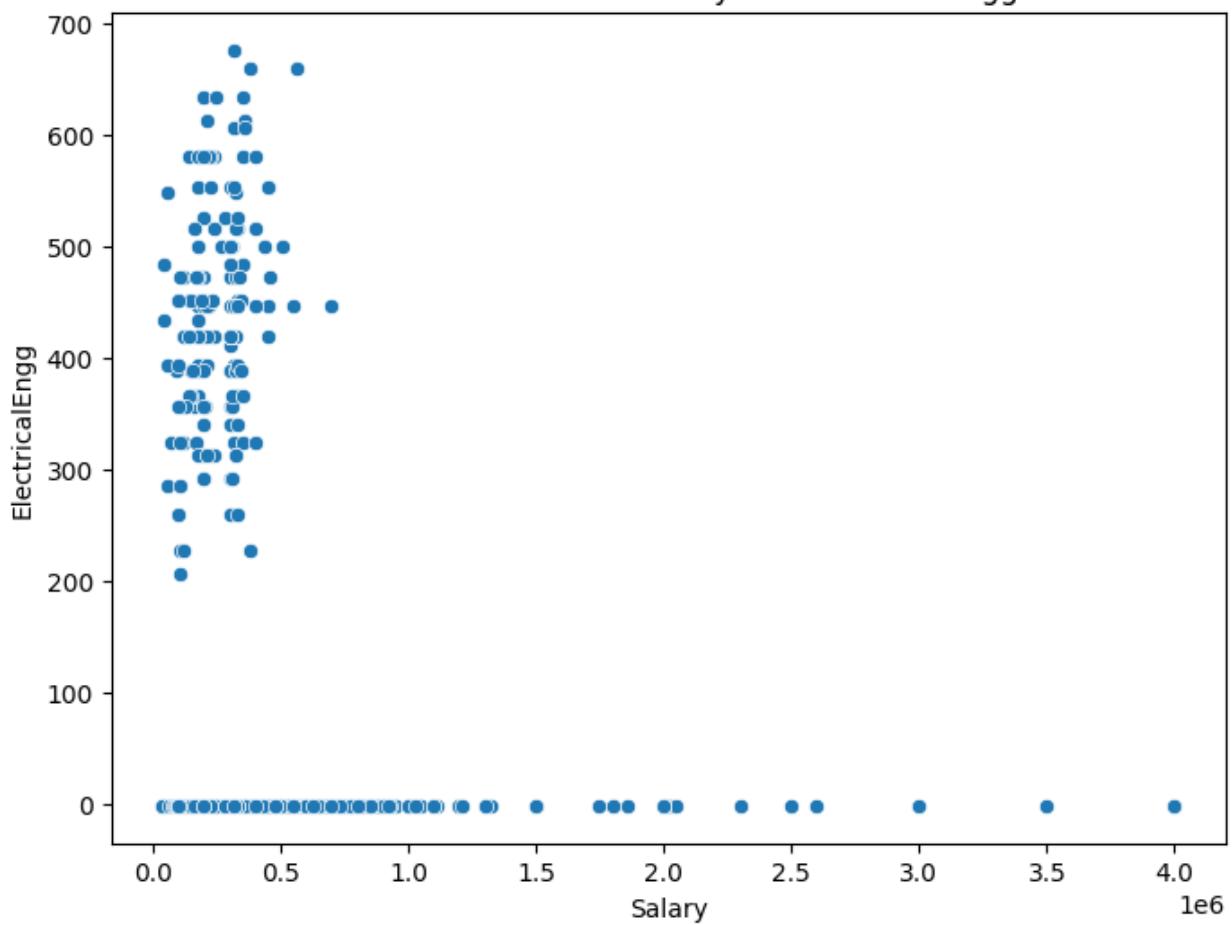
Scatter Plot between Salary and ComputerScience



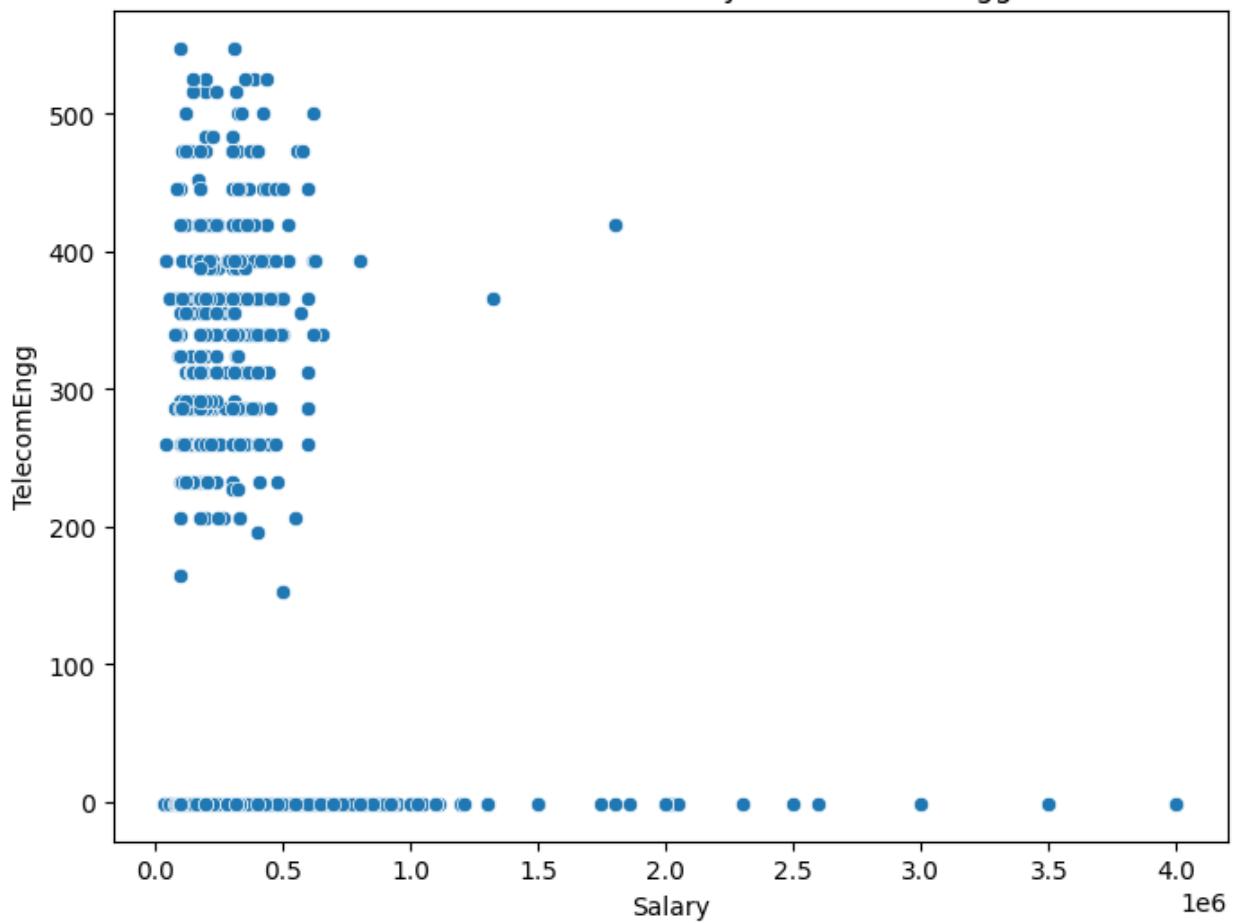
Scatter Plot between Salary and MechanicalEngg



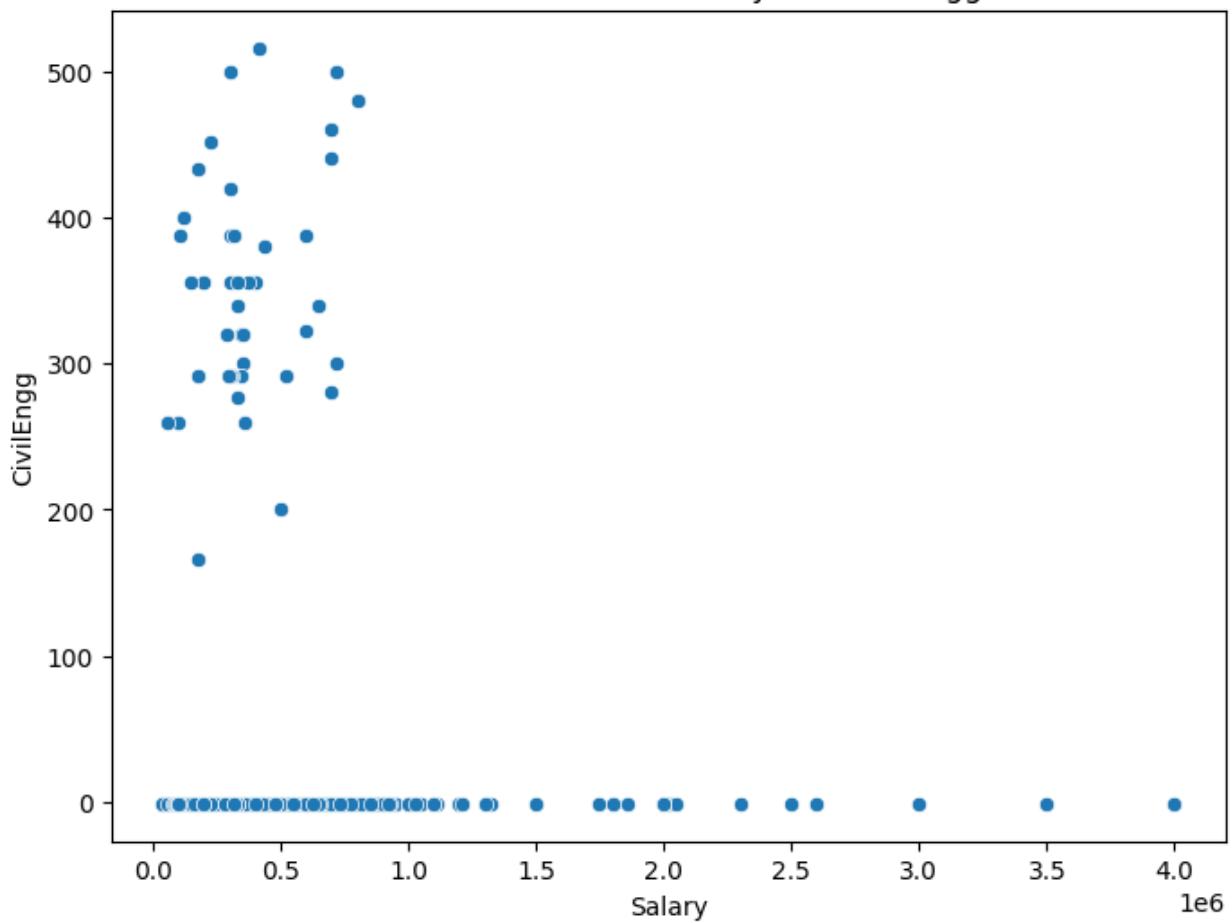
Scatter Plot between Salary and ElectricalEngg



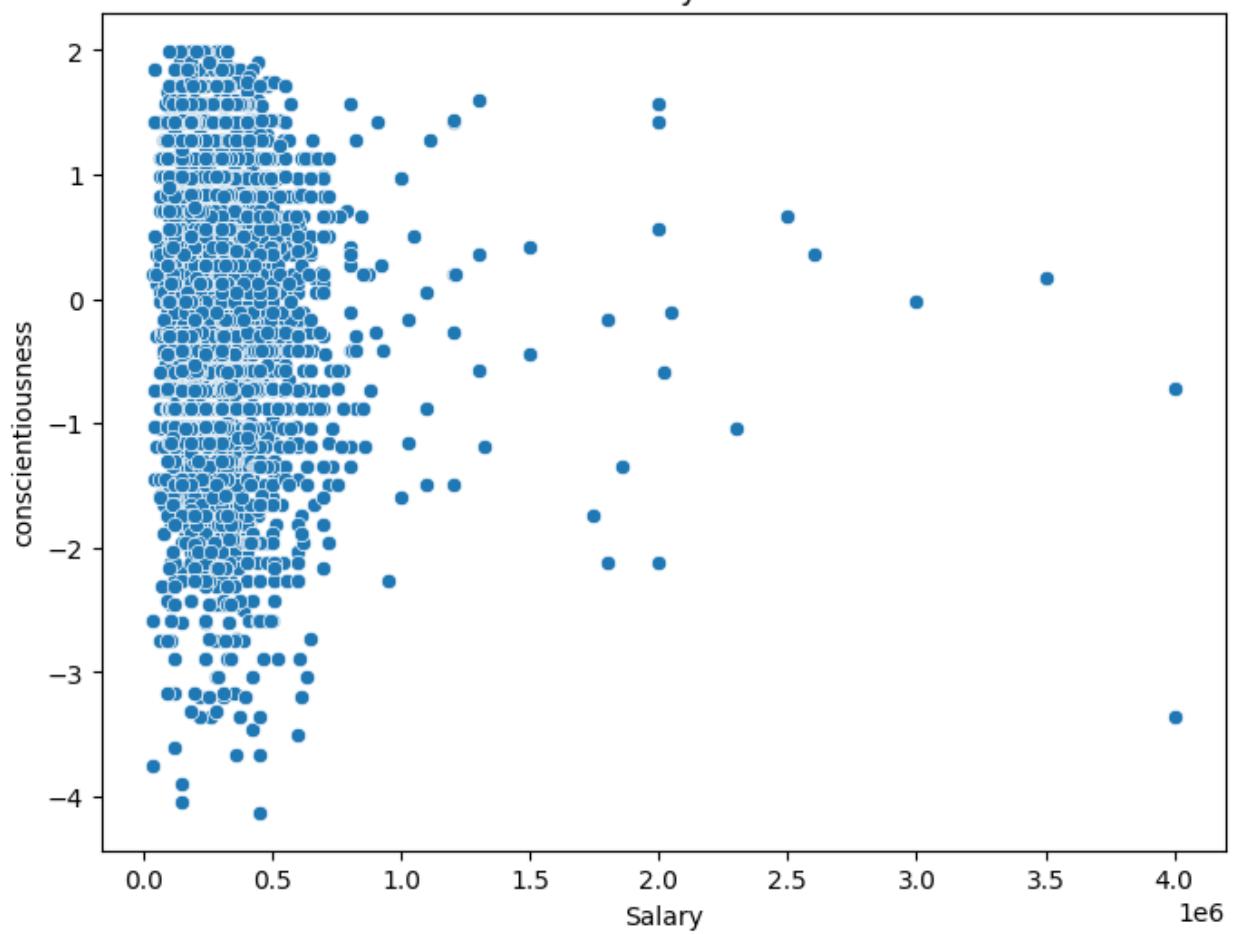
Scatter Plot between Salary and TelecomEngg



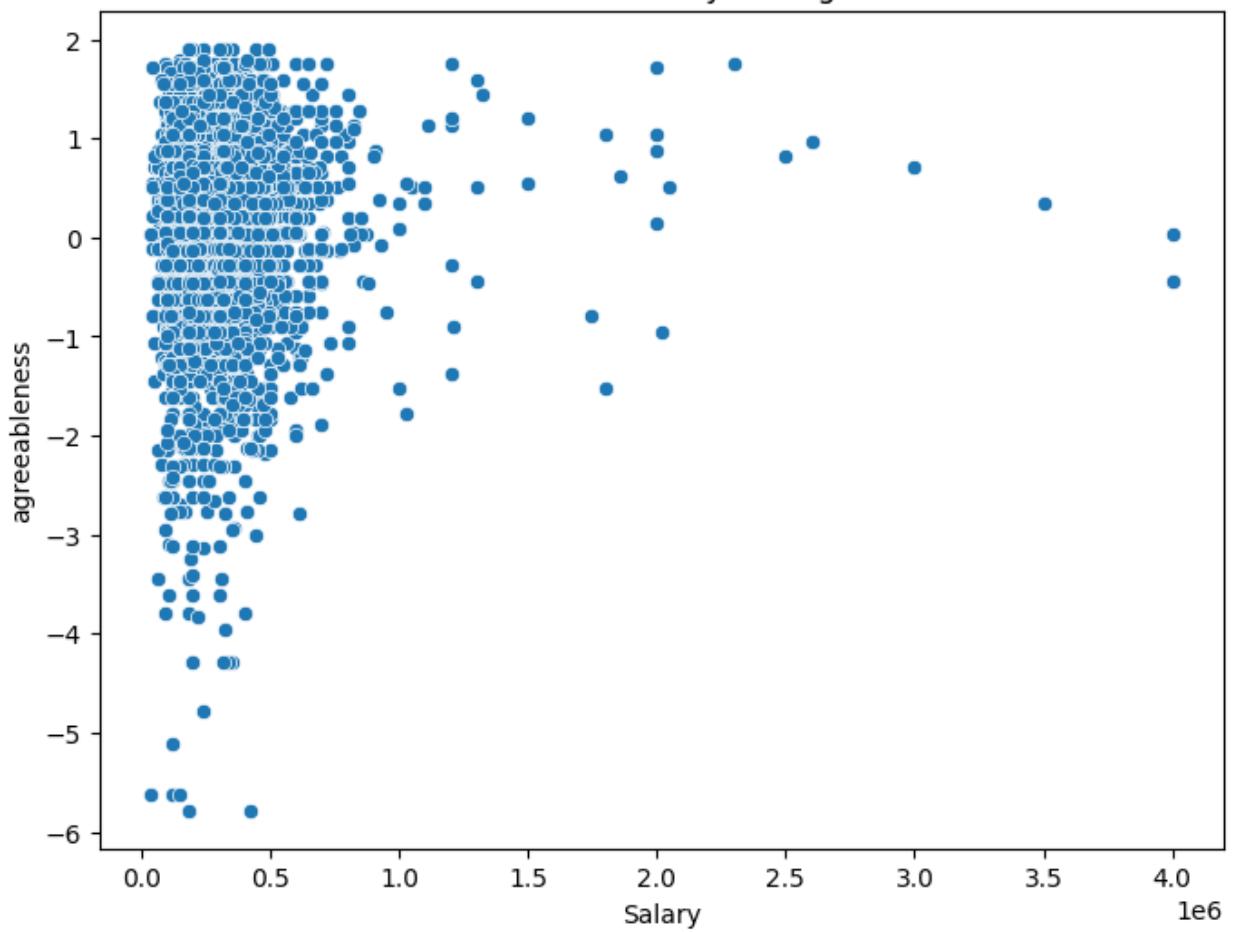
Scatter Plot between Salary and CivilEngg



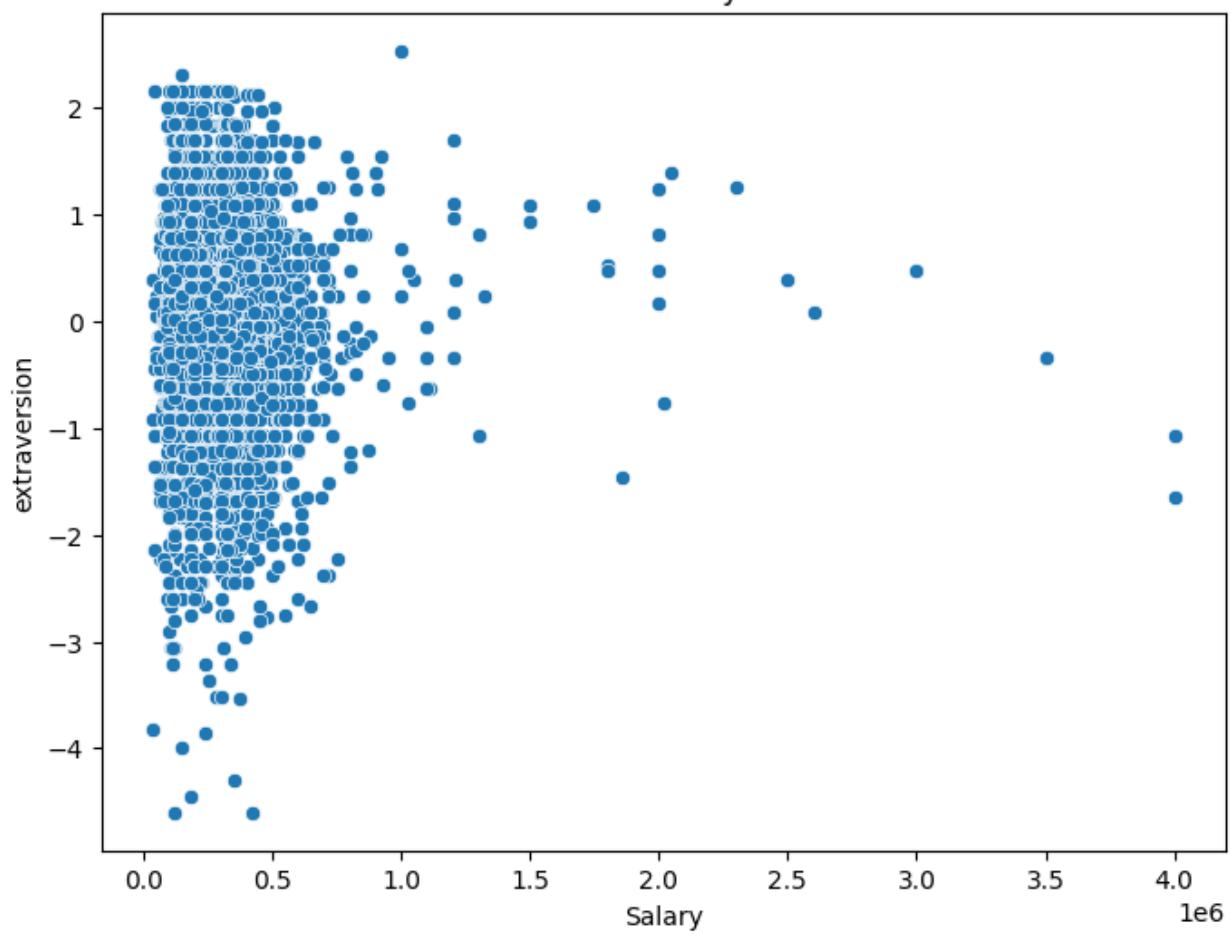
Scatter Plot between Salary and conscientiousness



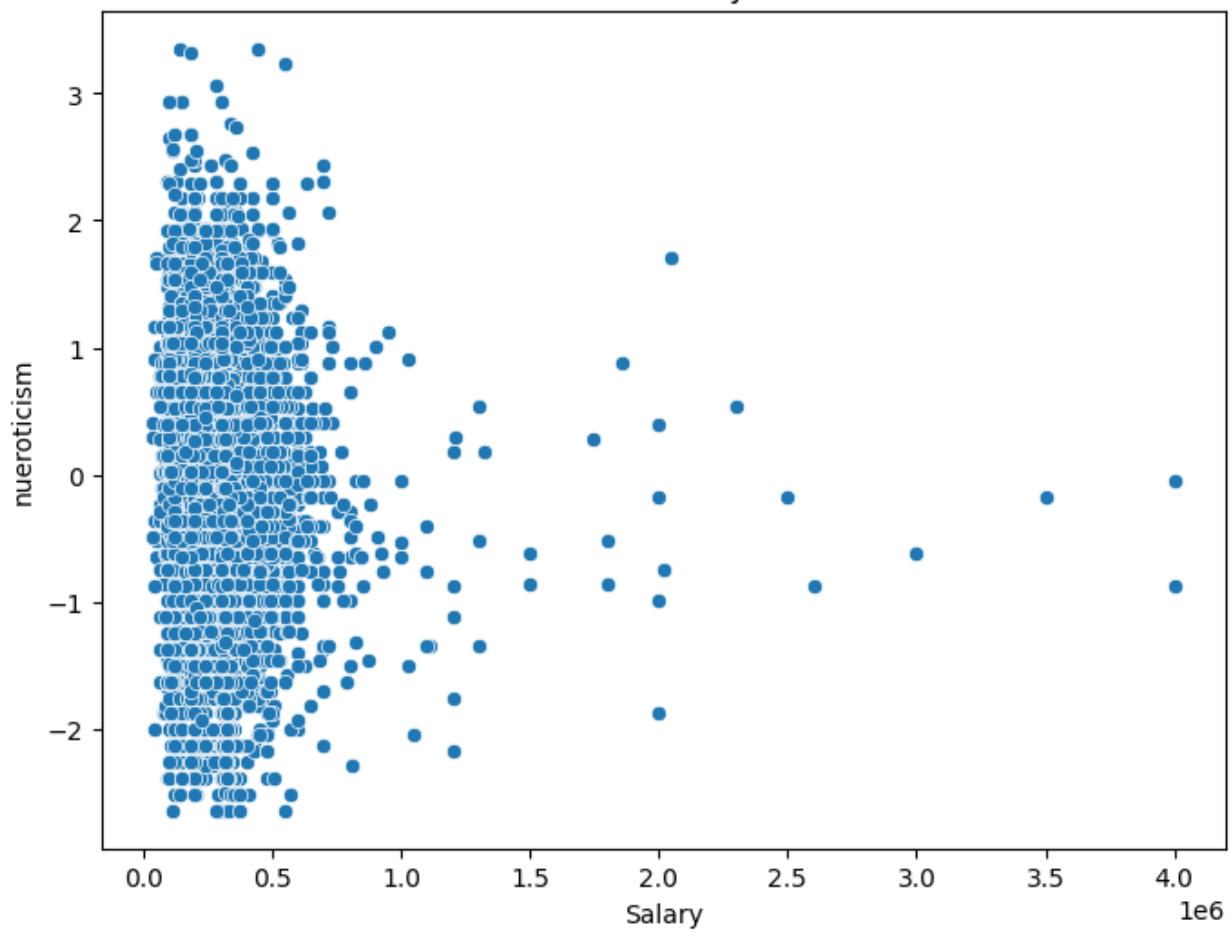
Scatter Plot between Salary and agreeableness



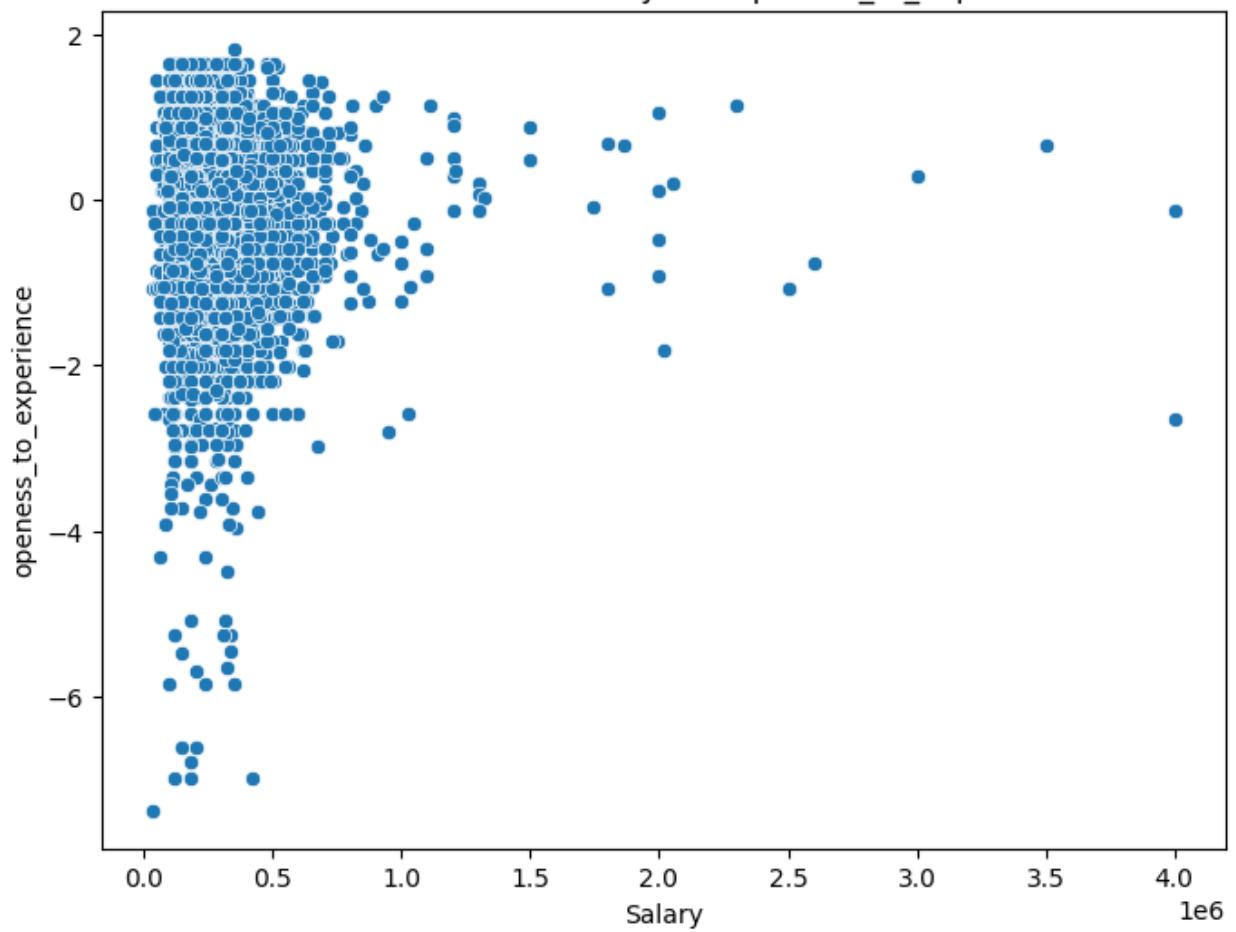
Scatter Plot between Salary and extraversion



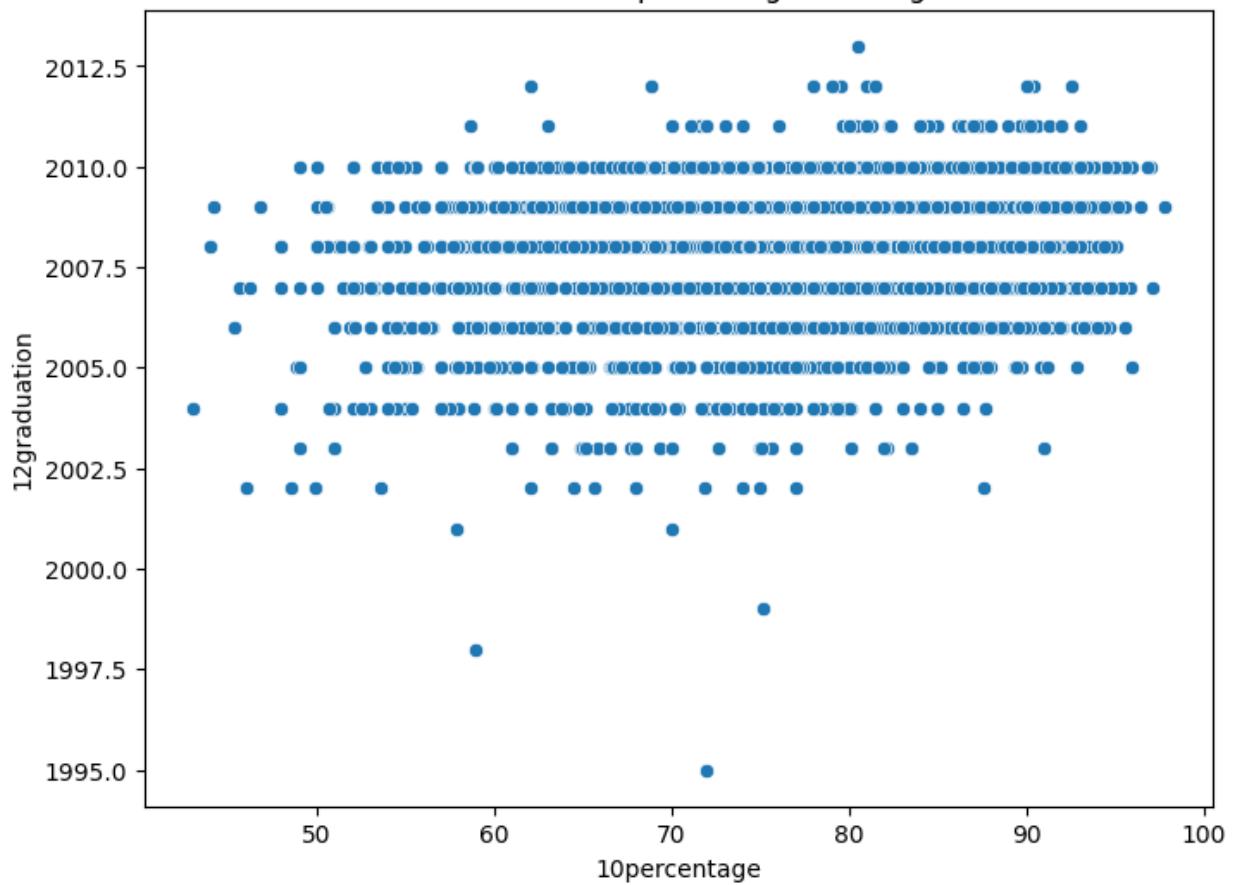
Scatter Plot between Salary and nuerotism



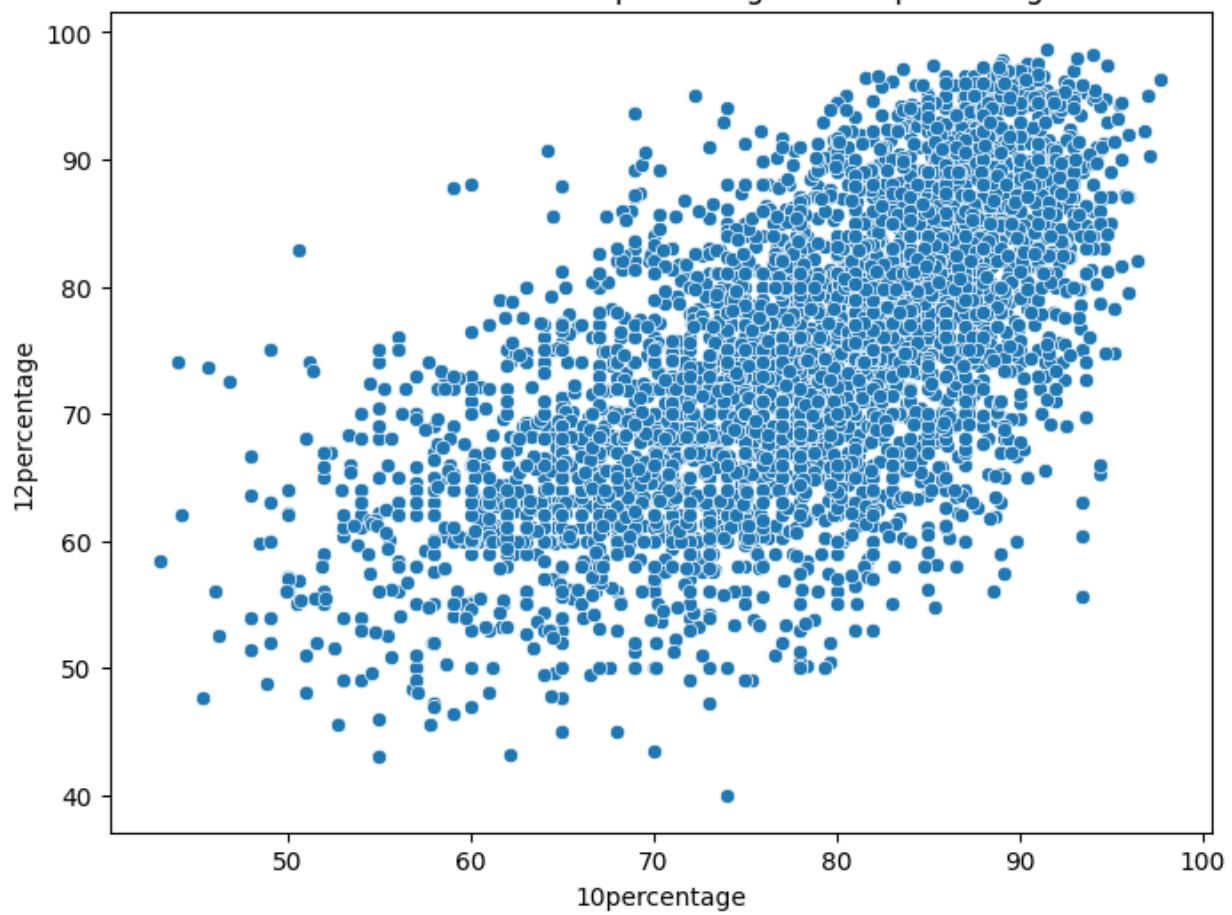
Scatter Plot between Salary and openness_to_experience



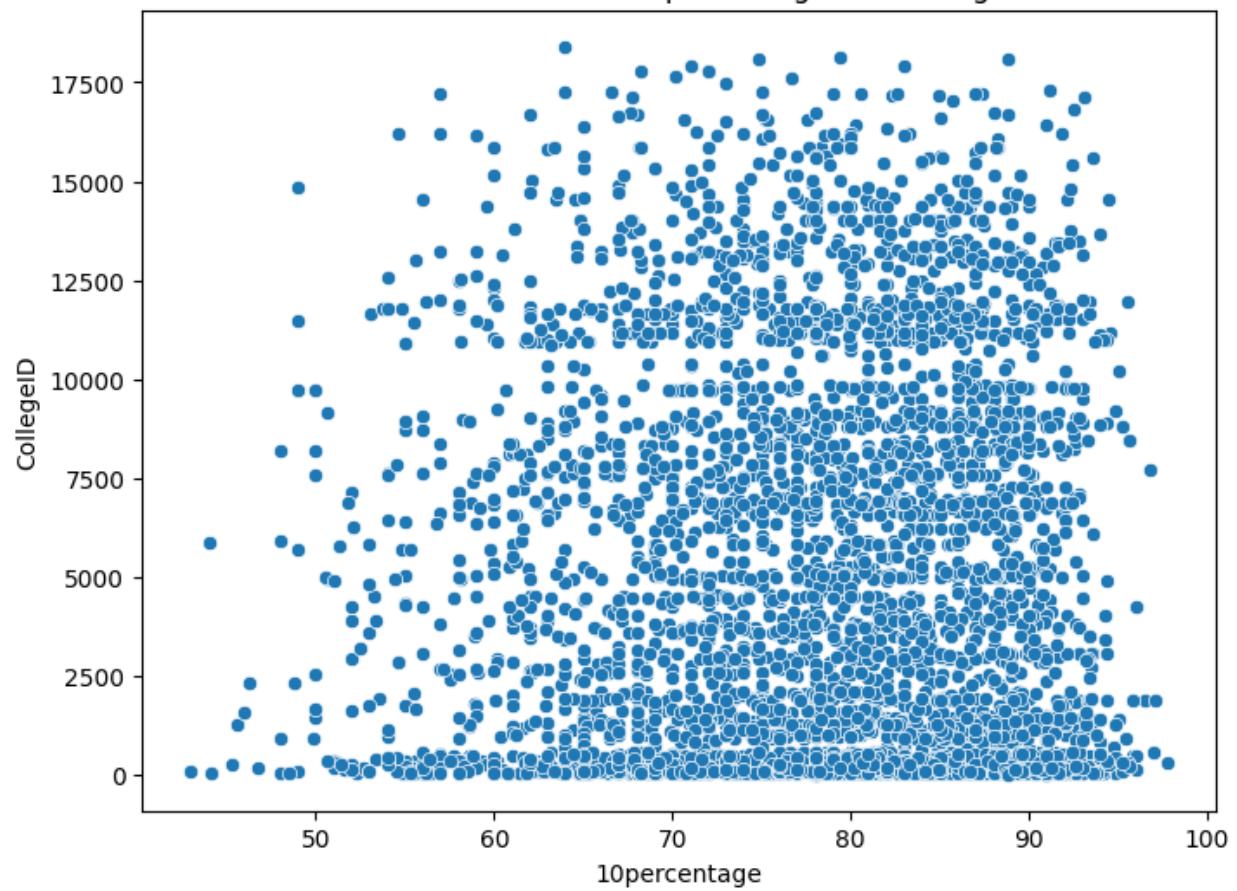
Scatter Plot between 10percentage and 12graduation



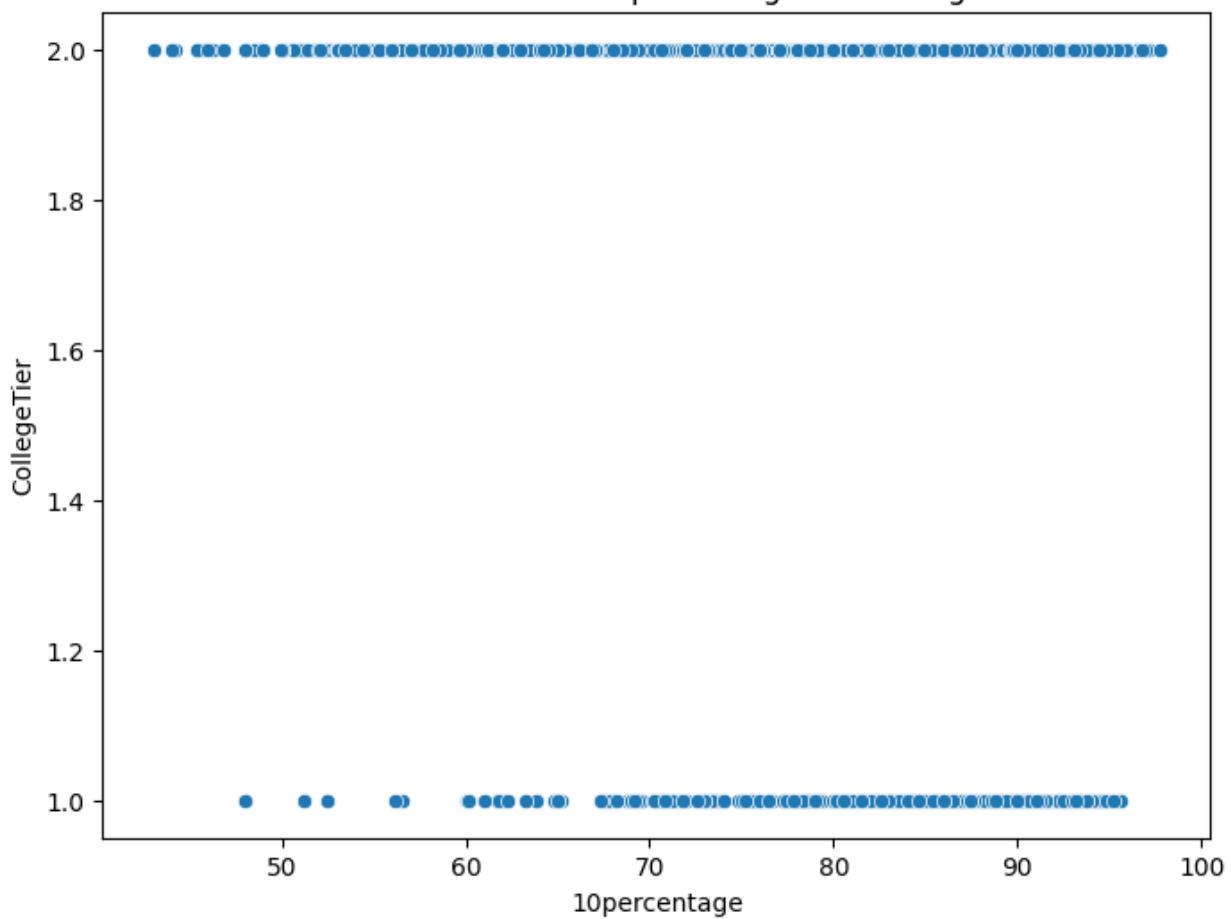
Scatter Plot between 10percentage and 12percentage



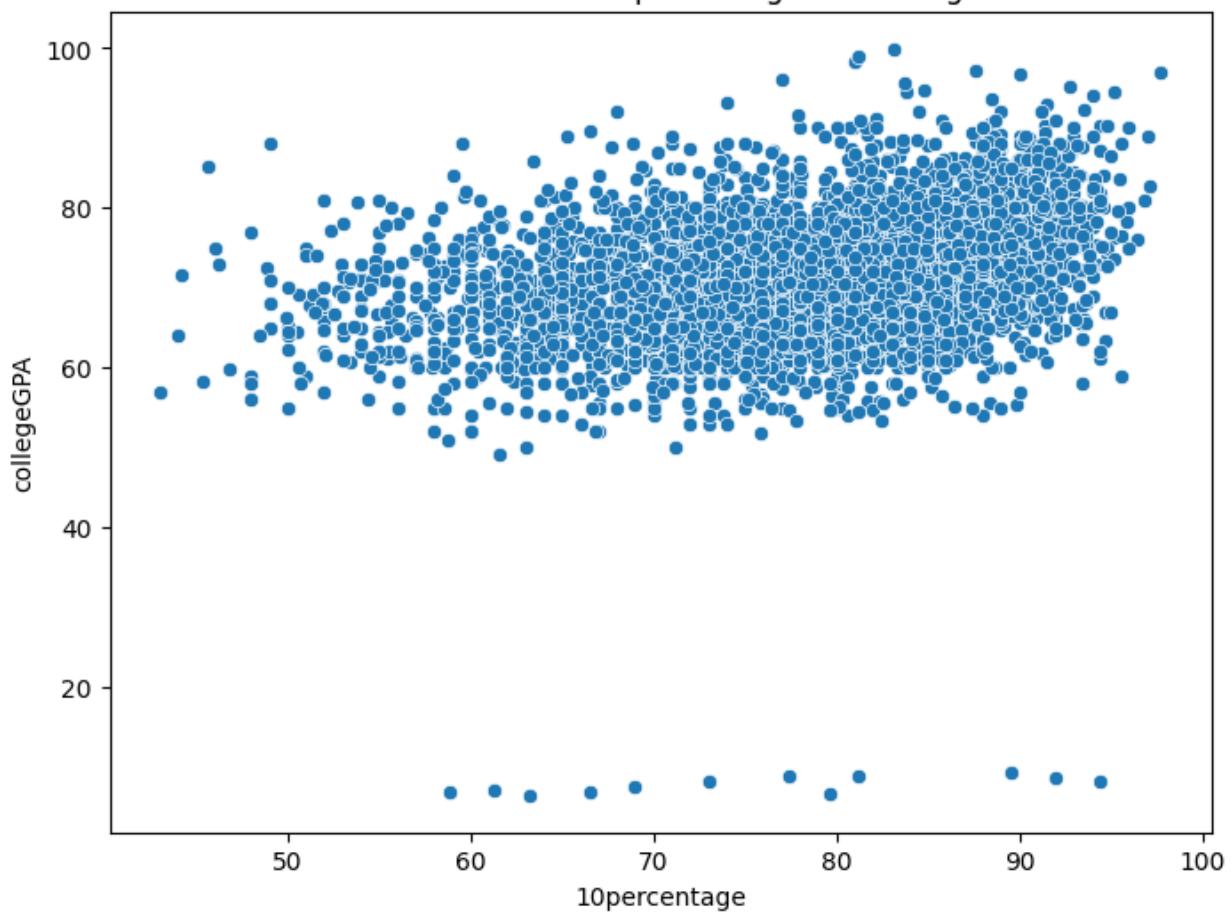
Scatter Plot between 10percentage and CollegelD



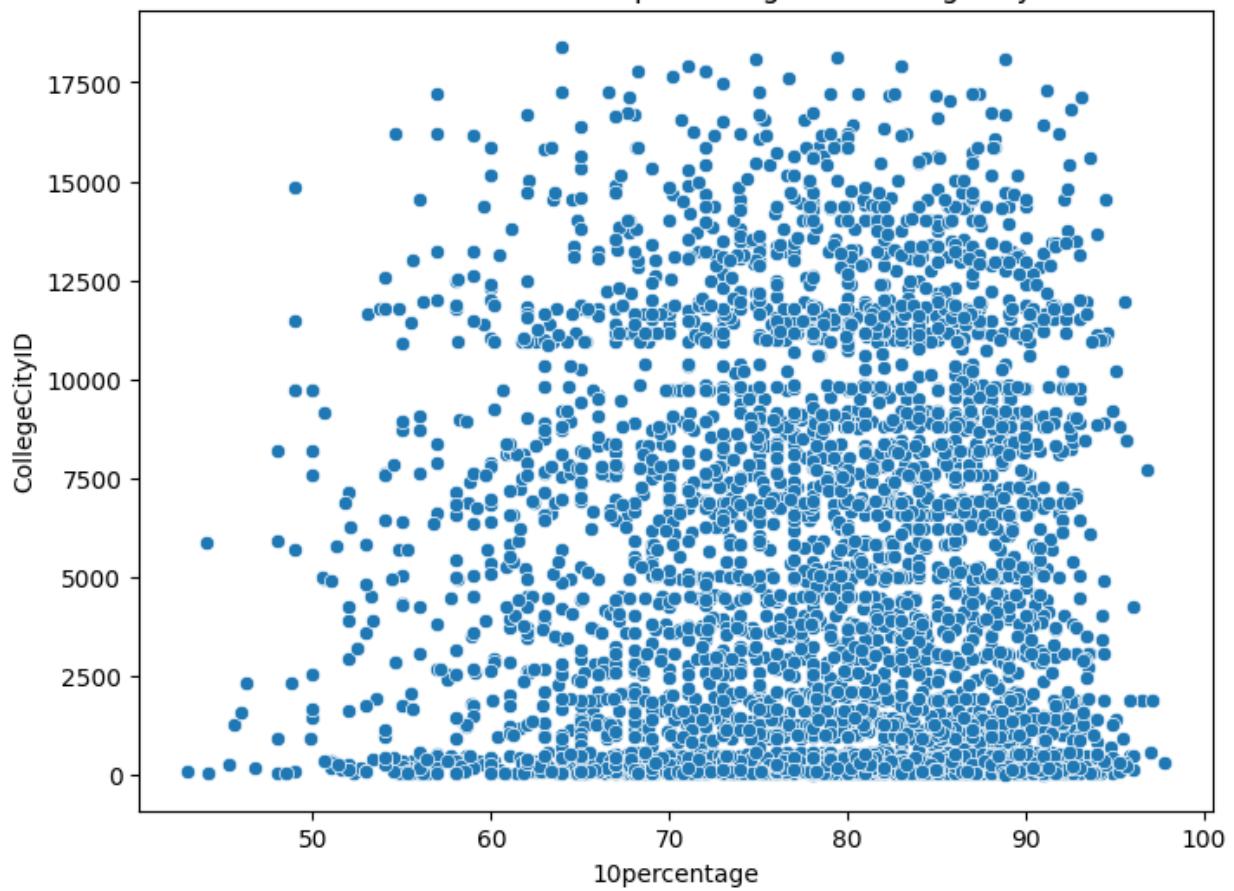
Scatter Plot between 10percentage and CollegeTier



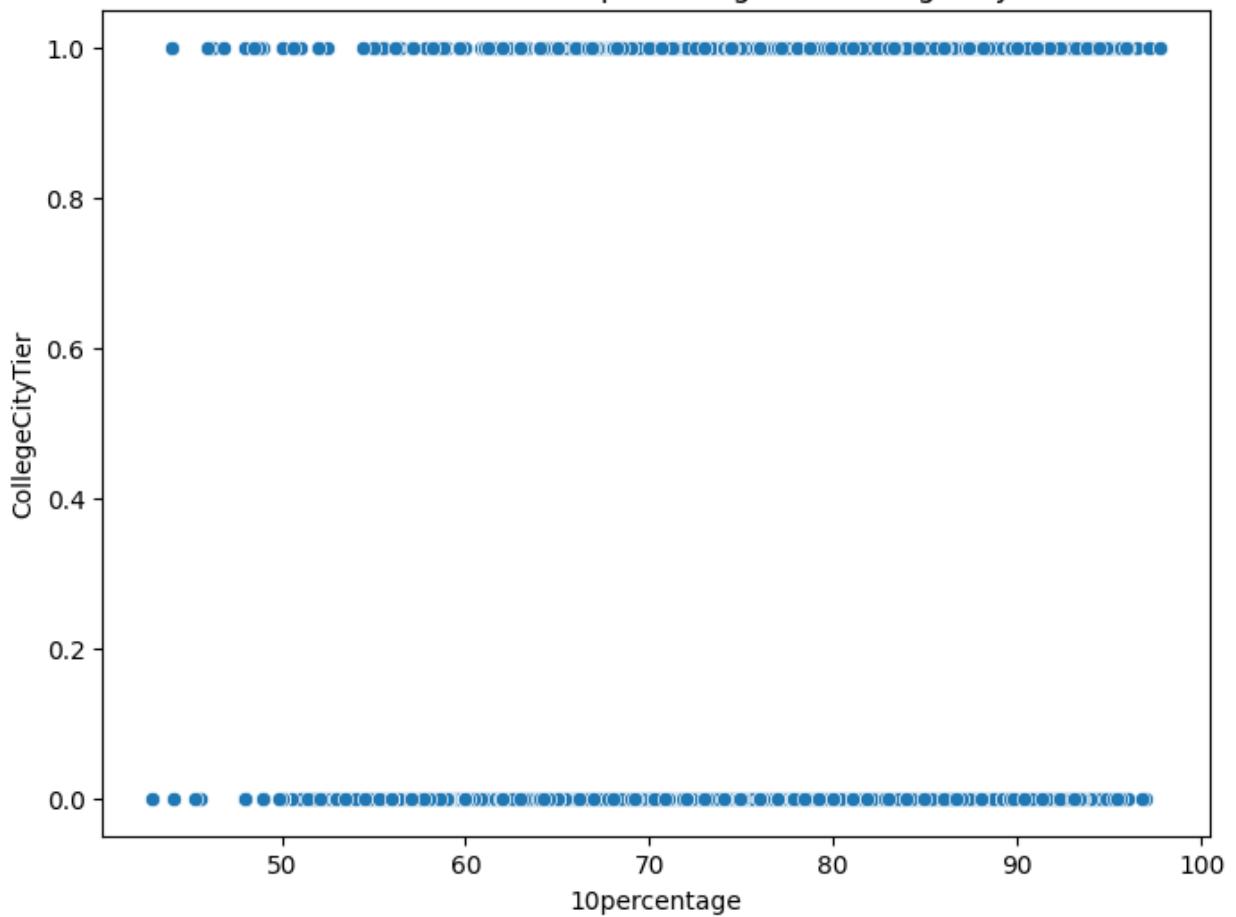
Scatter Plot between 10percentage and collegeGPA



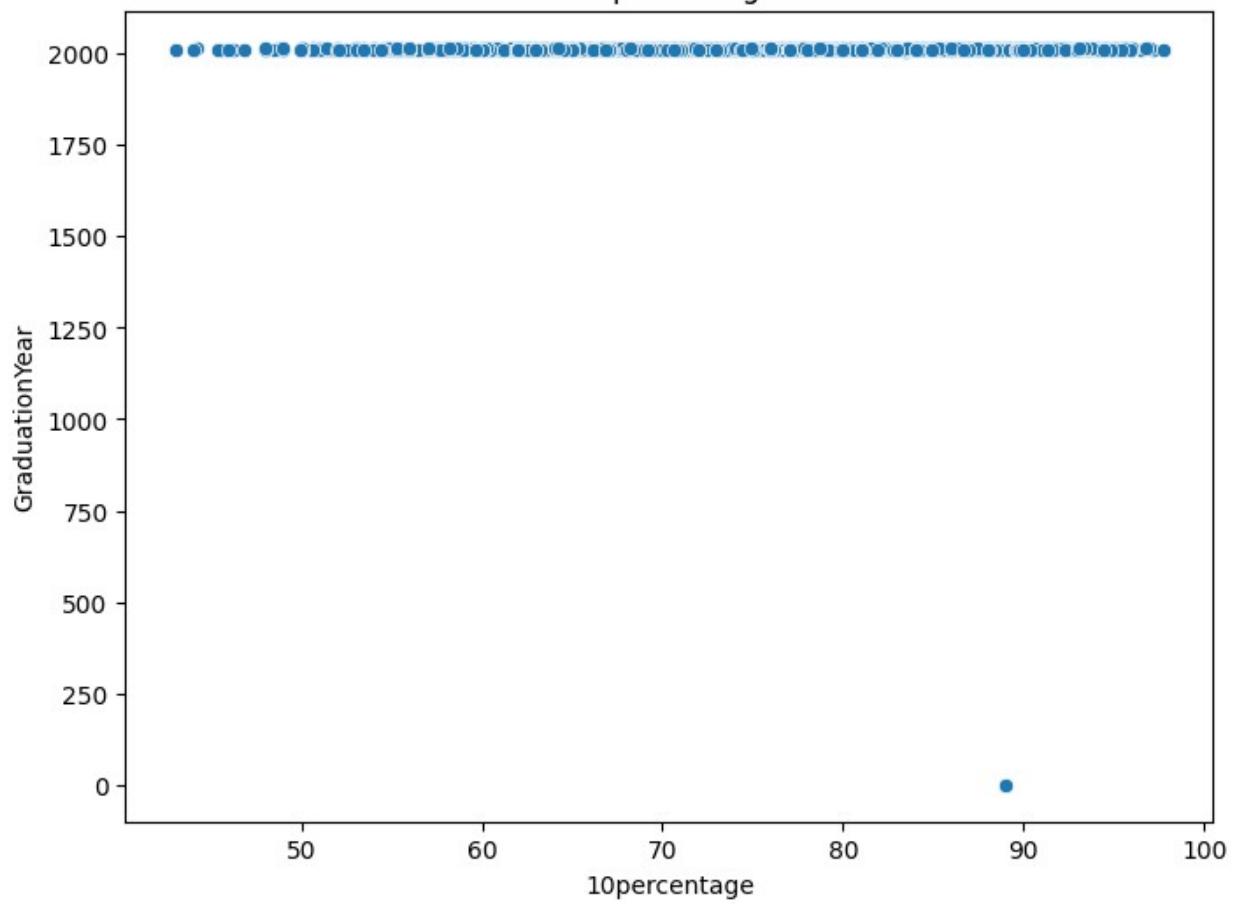
Scatter Plot between 10percentage and CollegeCityID



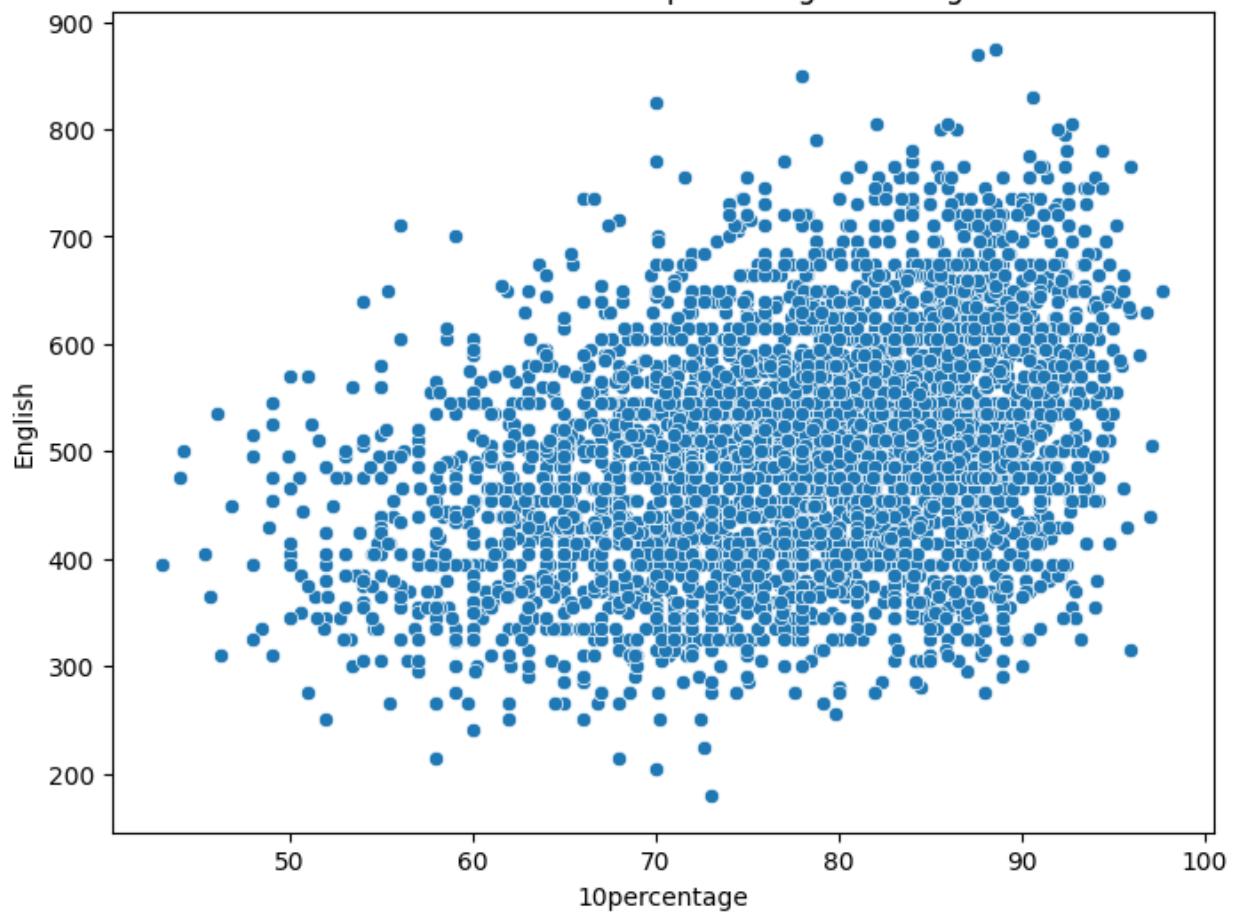
Scatter Plot between 10percentage and CollegeCityTier



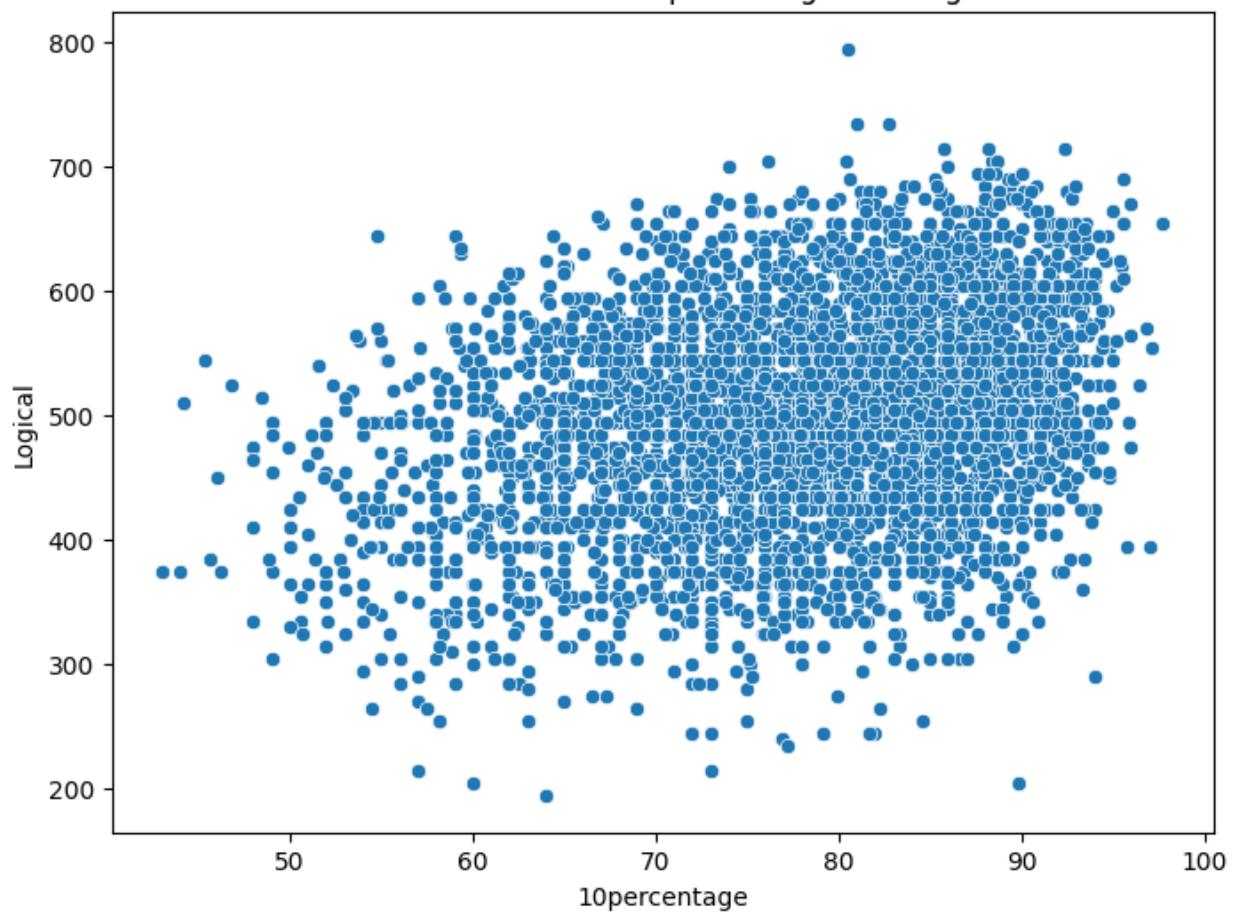
Scatter Plot between 10percentage and GraduationYear



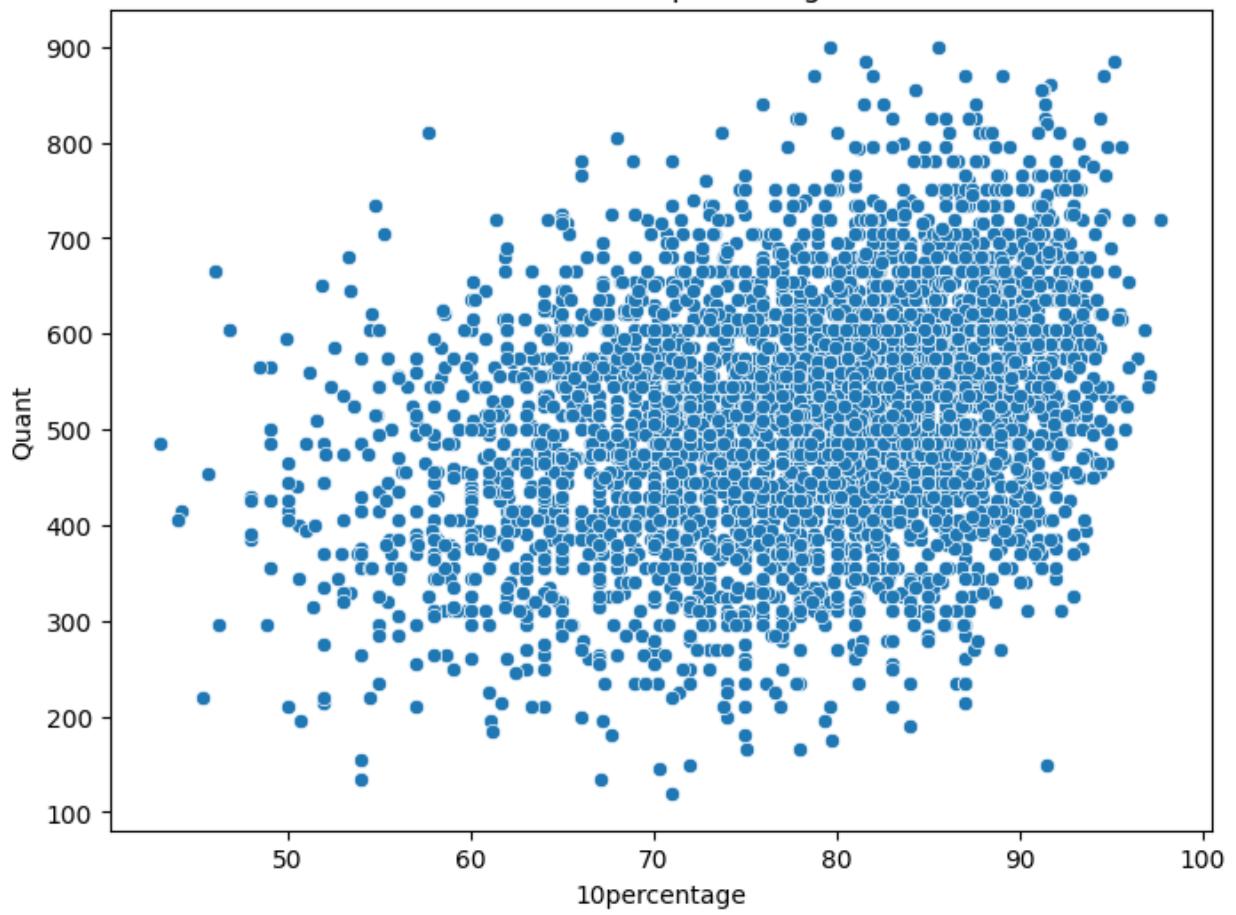
Scatter Plot between 10percentage and English



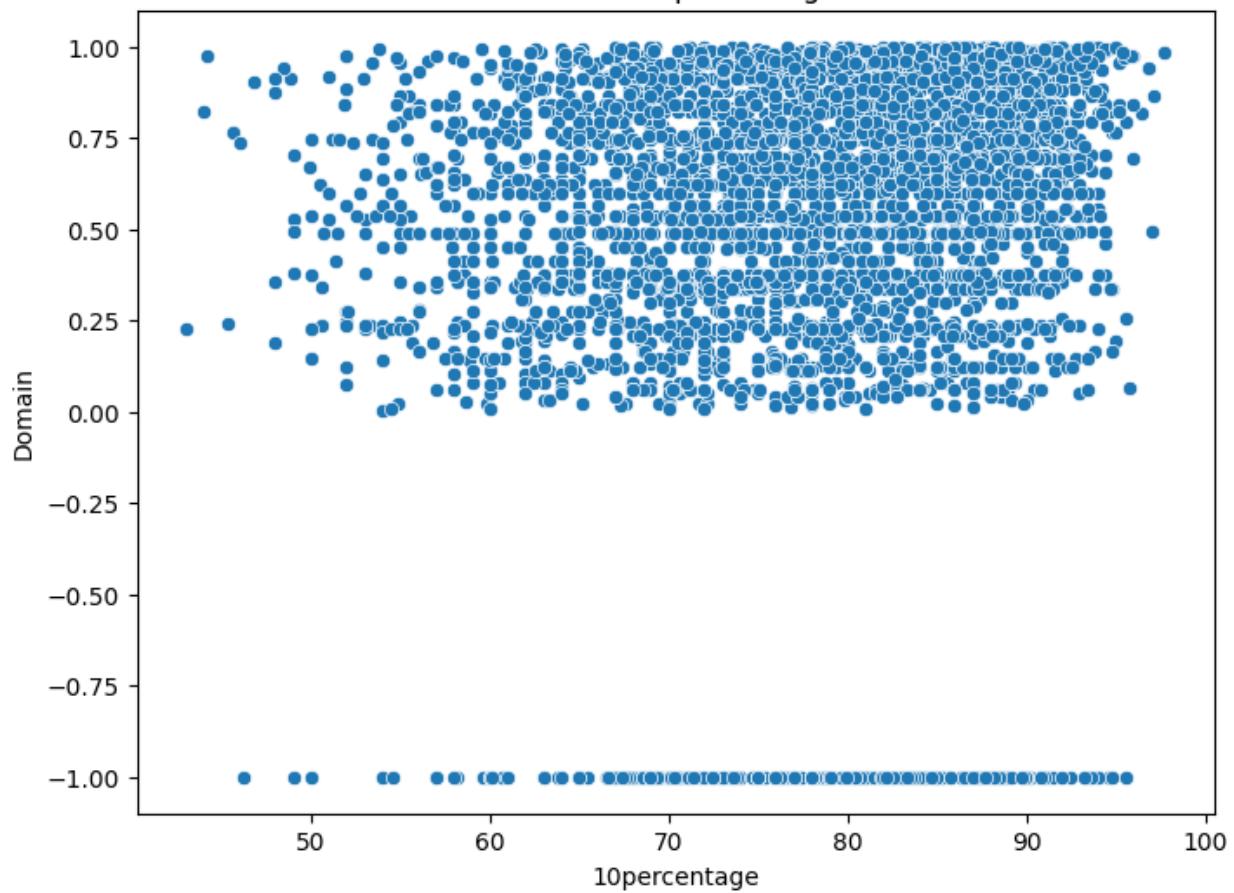
Scatter Plot between 10percentage and Logical



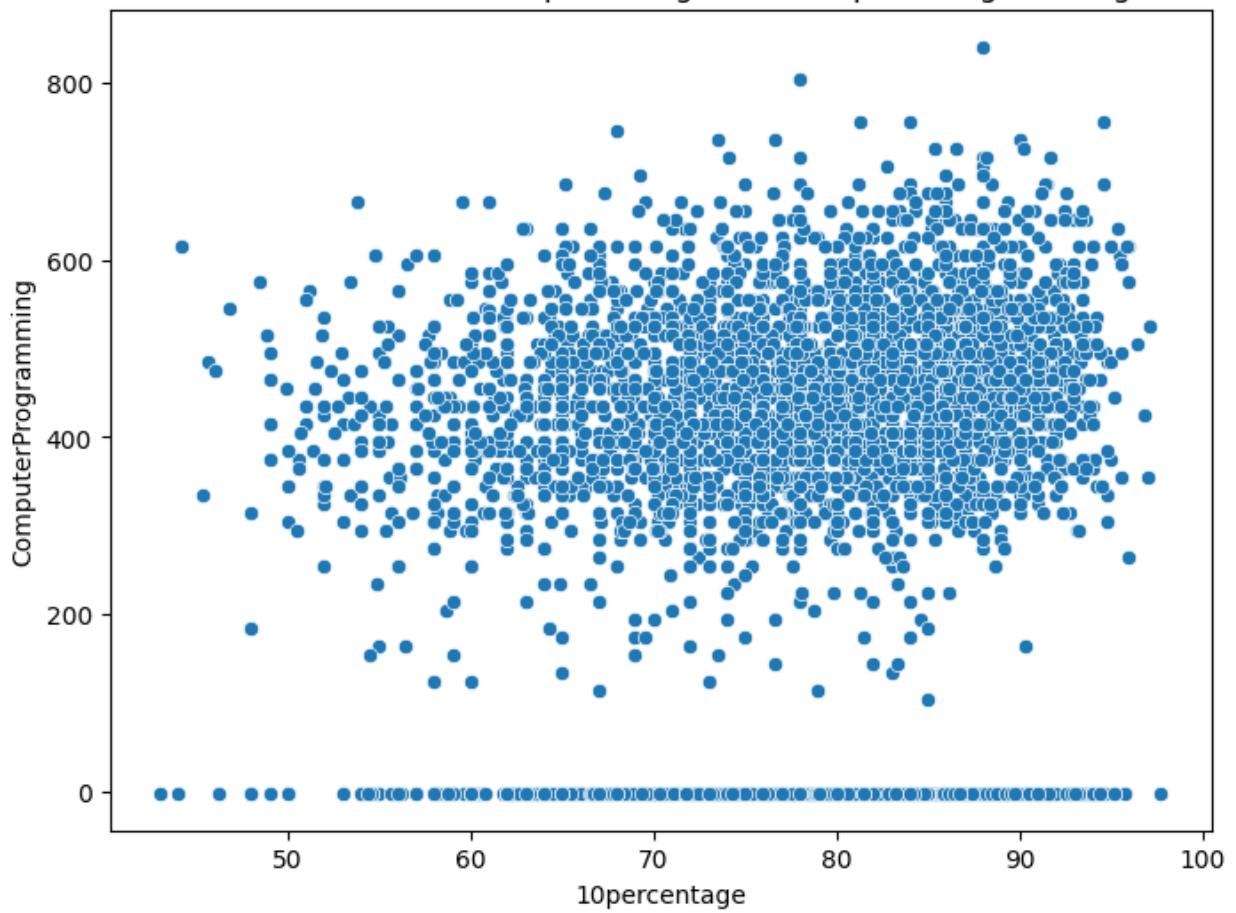
Scatter Plot between 10percentage and Quant



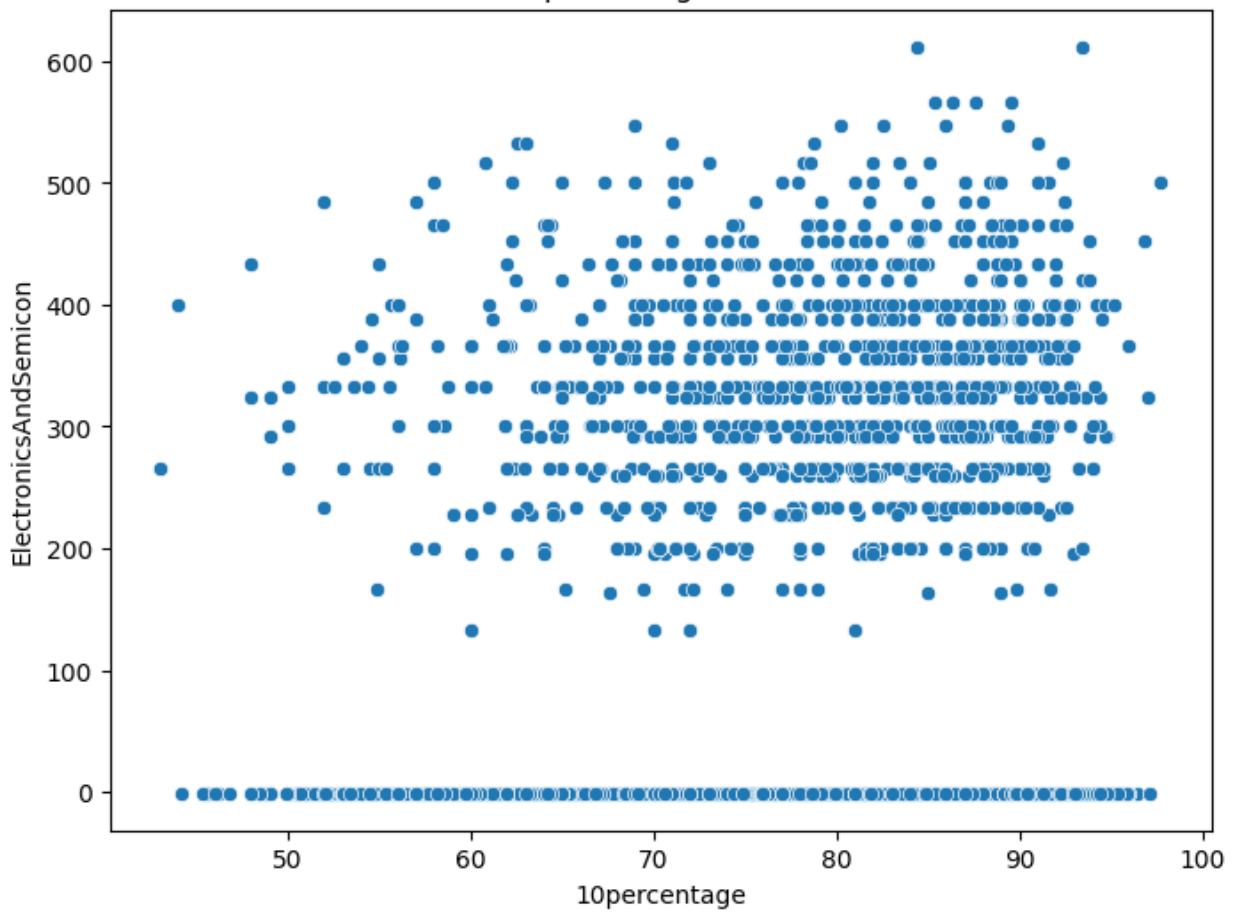
Scatter Plot between 10percentage and Domain



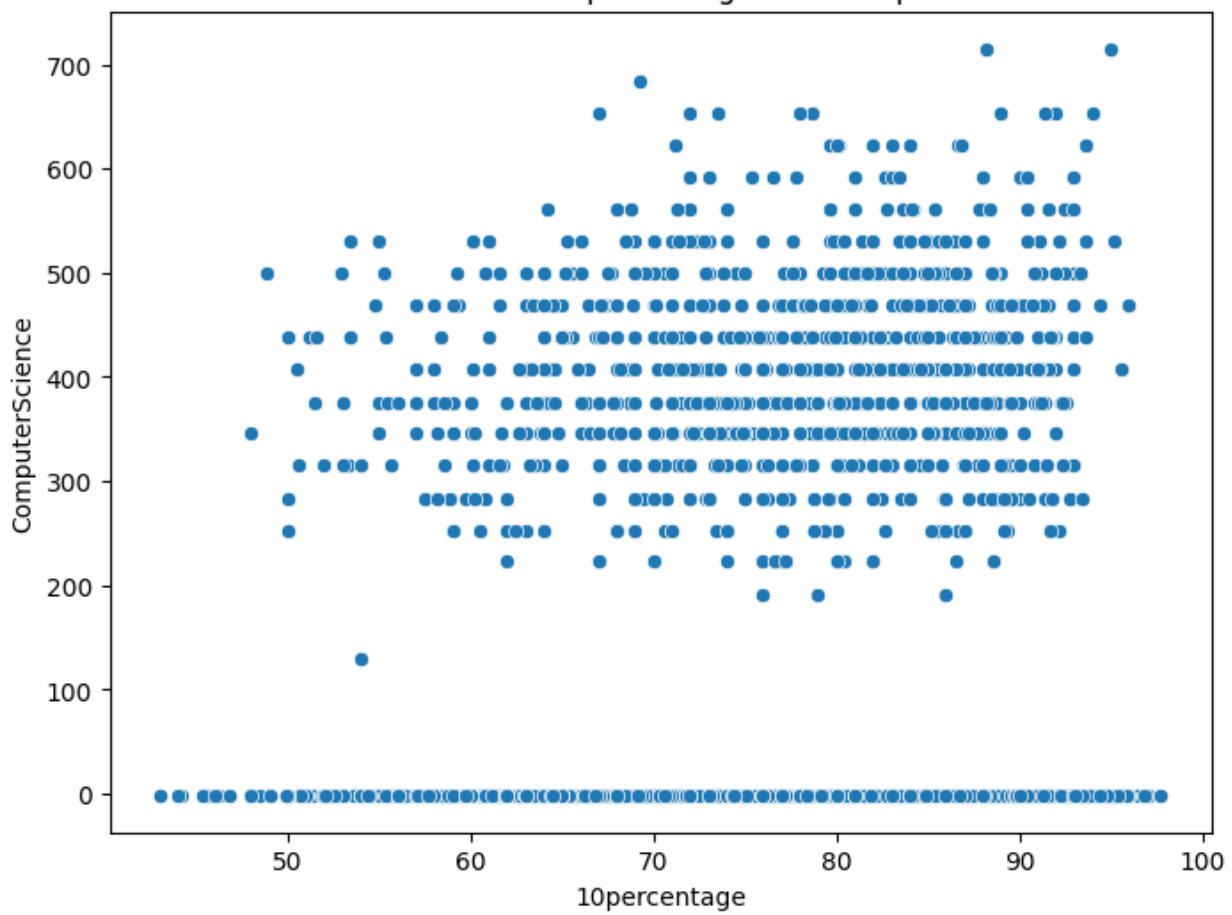
Scatter Plot between 10percentage and ComputerProgramming



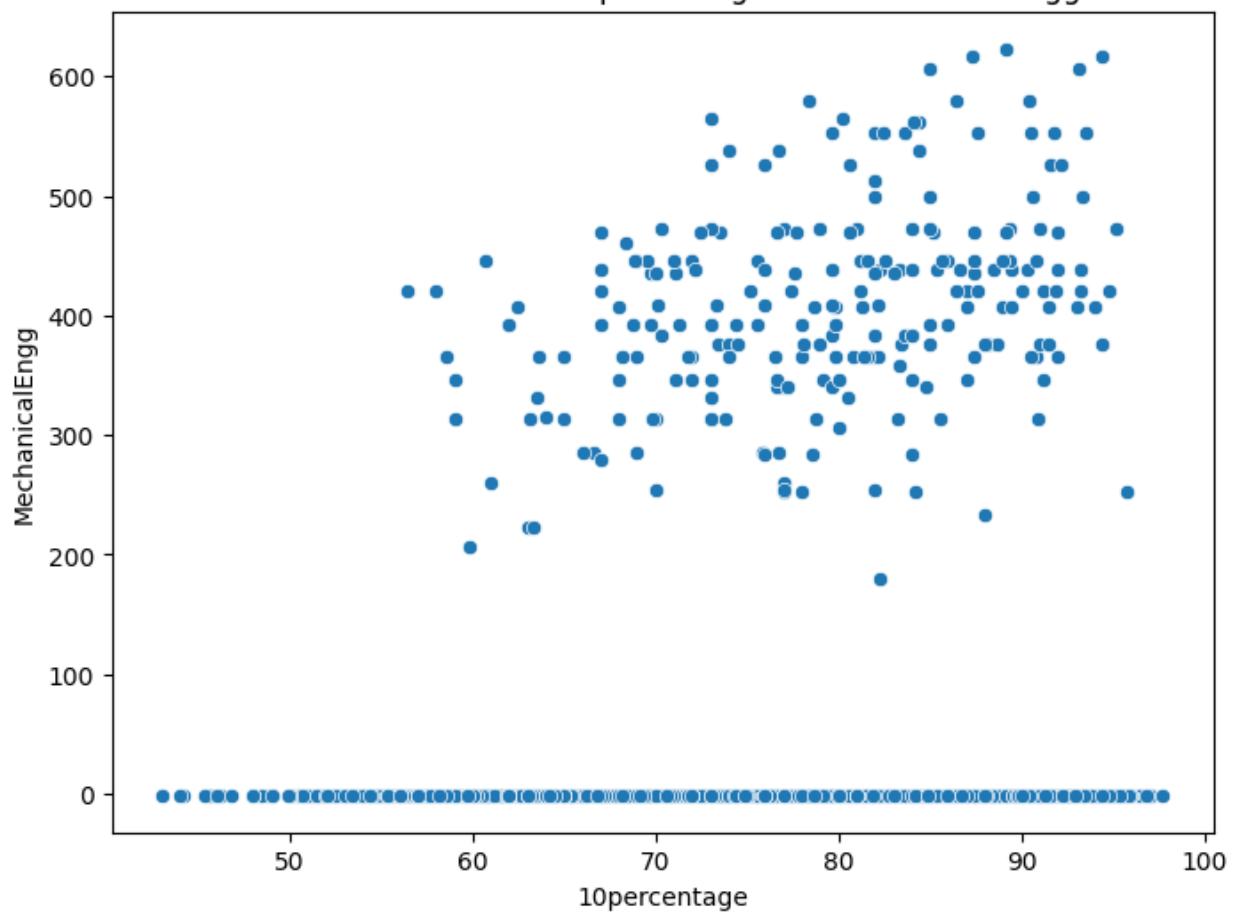
Scatter Plot between 10percentage and ElectronicsAndSemicon



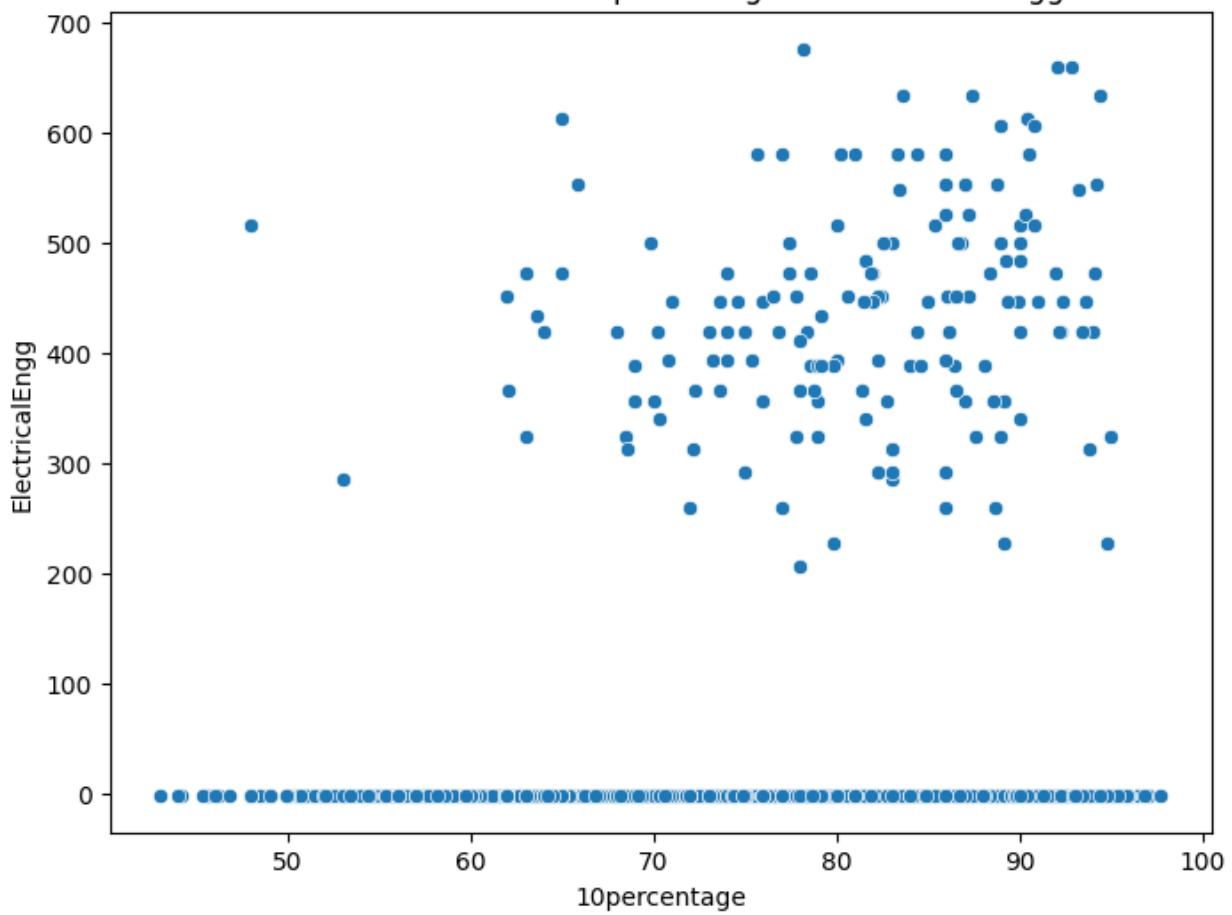
Scatter Plot between 10percentage and ComputerScience



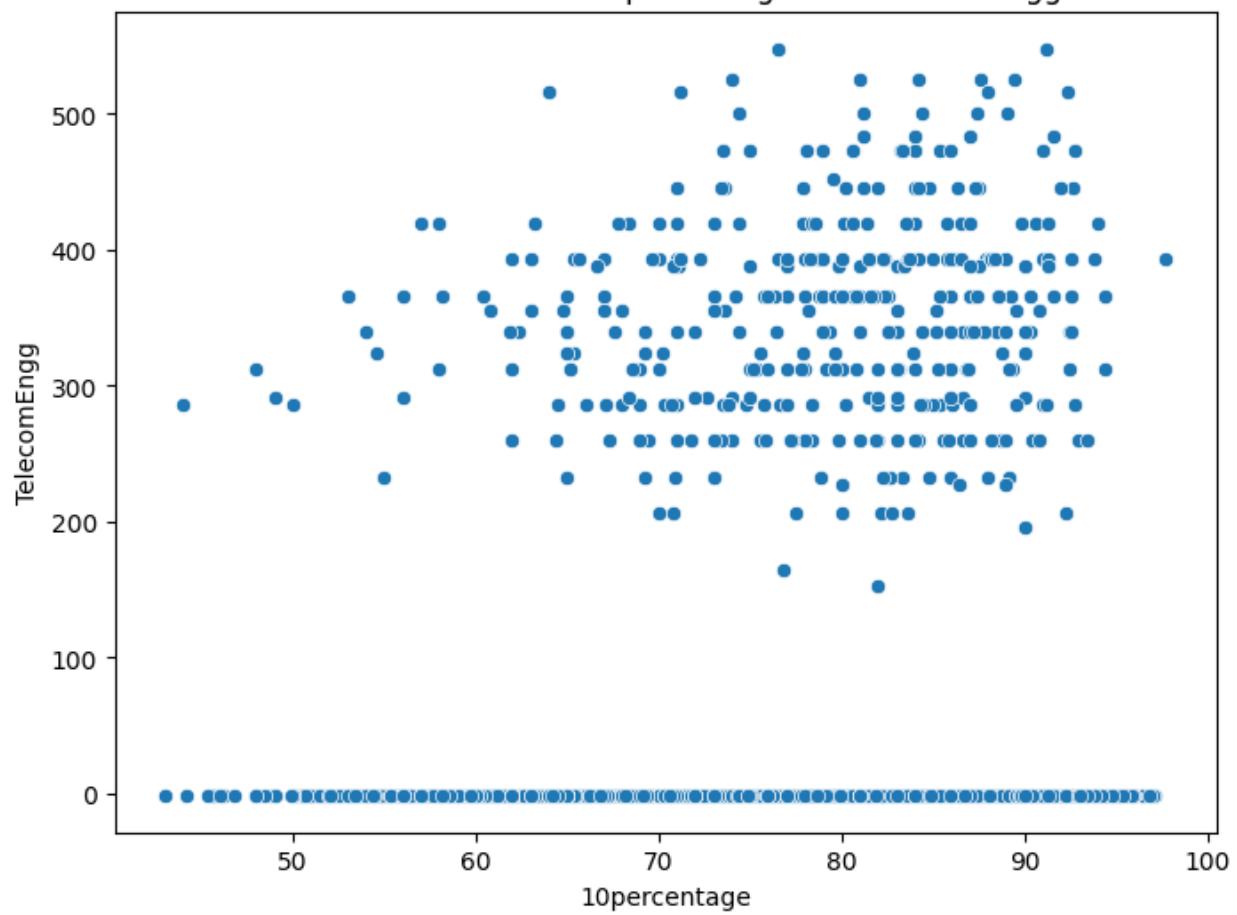
Scatter Plot between 10percentage and MechanicalEngg



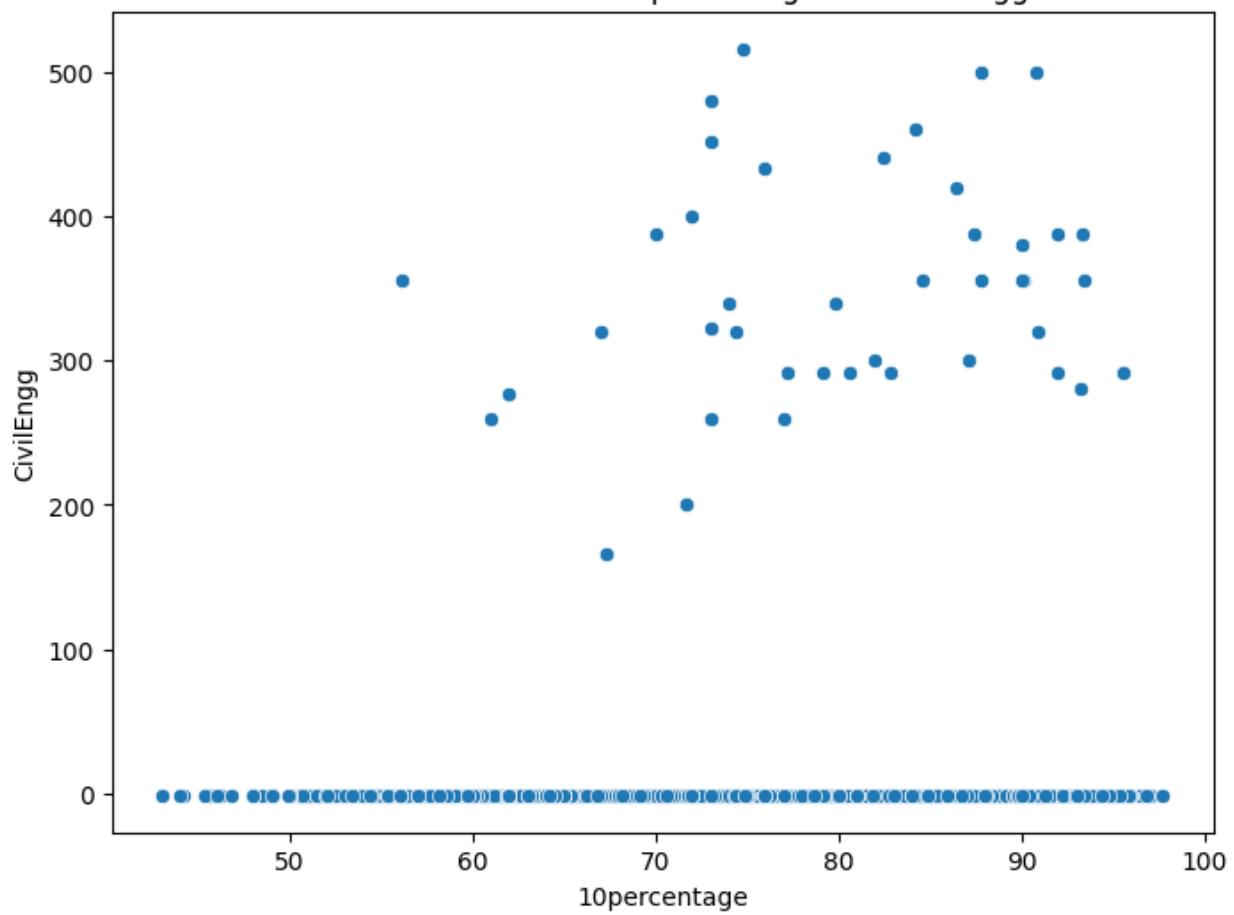
Scatter Plot between 10percentage and ElectricalEngg



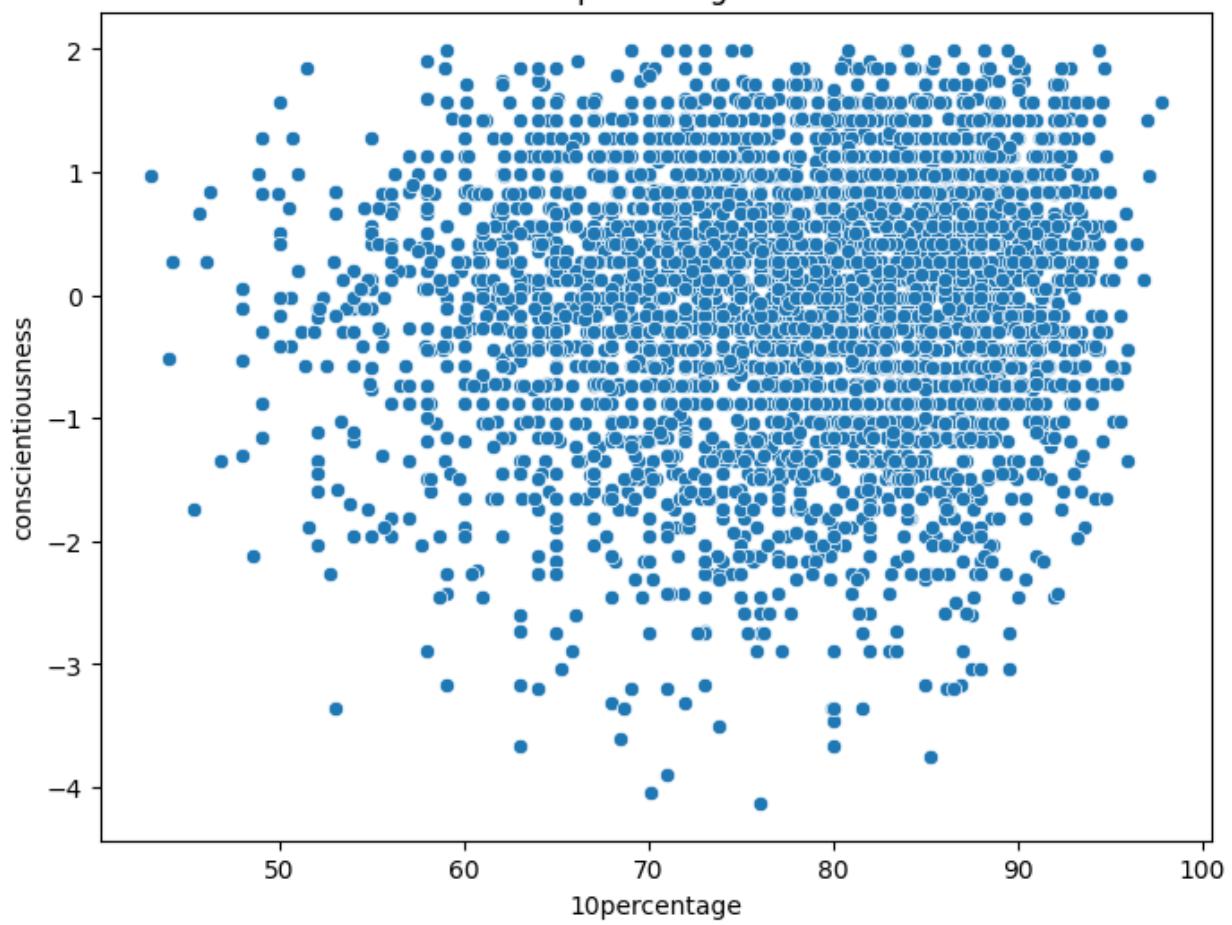
Scatter Plot between 10percentage and TelecomEngg



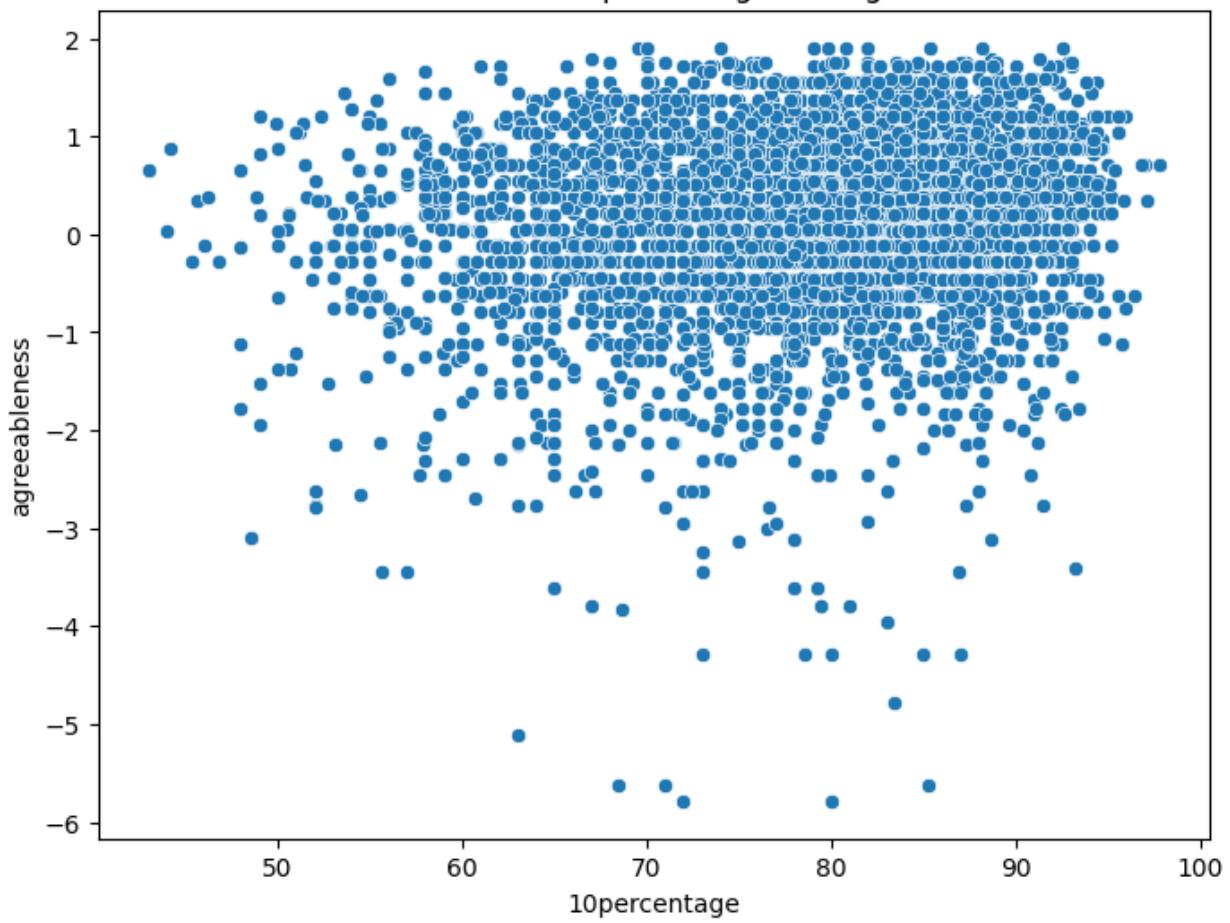
Scatter Plot between 10percentage and CivilEngg



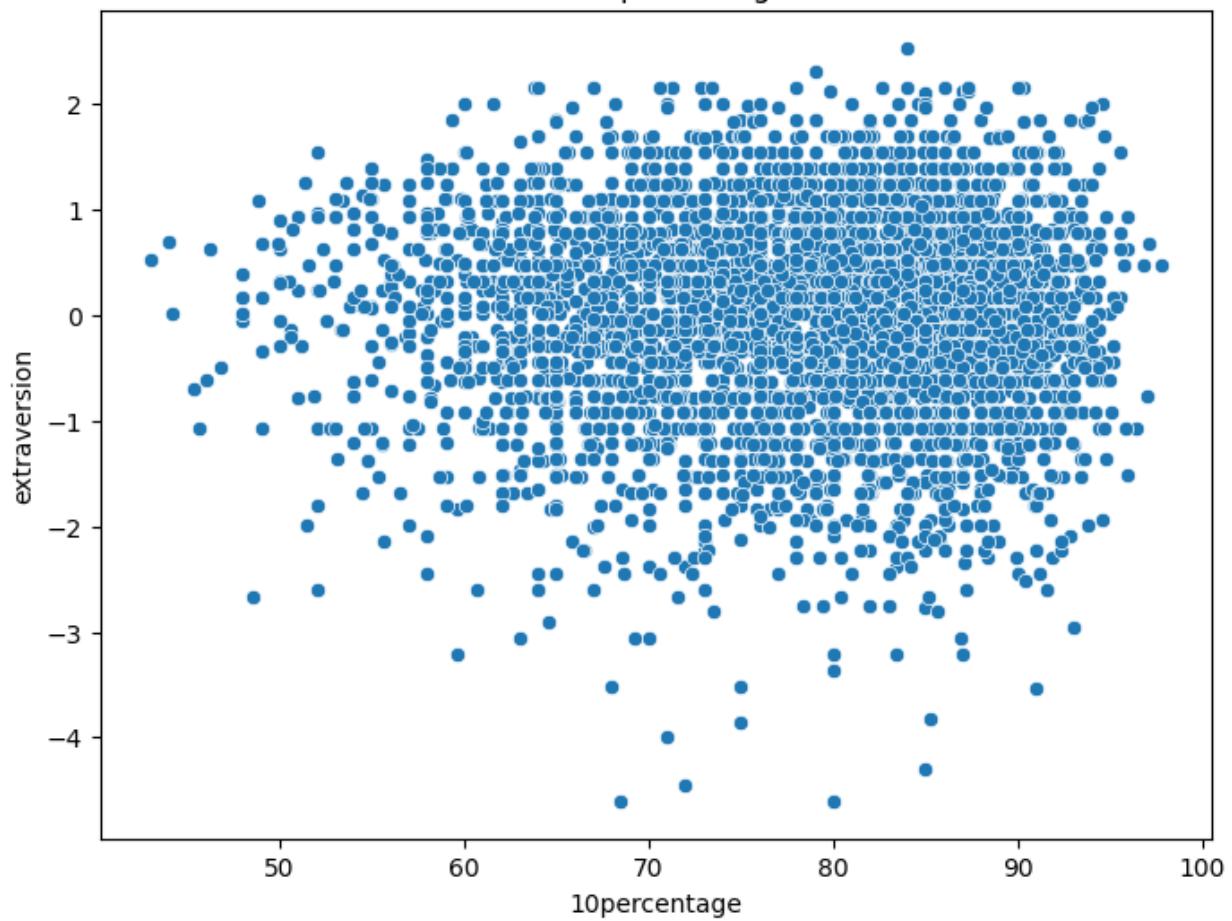
Scatter Plot between 10percentage and conscientiousness



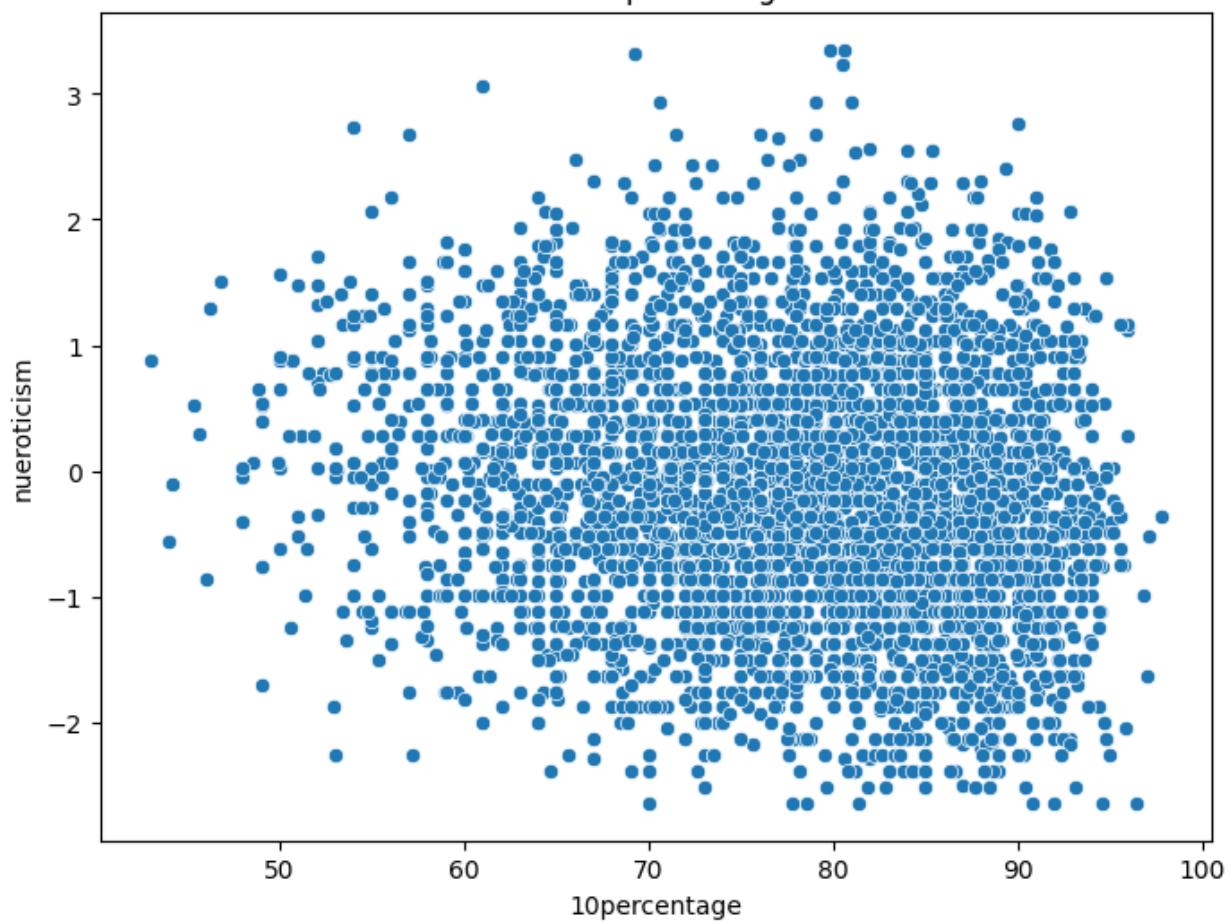
Scatter Plot between 10percentage and agreeableness



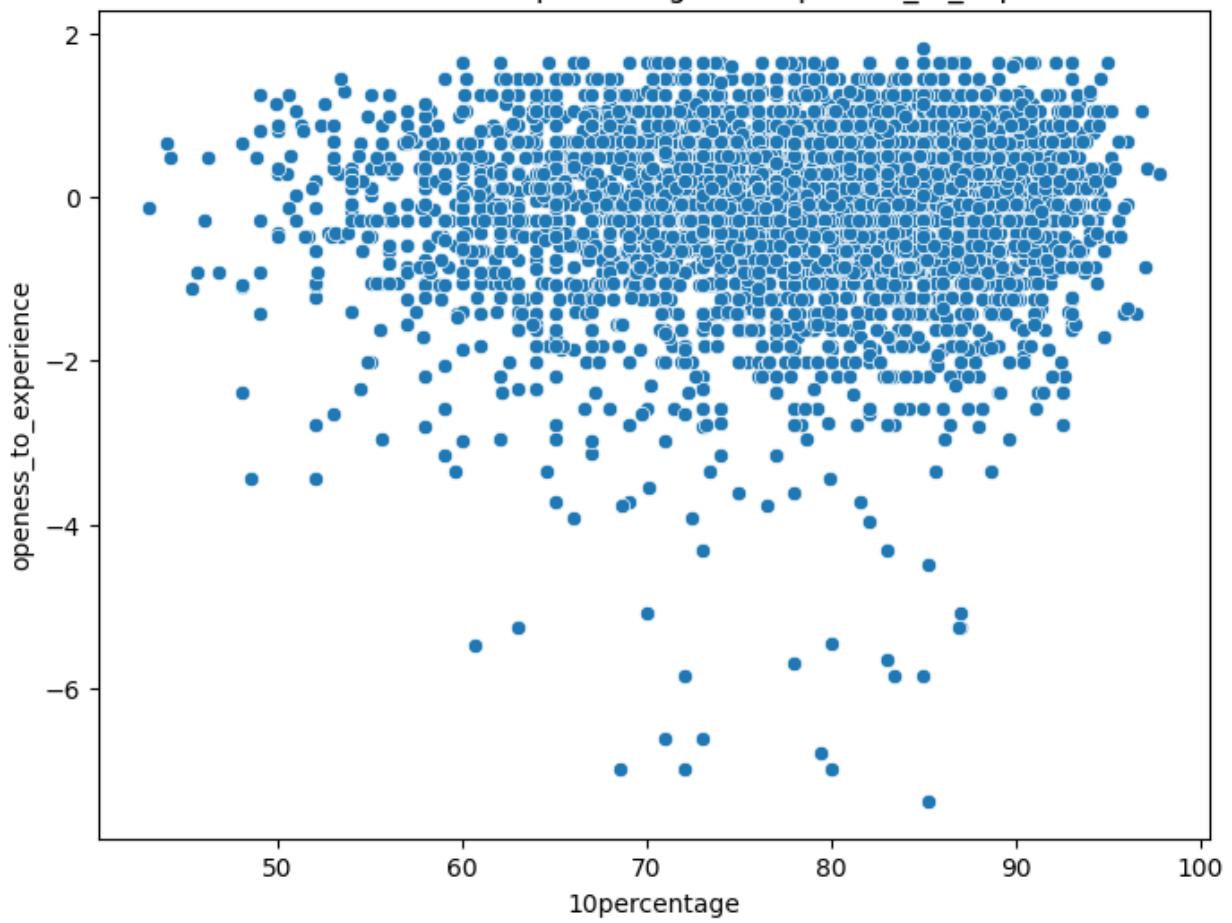
Scatter Plot between 10percentage and extraversion



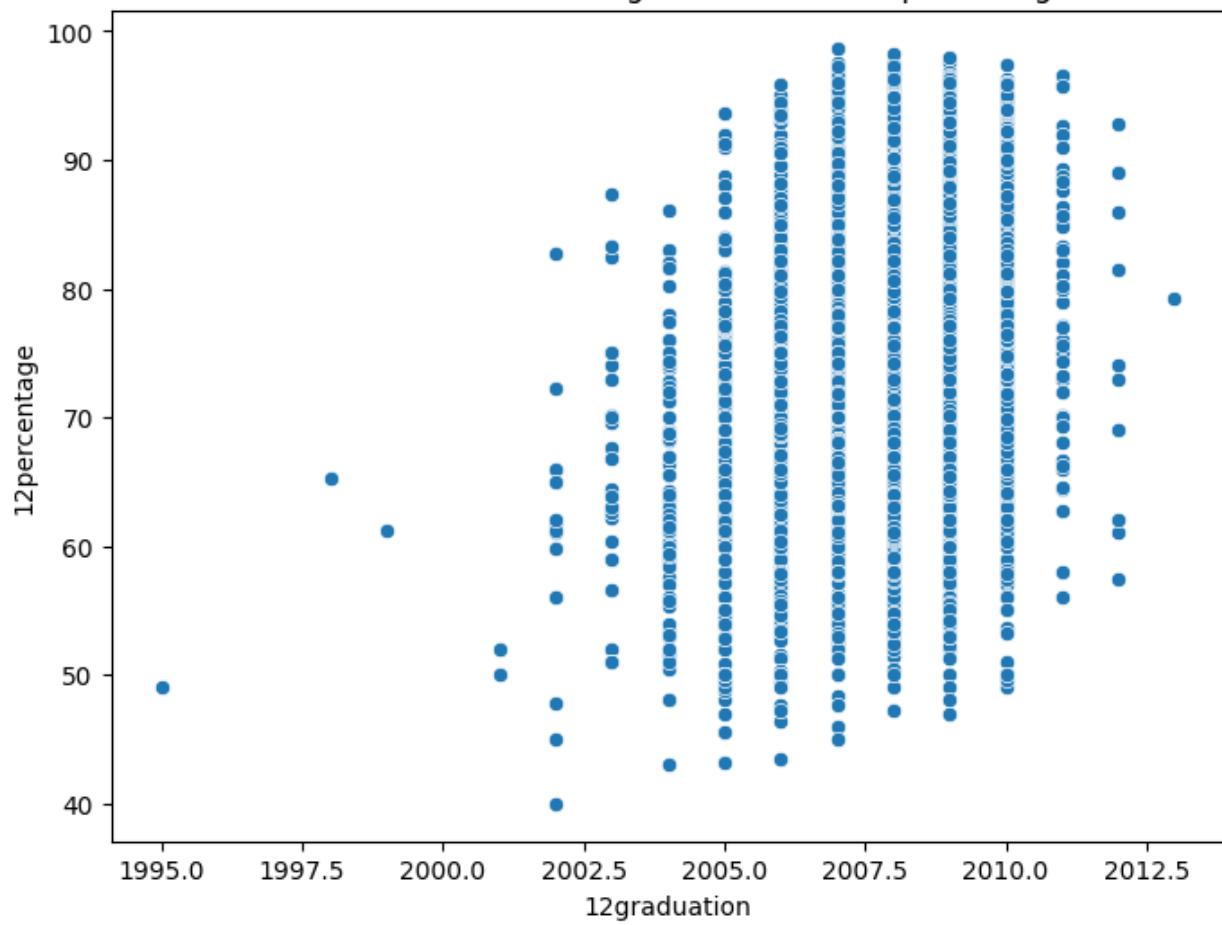
Scatter Plot between 10percentage and nueroticism



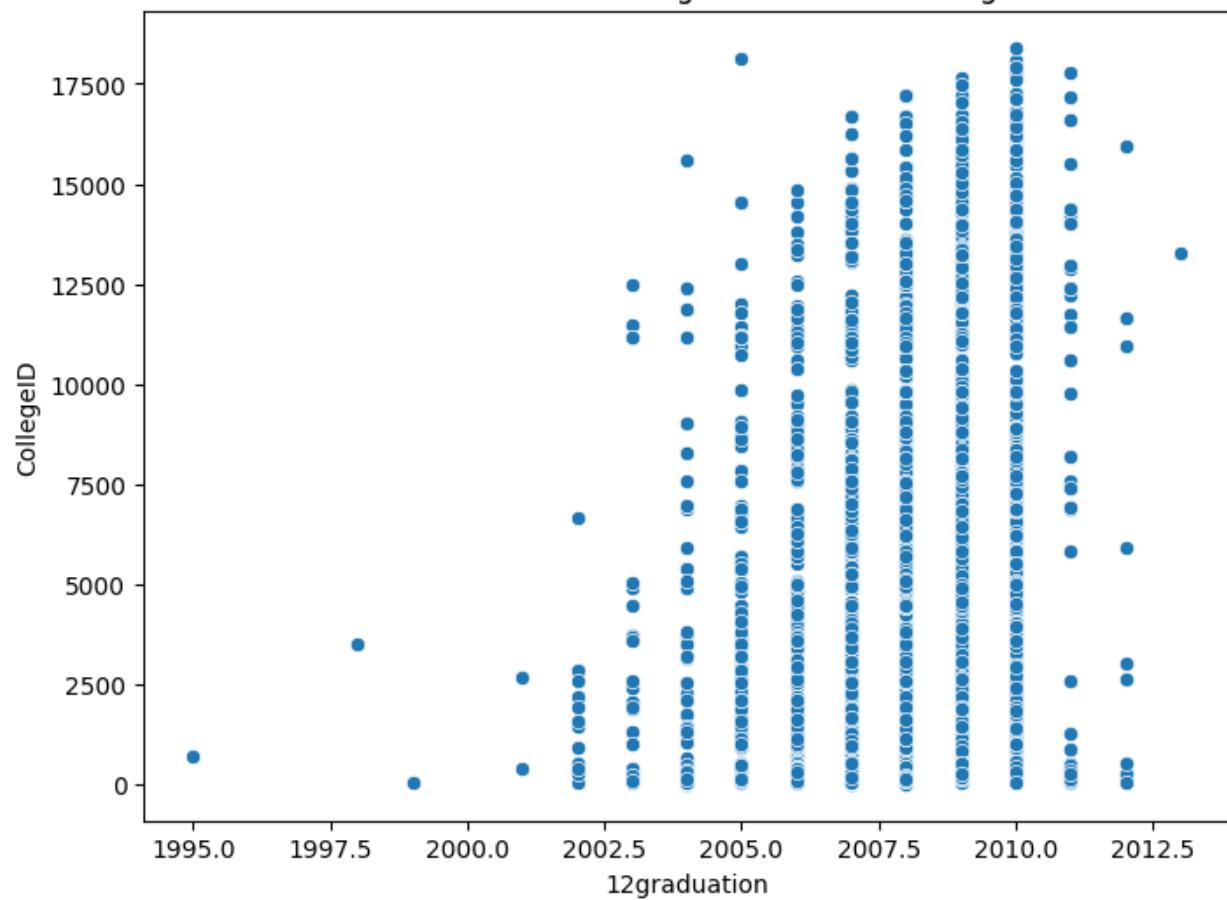
Scatter Plot between 10percentage and openness_to_experience



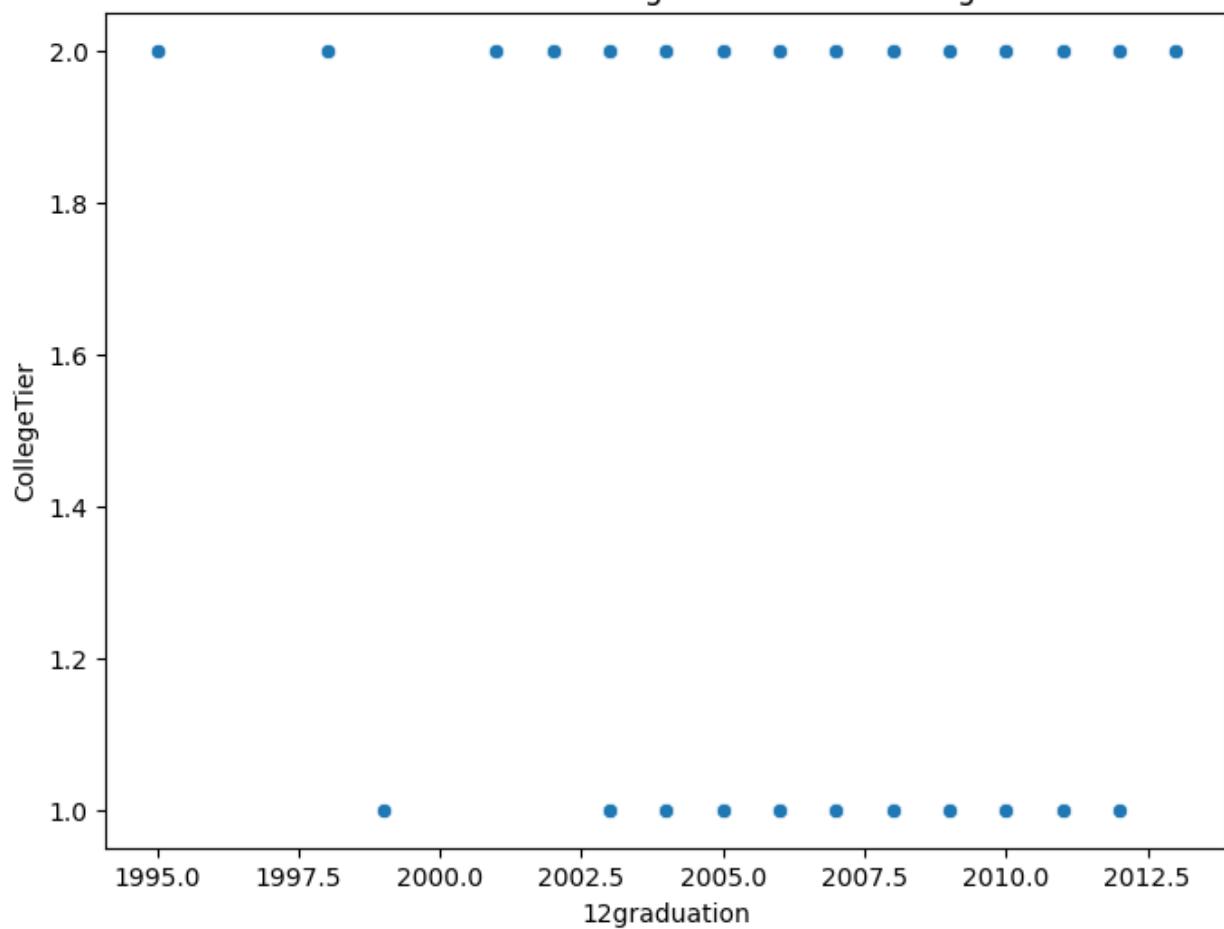
Scatter Plot between 12graduation and 12percentage



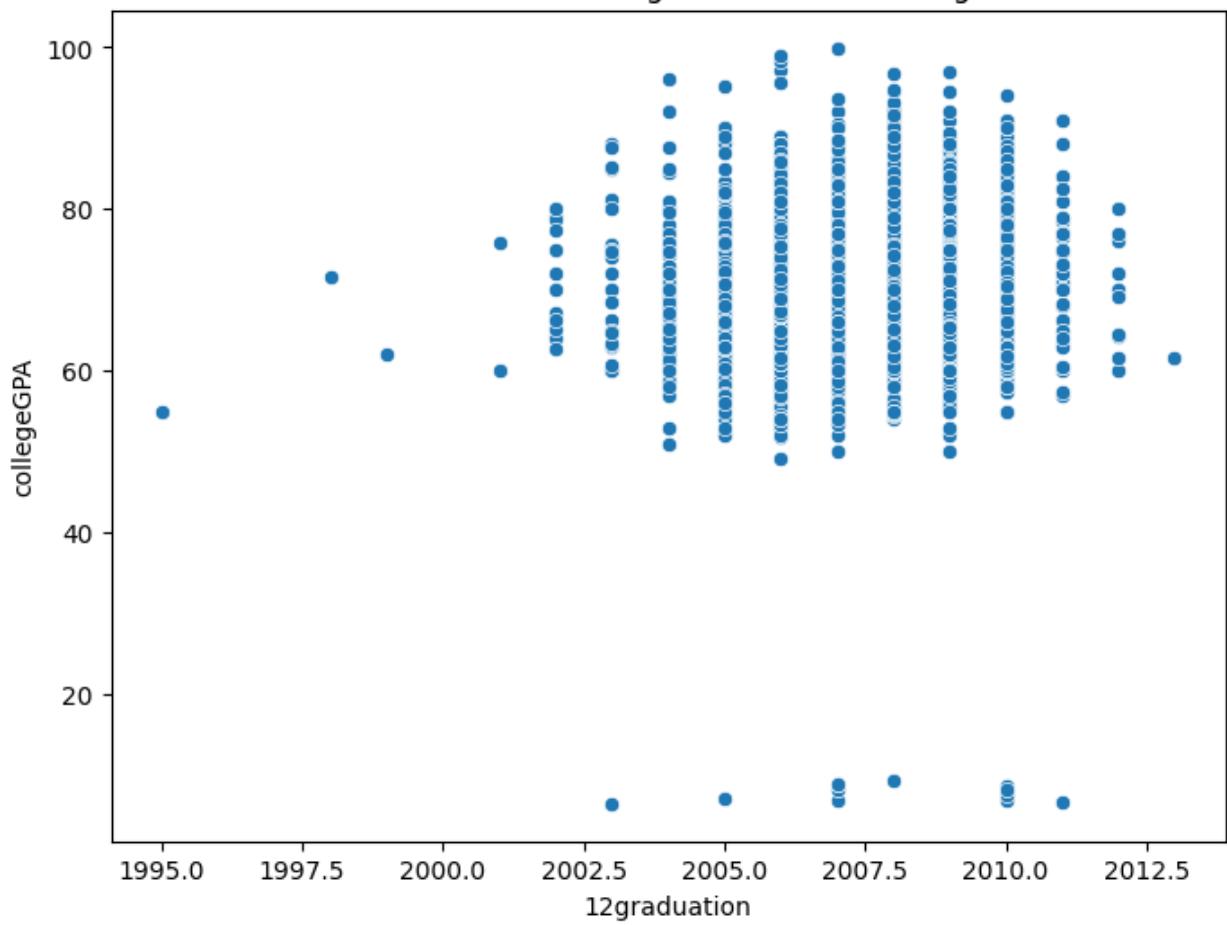
Scatter Plot between 12graduation and CollegelD



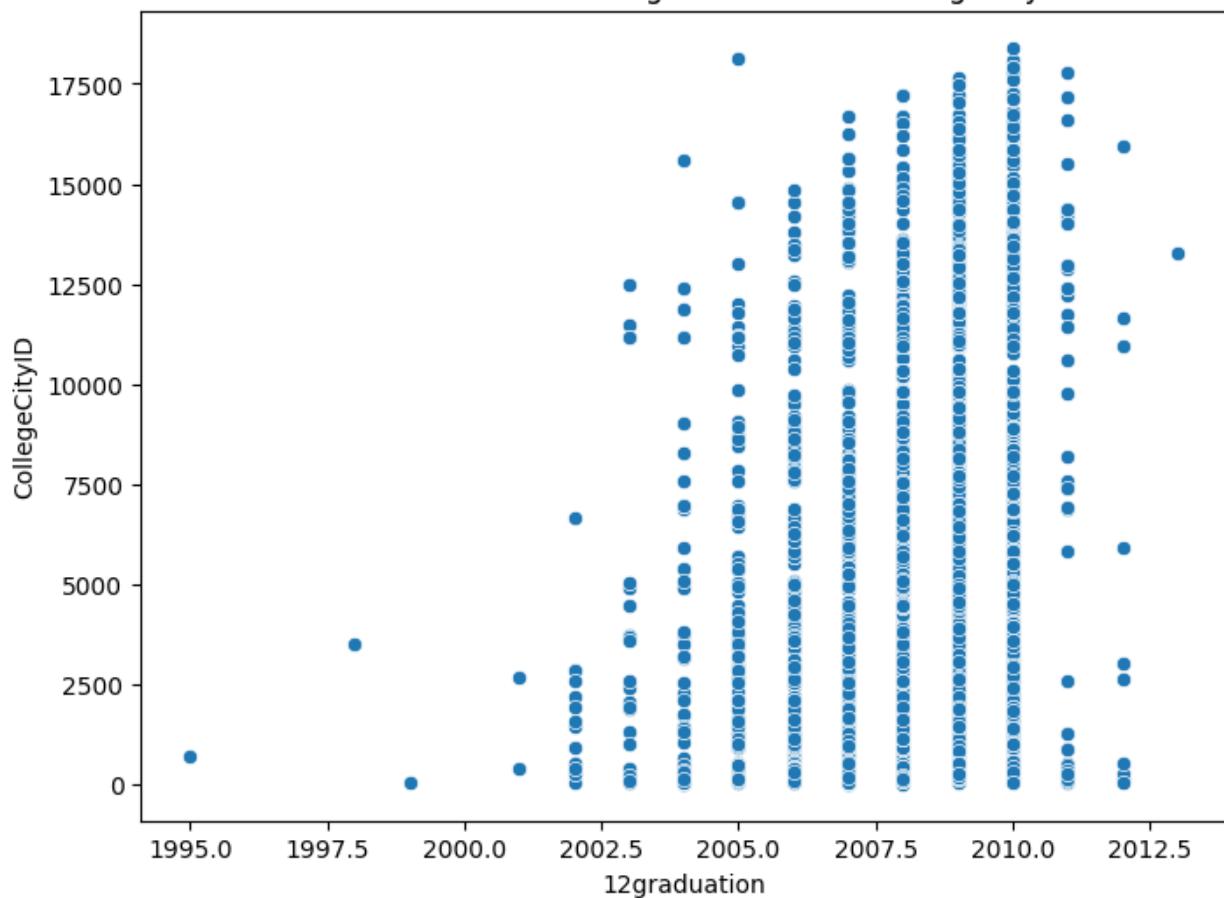
Scatter Plot between 12graduation and CollegeTier



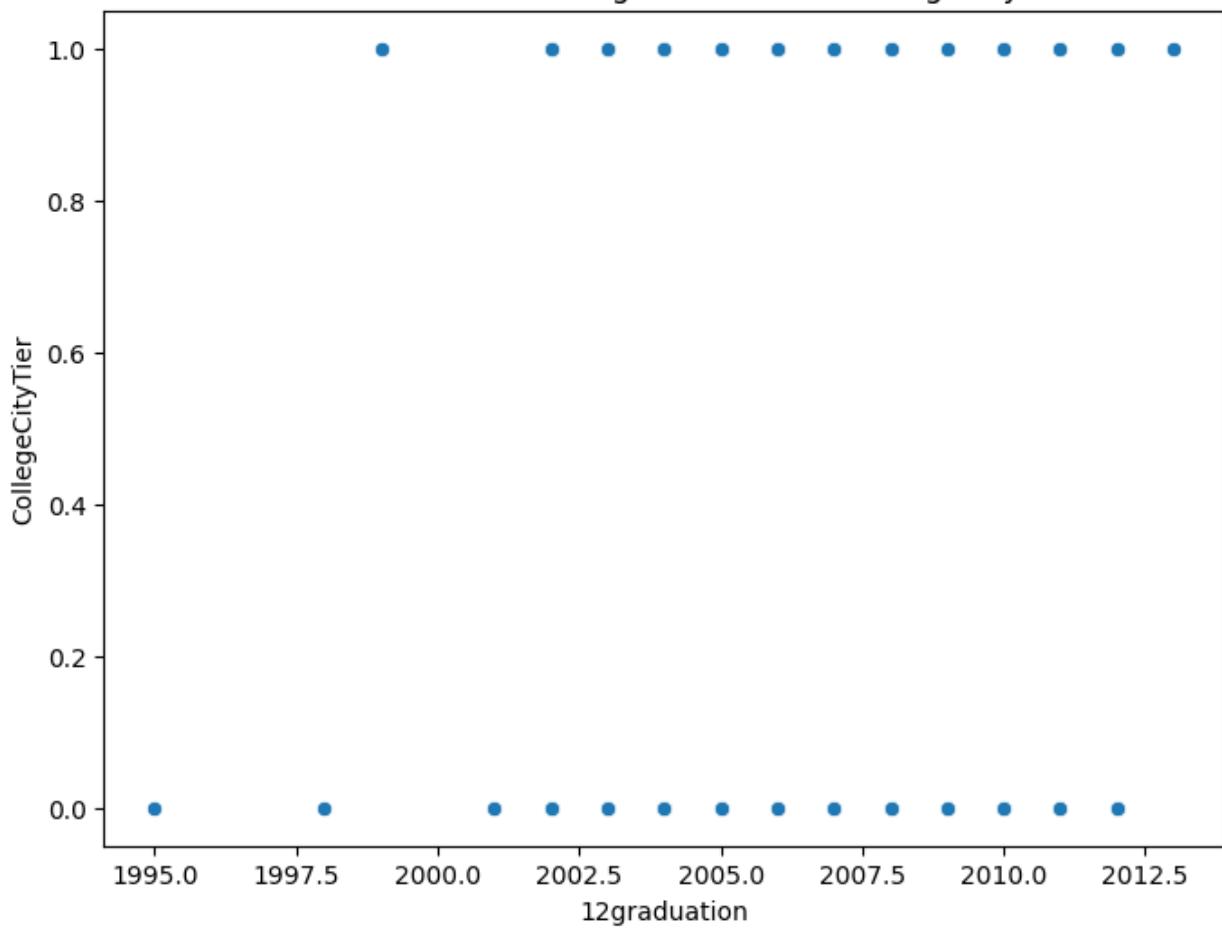
Scatter Plot between 12graduation and collegeGPA



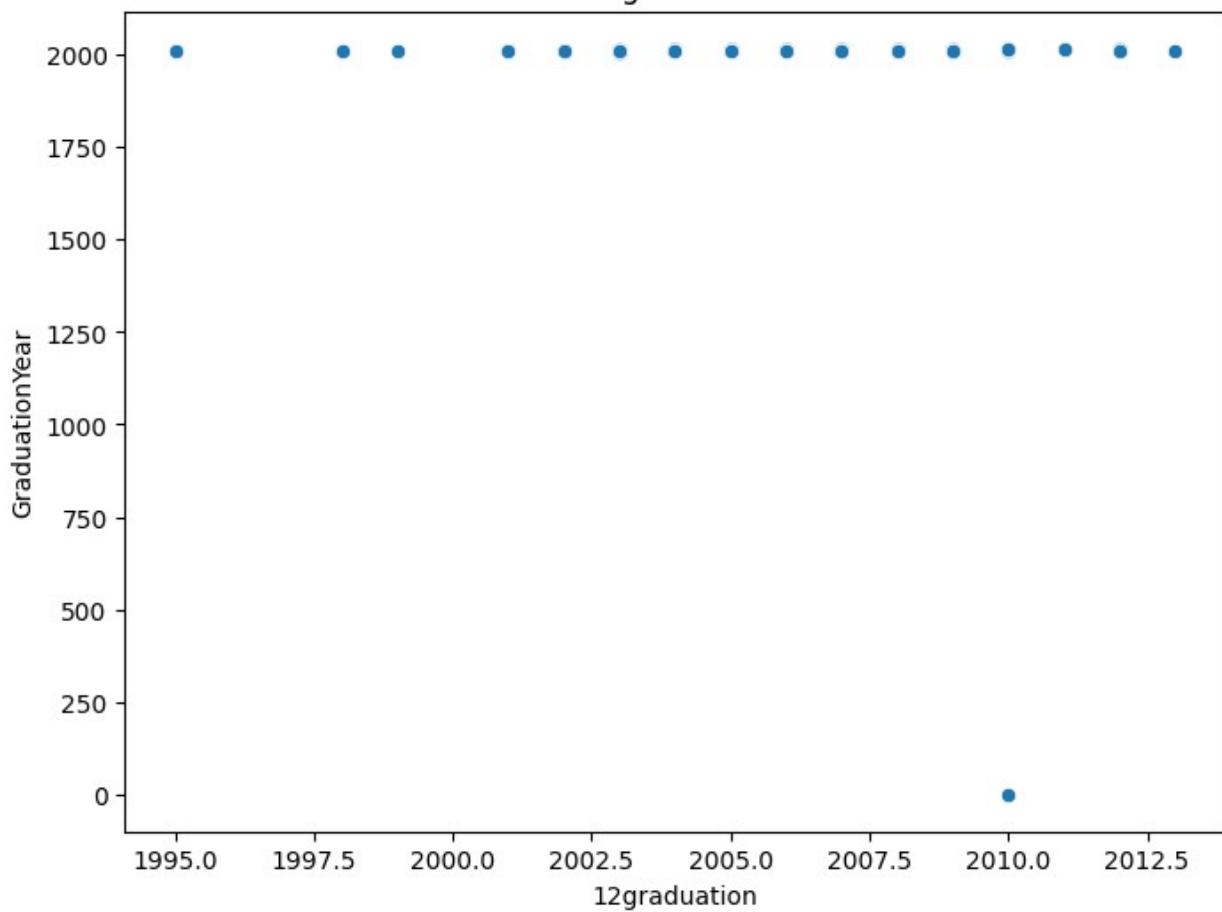
Scatter Plot between 12graduation and CollegeCityID



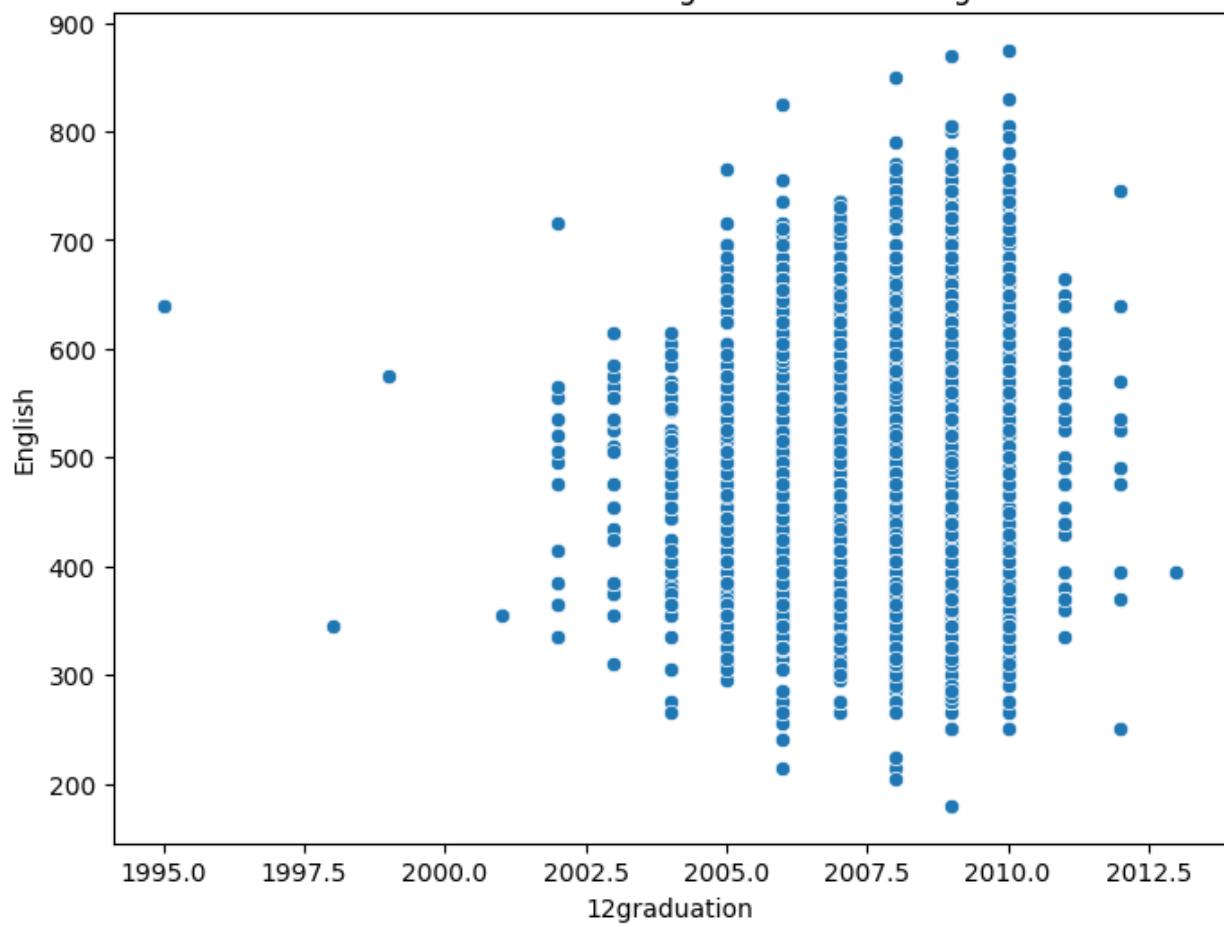
Scatter Plot between 12graduation and CollegeCityTier



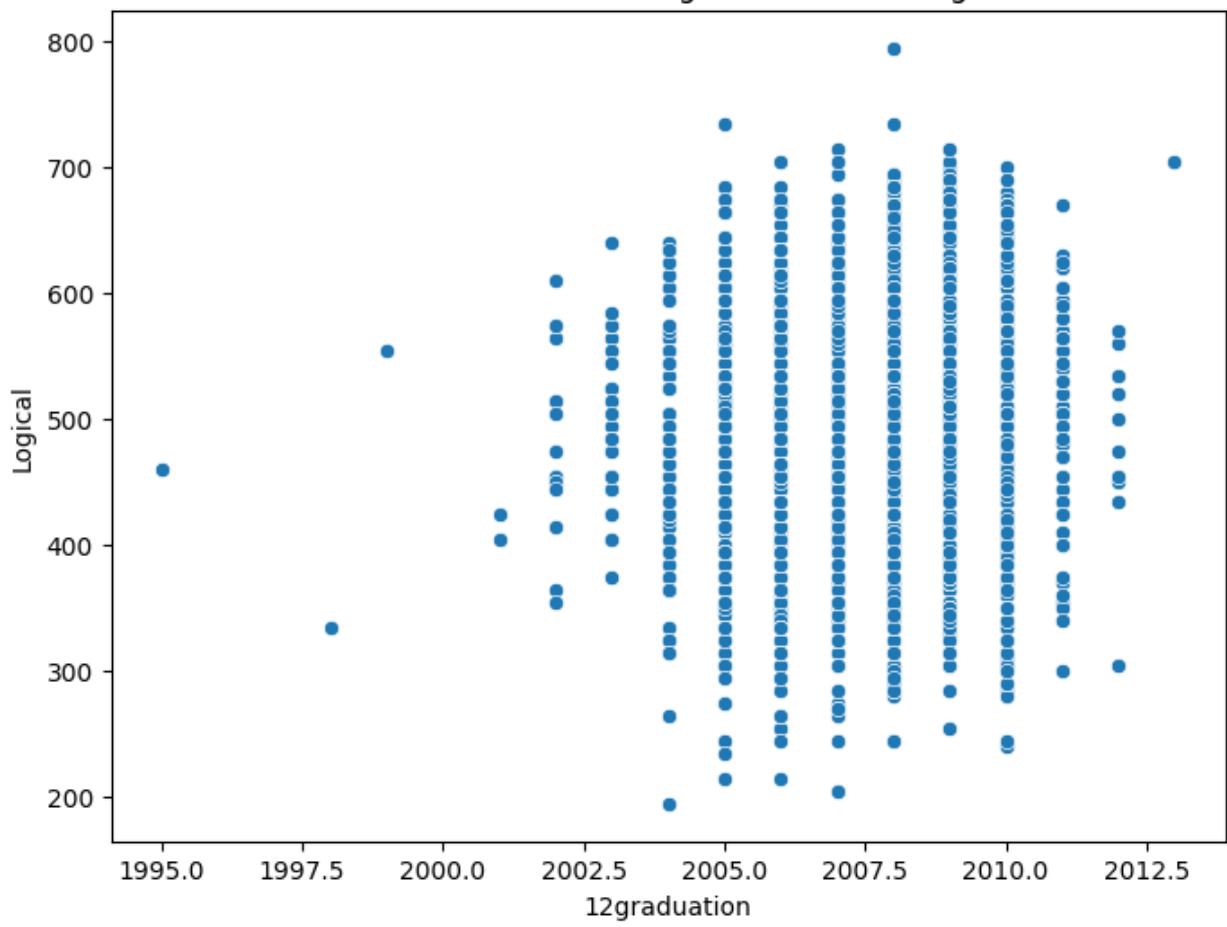
Scatter Plot between 12graduation and GraduationYear



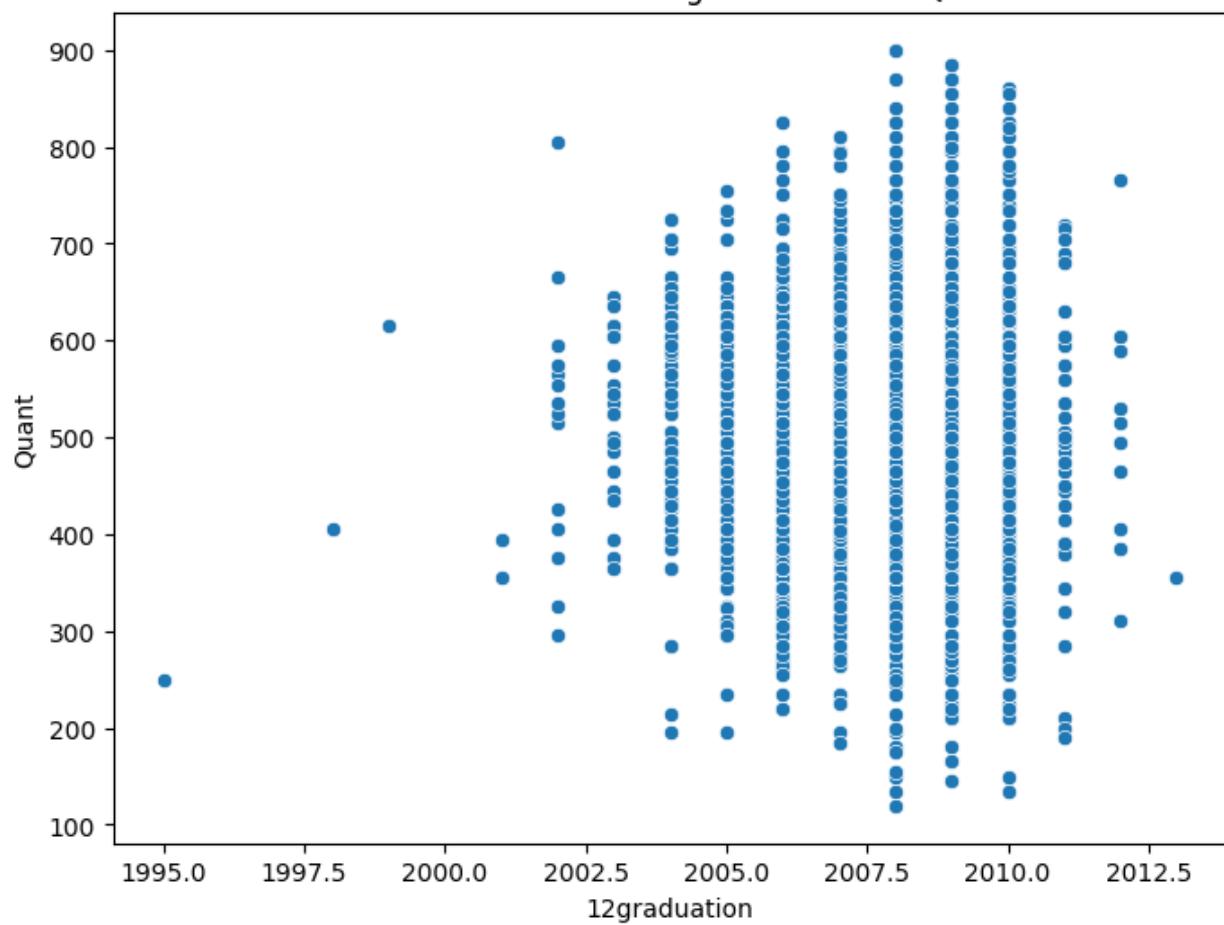
Scatter Plot between 12graduation and English



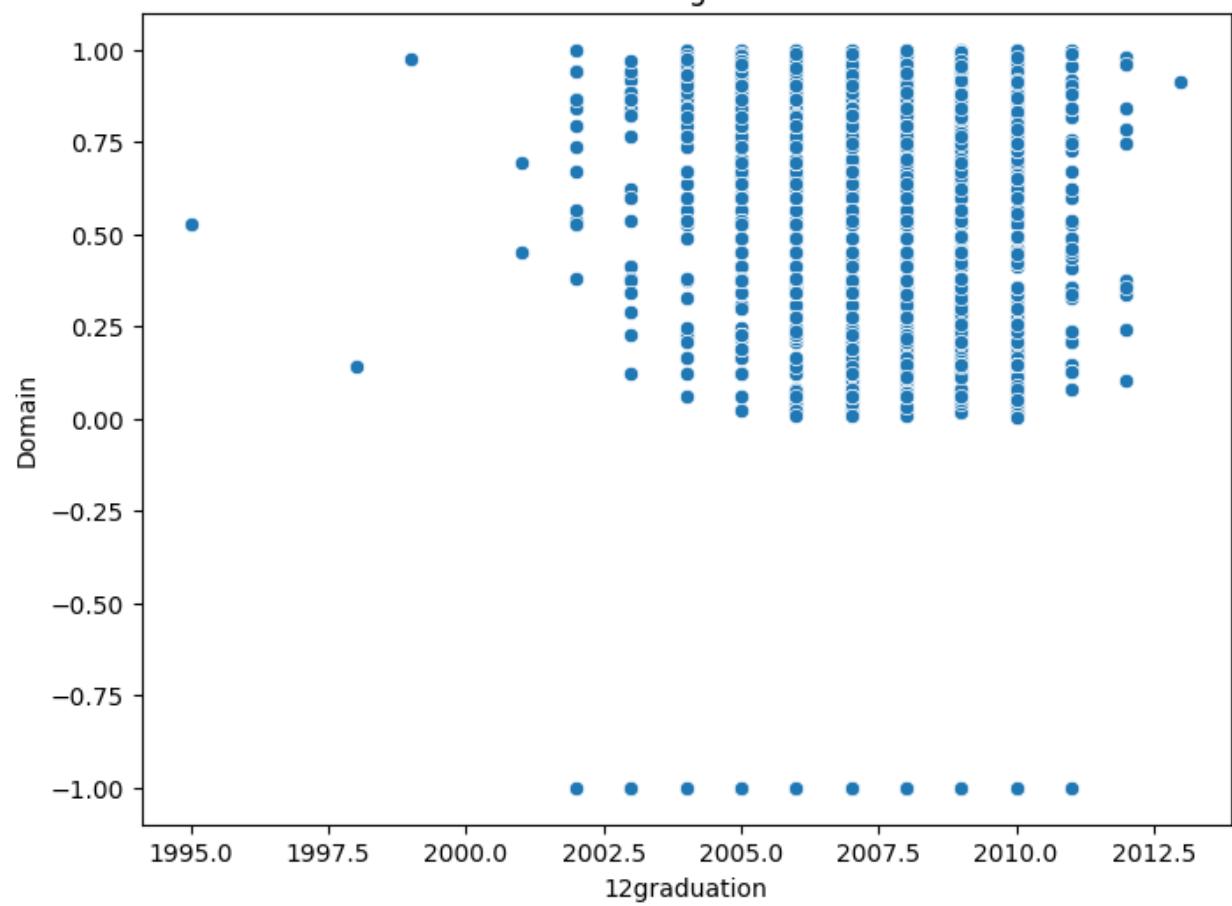
Scatter Plot between 12graduation and Logical



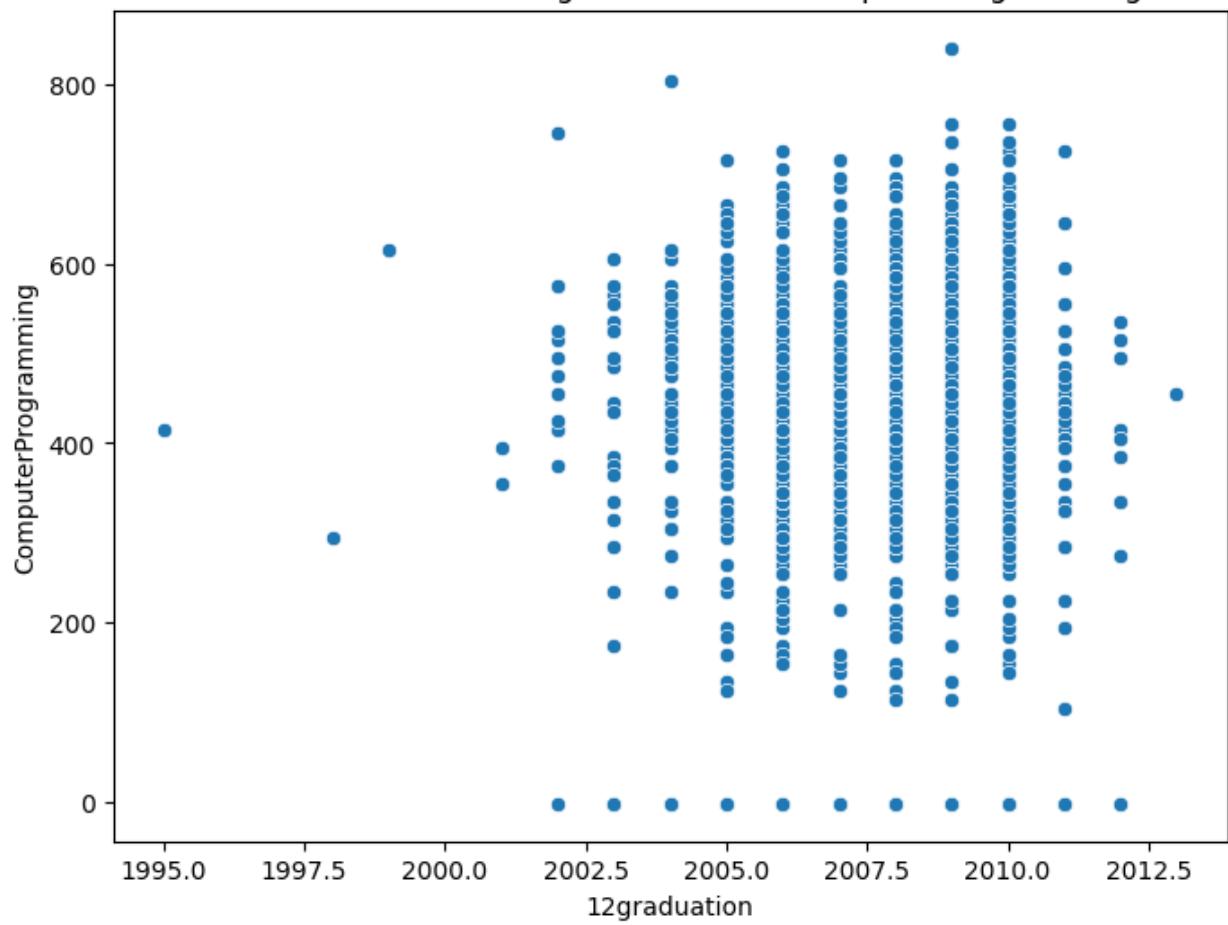
Scatter Plot between 12graduation and Quant



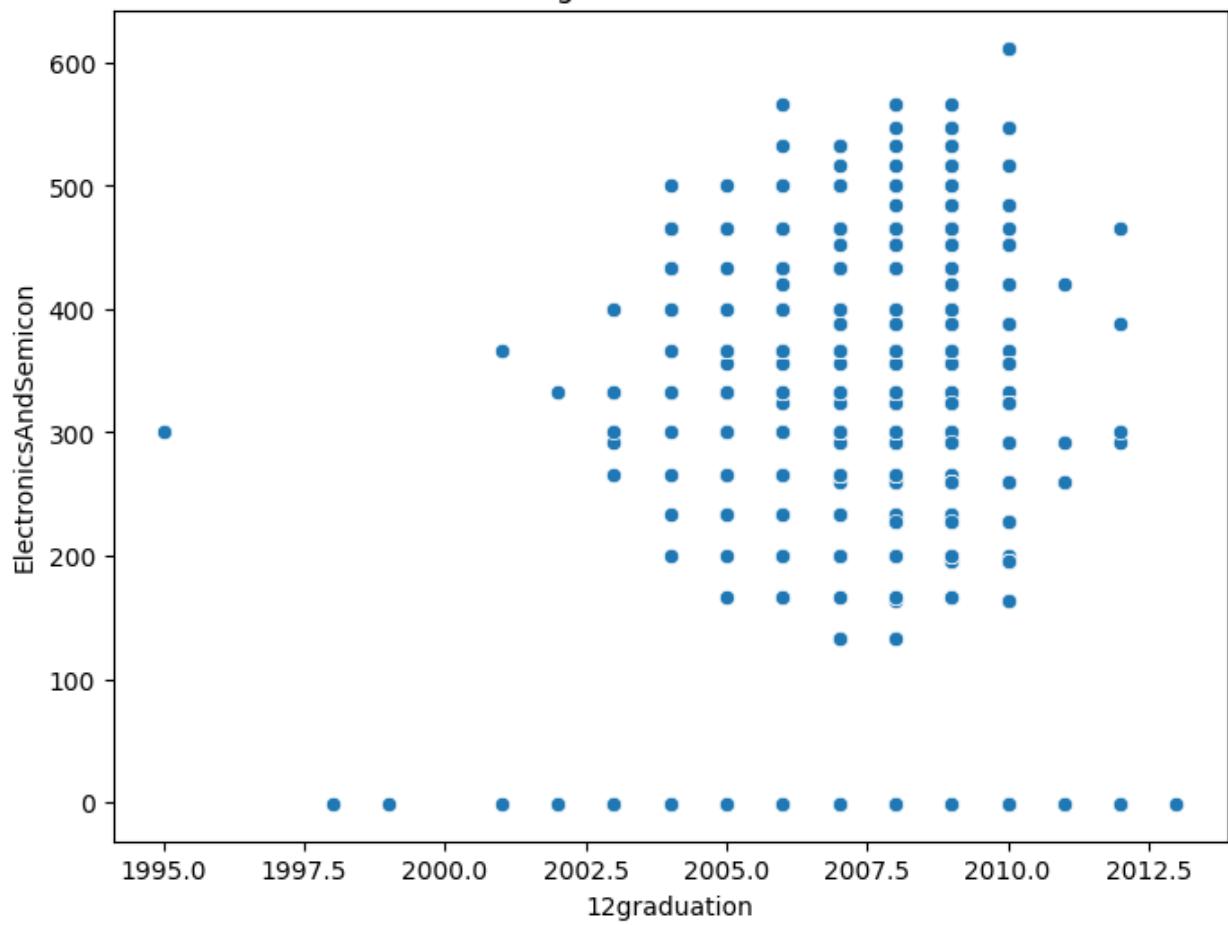
Scatter Plot between 12graduation and Domain



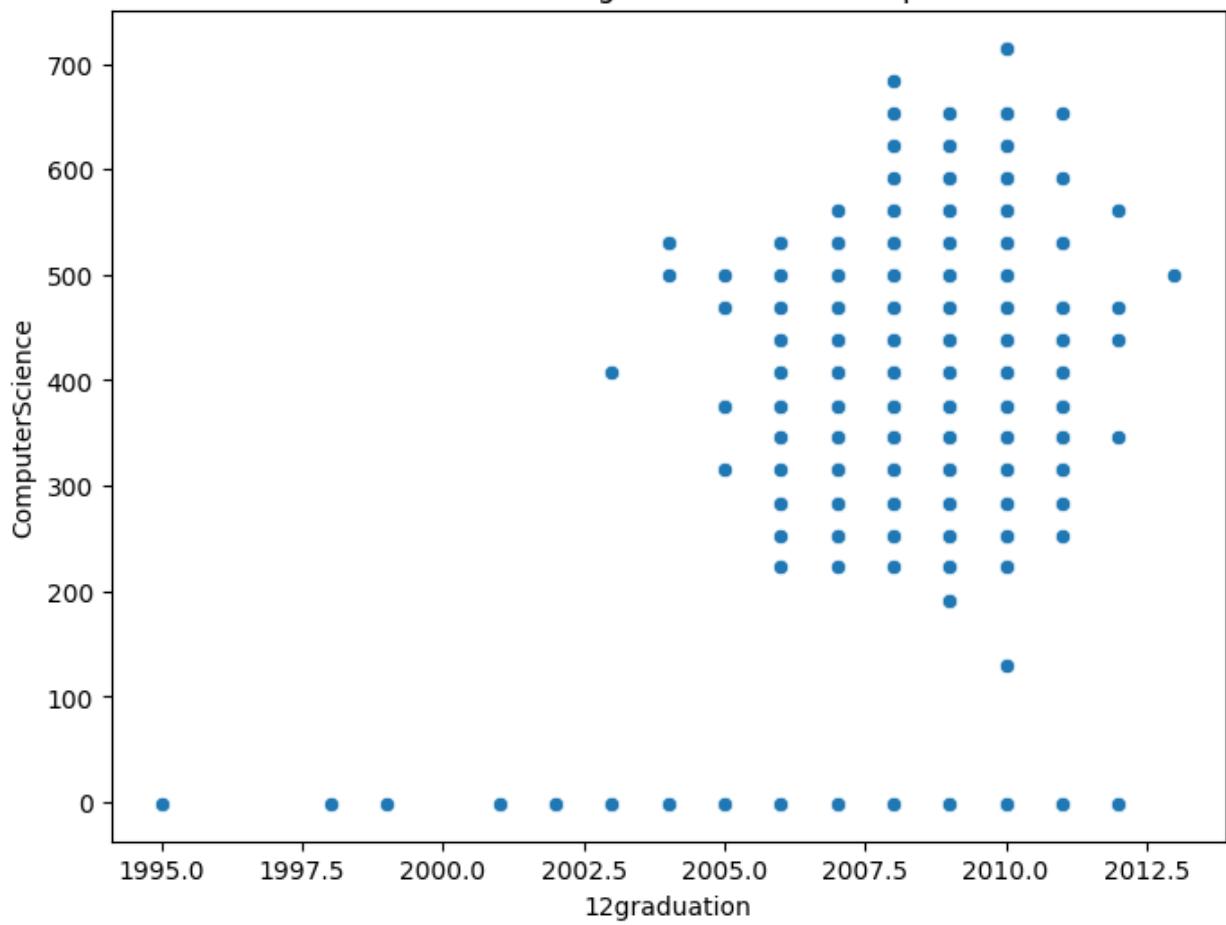
Scatter Plot between 12graduation and ComputerProgramming



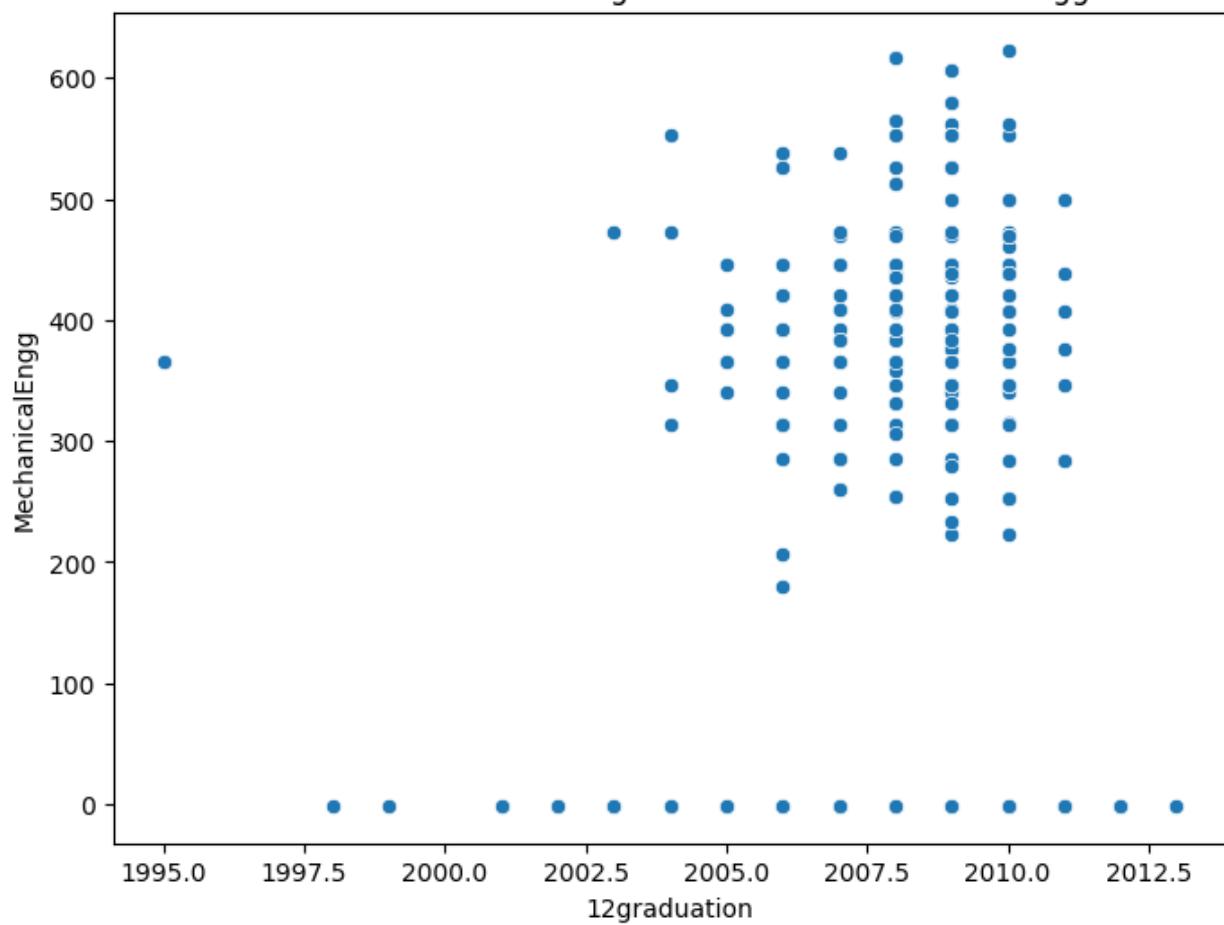
Scatter Plot between 12graduation and ElectronicsAndSemicon



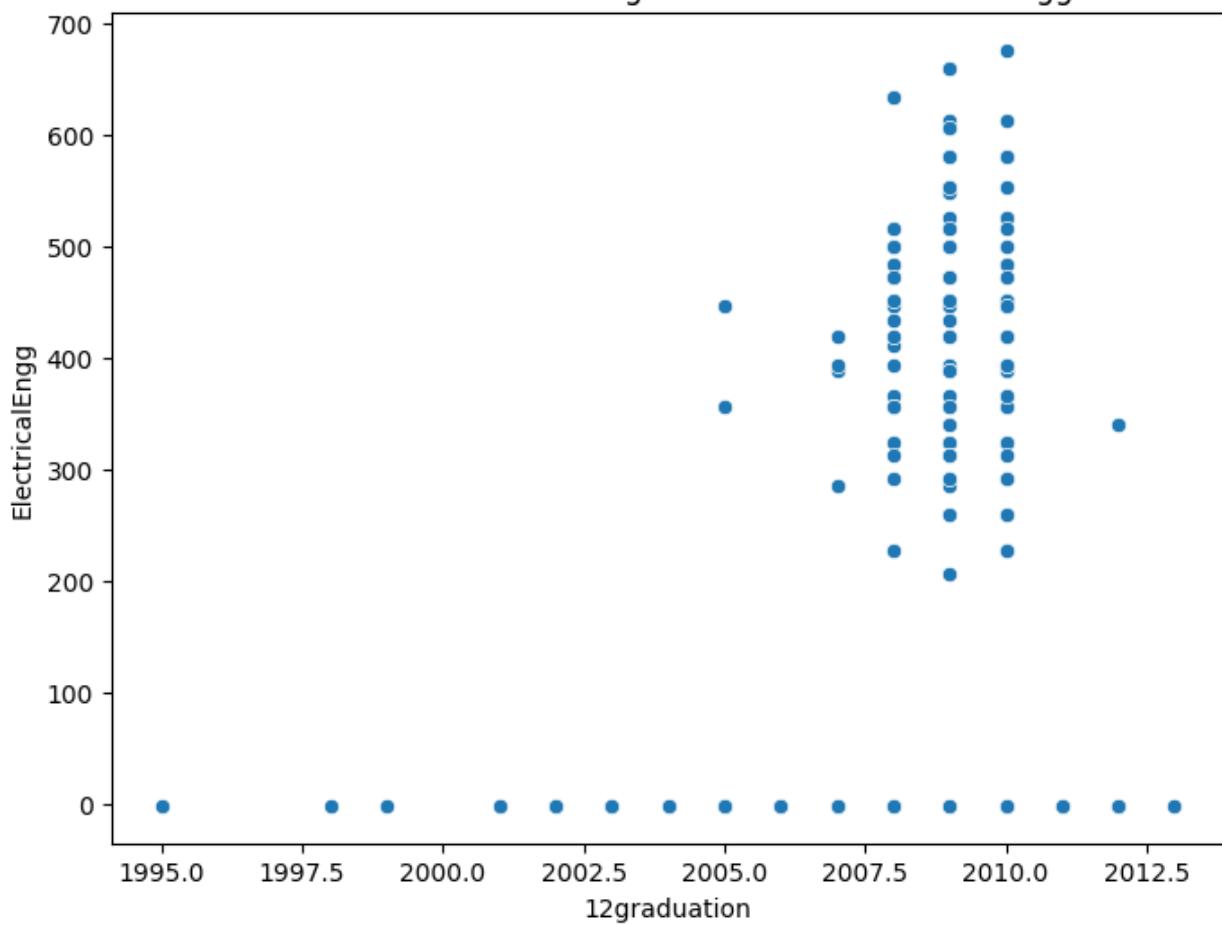
Scatter Plot between 12graduation and ComputerScience



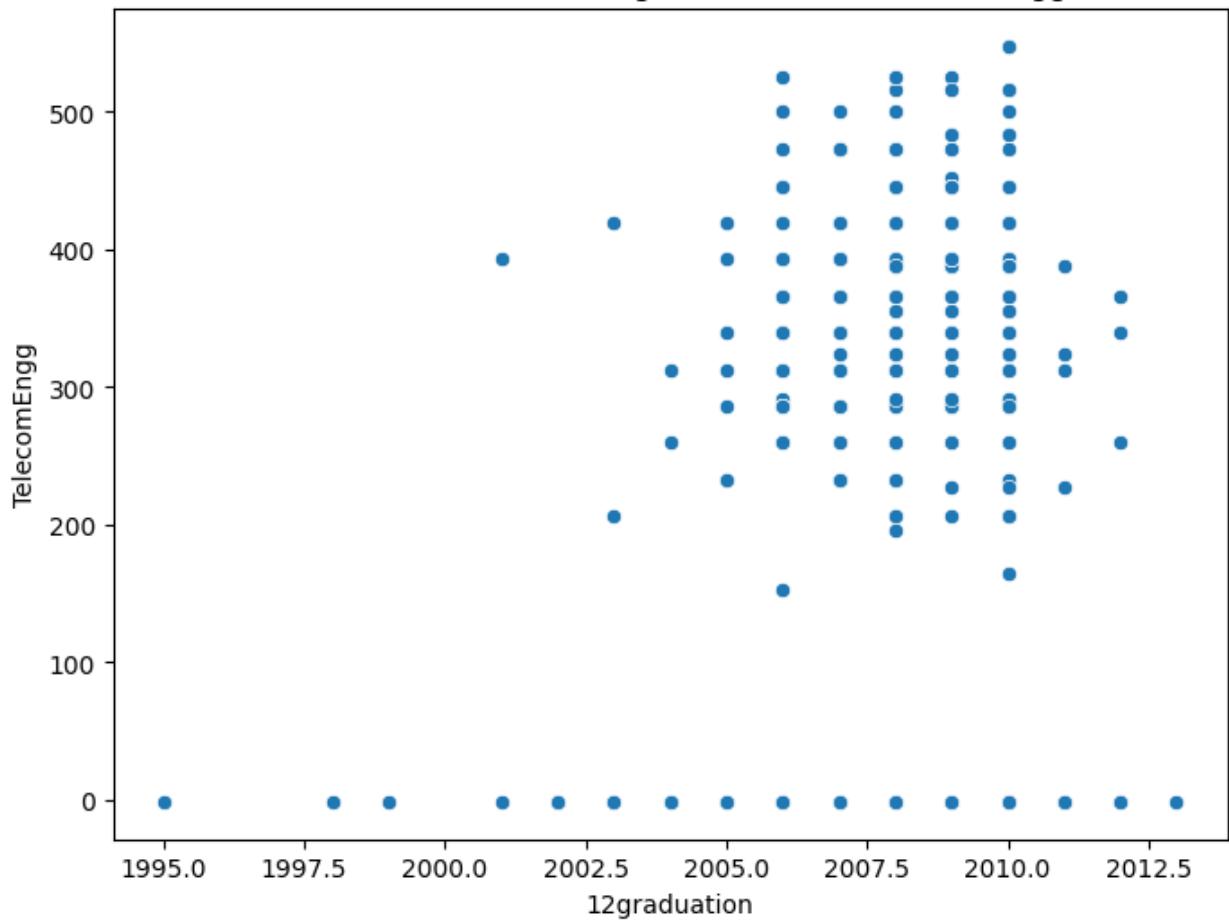
Scatter Plot between 12graduation and MechanicalEngg



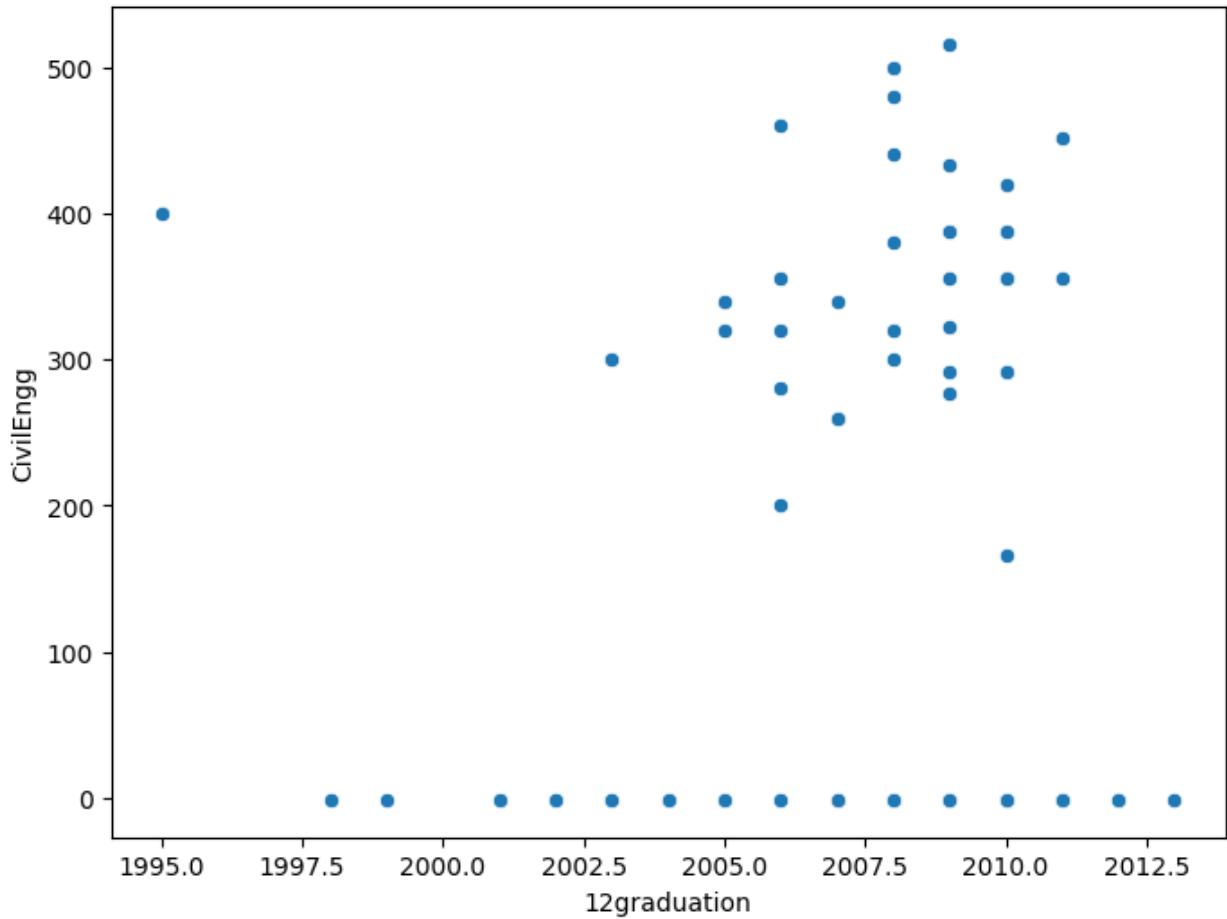
Scatter Plot between 12graduation and ElectricalEngg



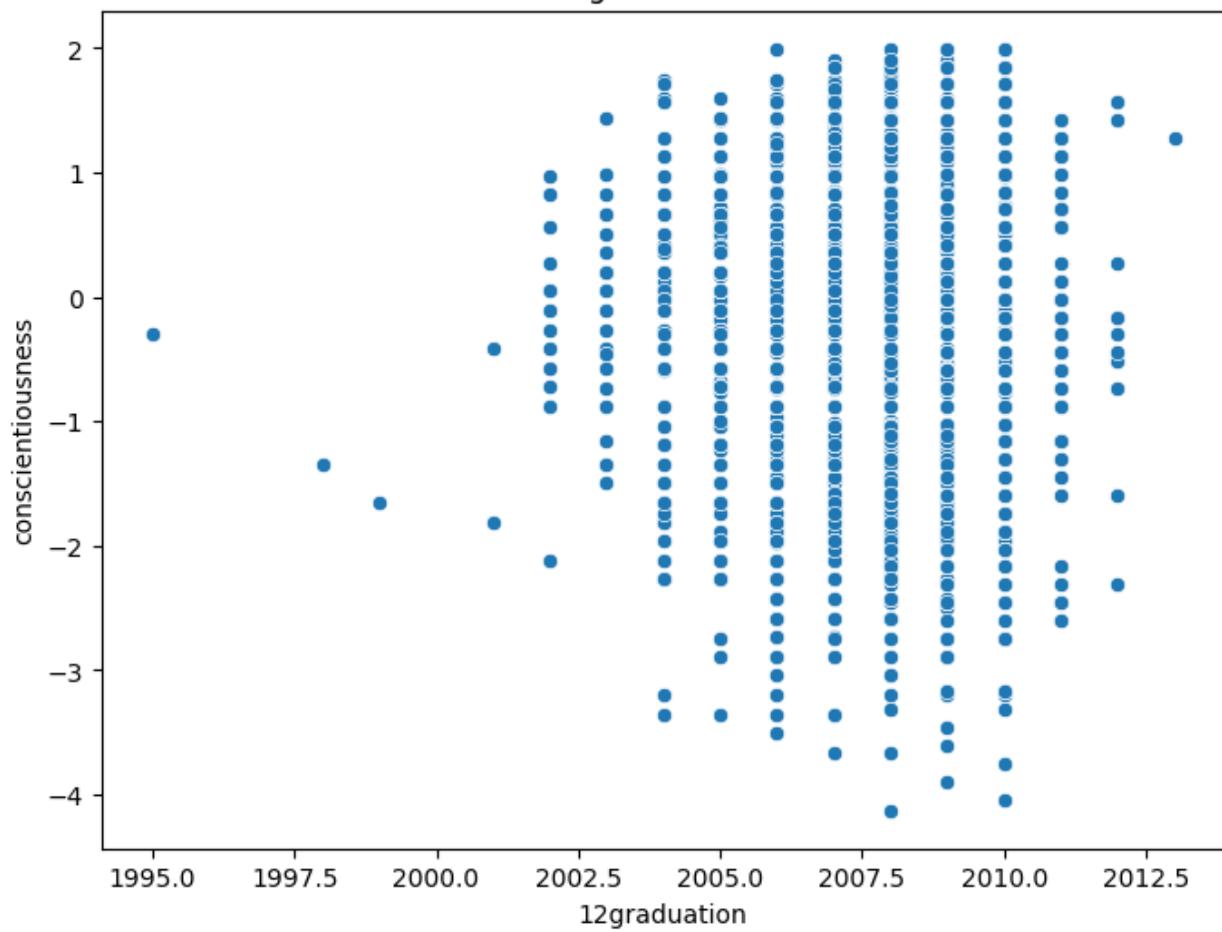
Scatter Plot between 12graduation and TelecomEngg



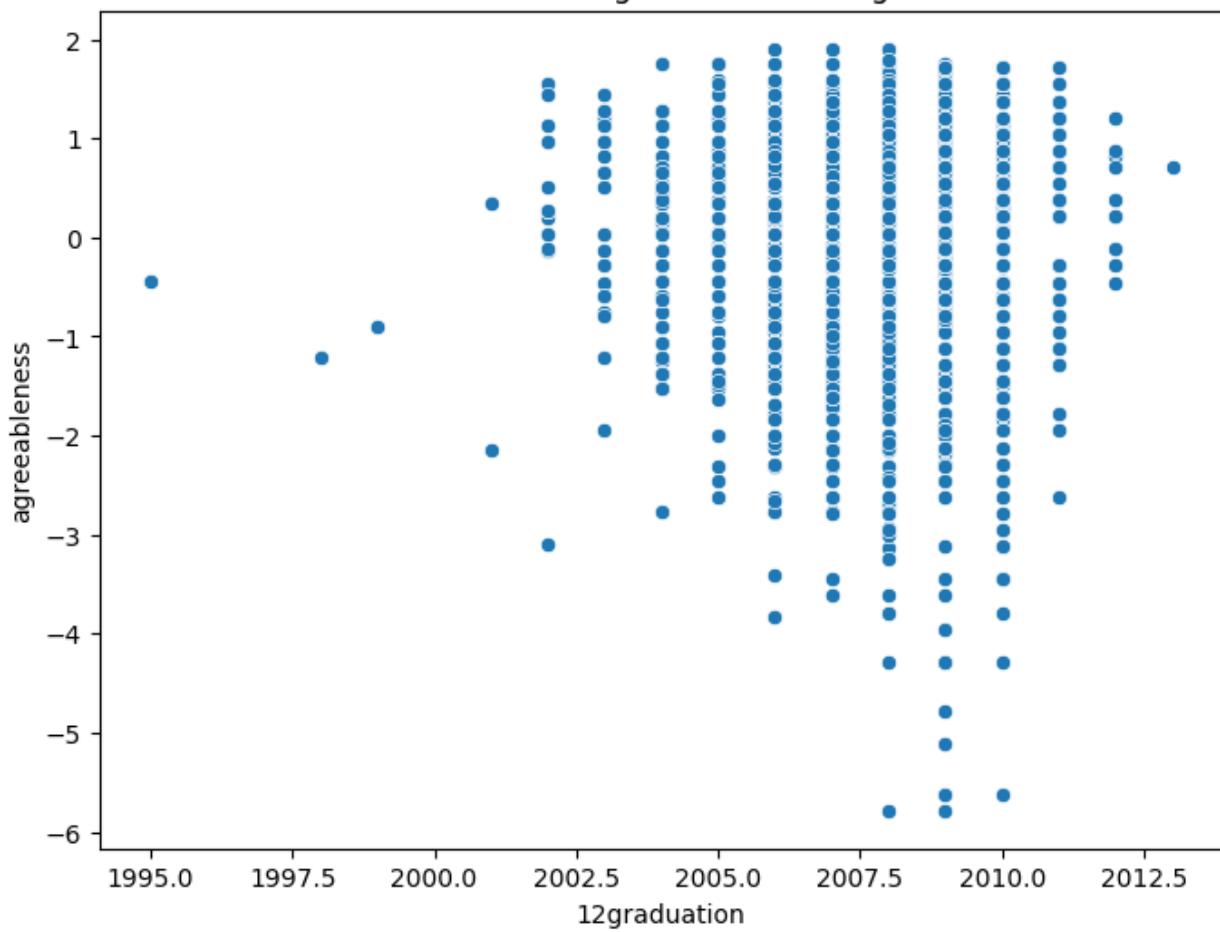
Scatter Plot between 12graduation and CivilEngg



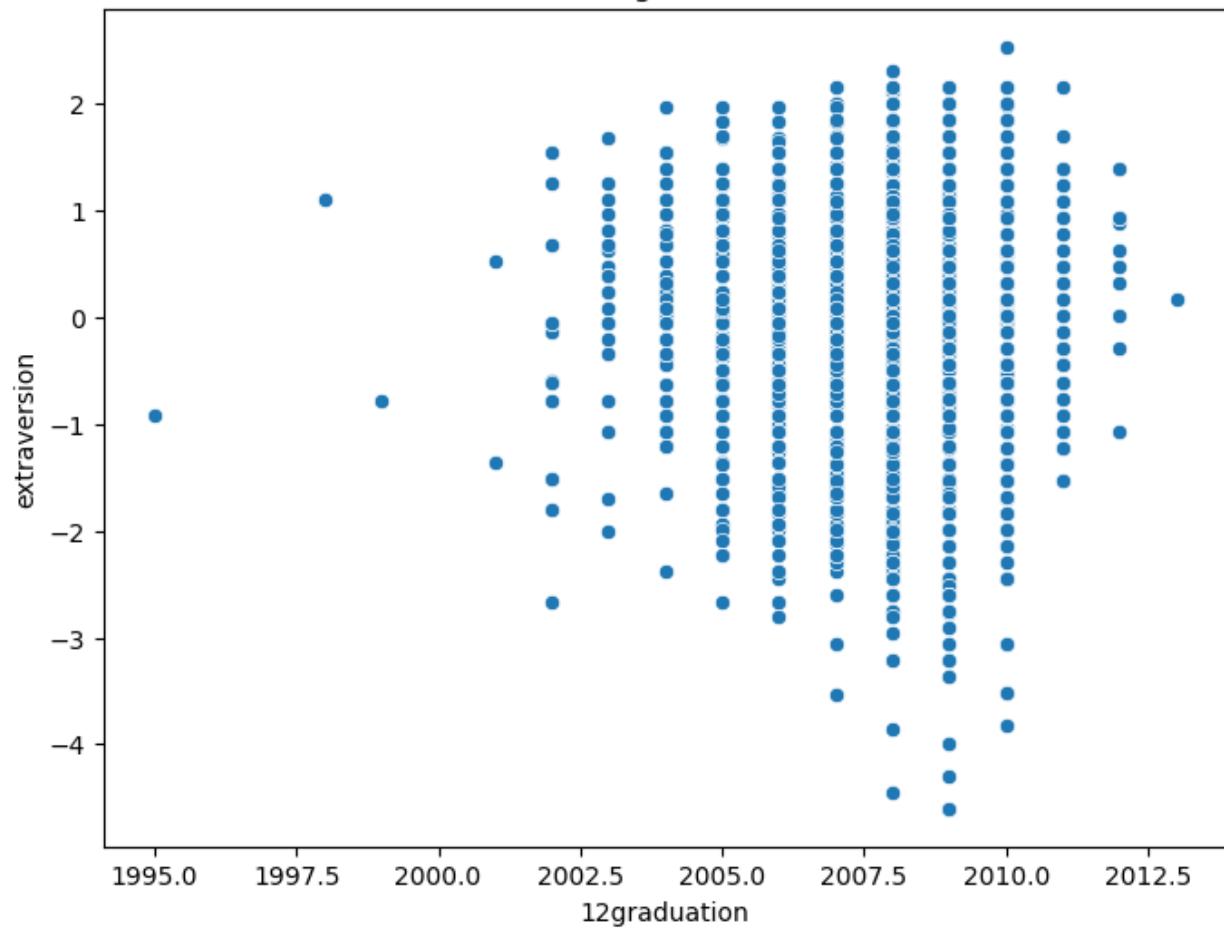
Scatter Plot between 12graduation and conscientiousness



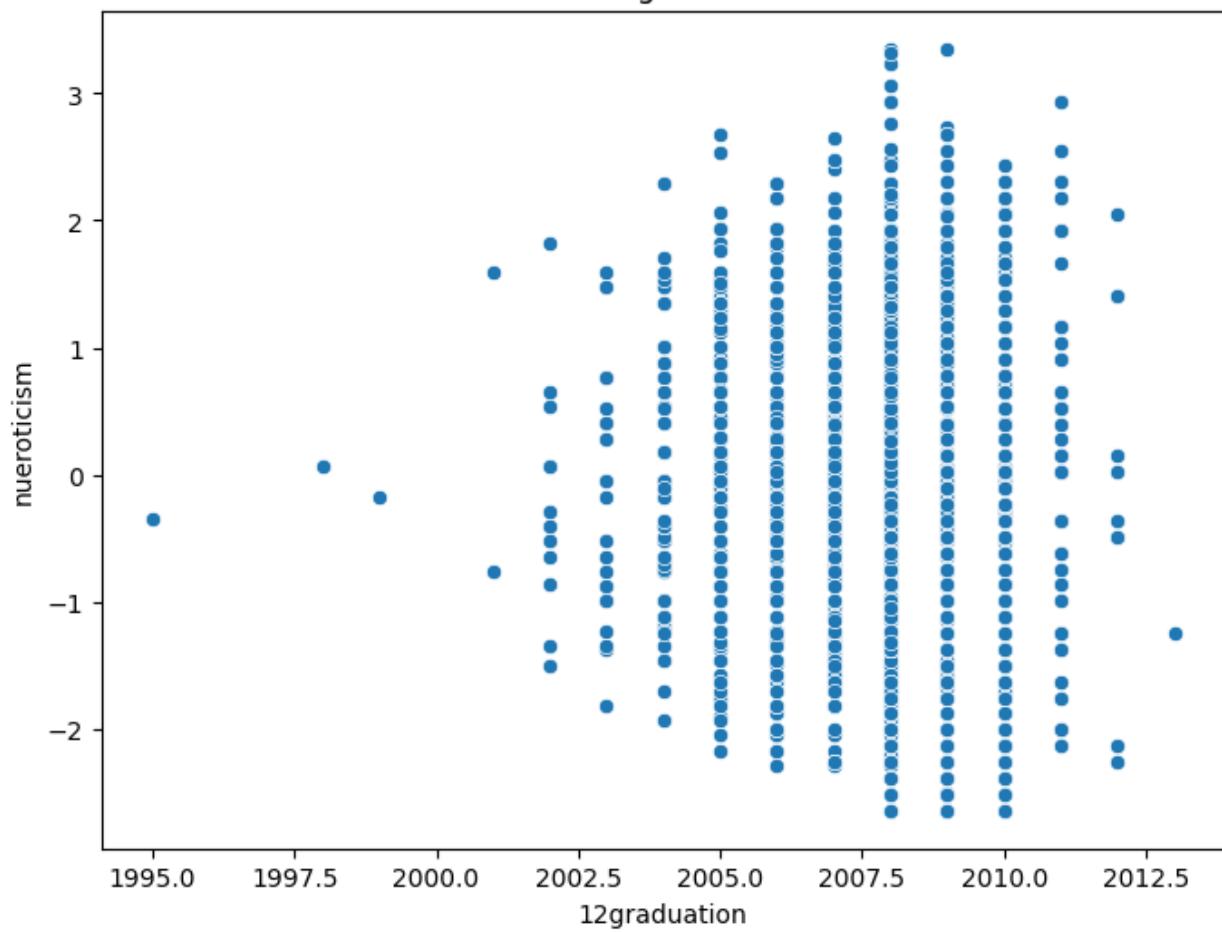
Scatter Plot between 12graduation and agreeableness



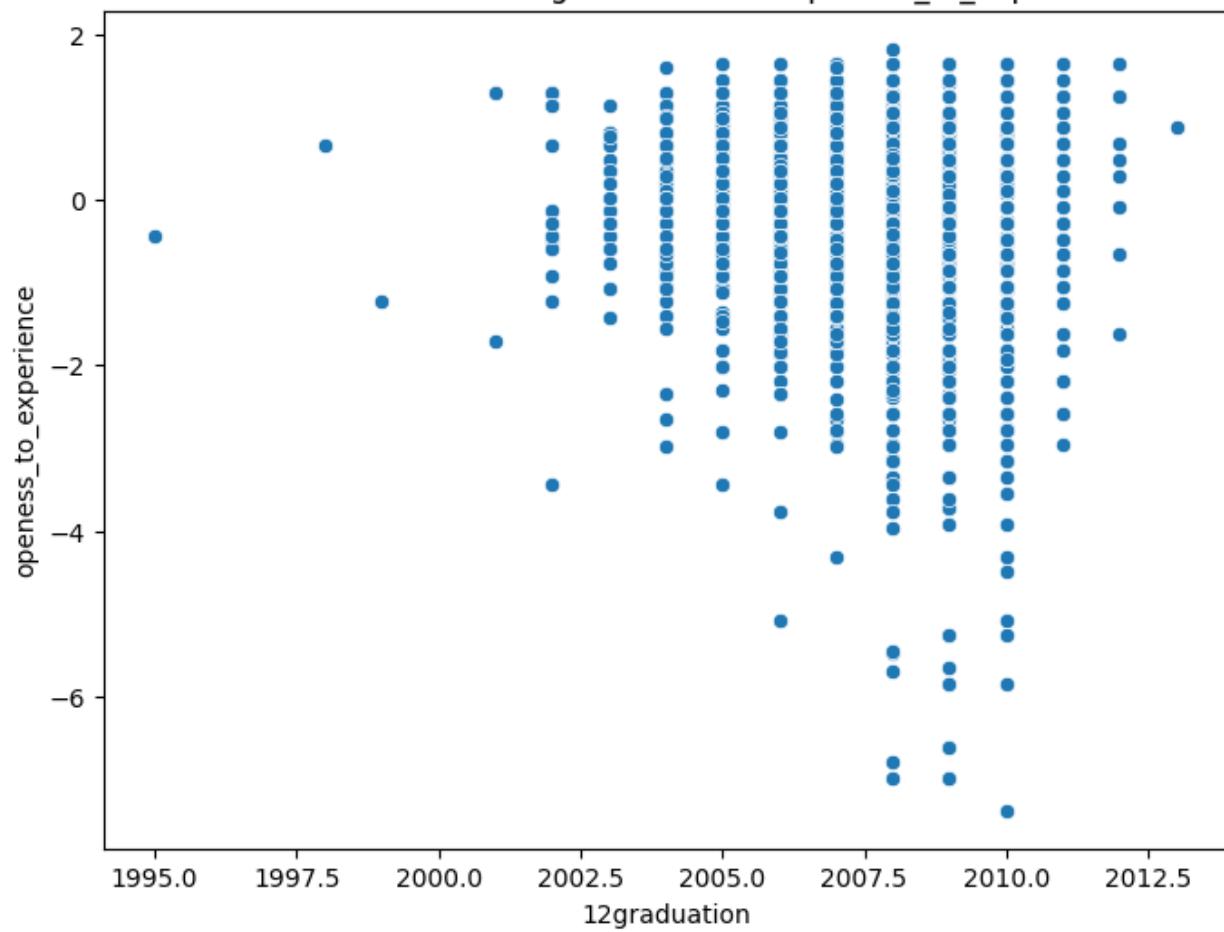
Scatter Plot between 12graduation and extraversion



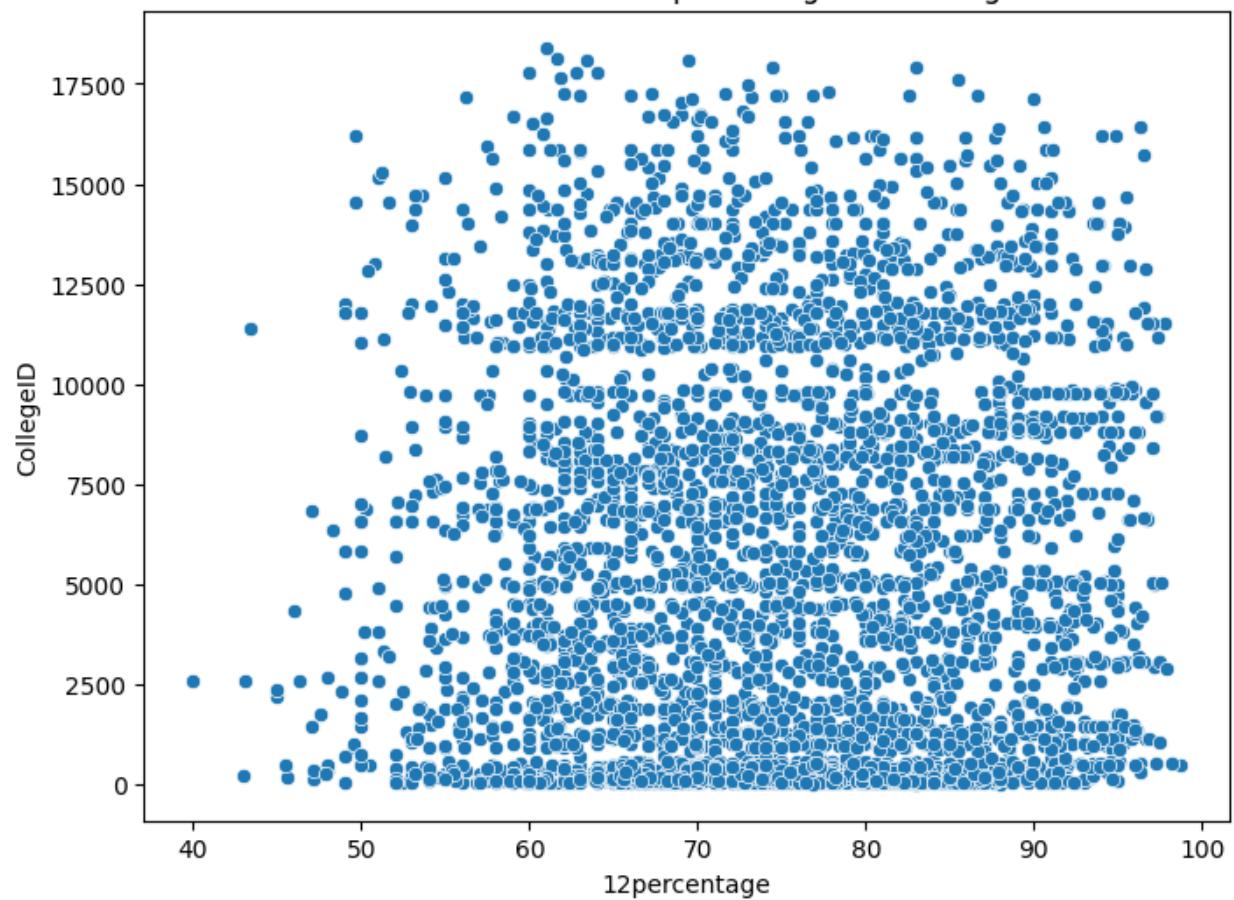
Scatter Plot between 12graduation and nueroticism



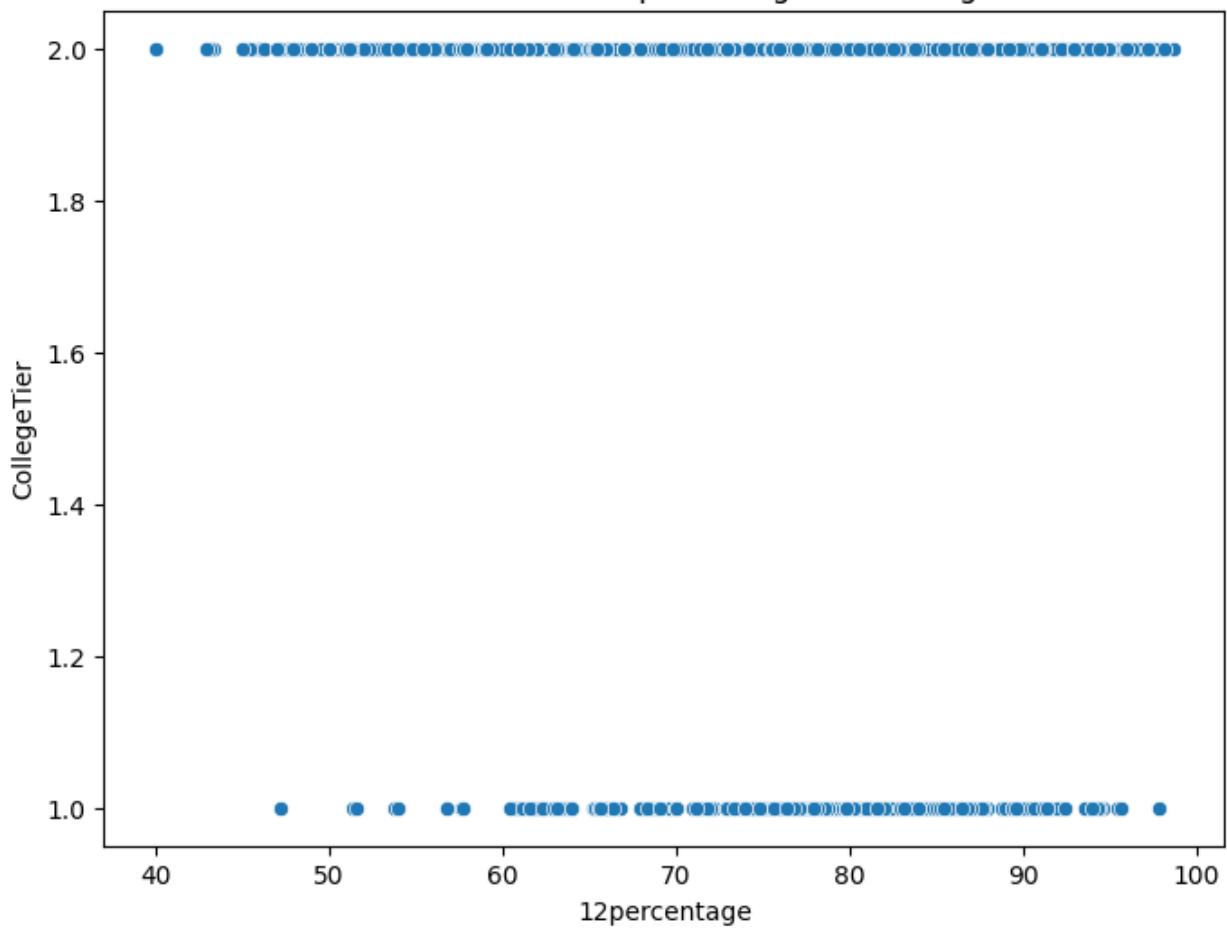
Scatter Plot between 12graduation and openness_to_experience



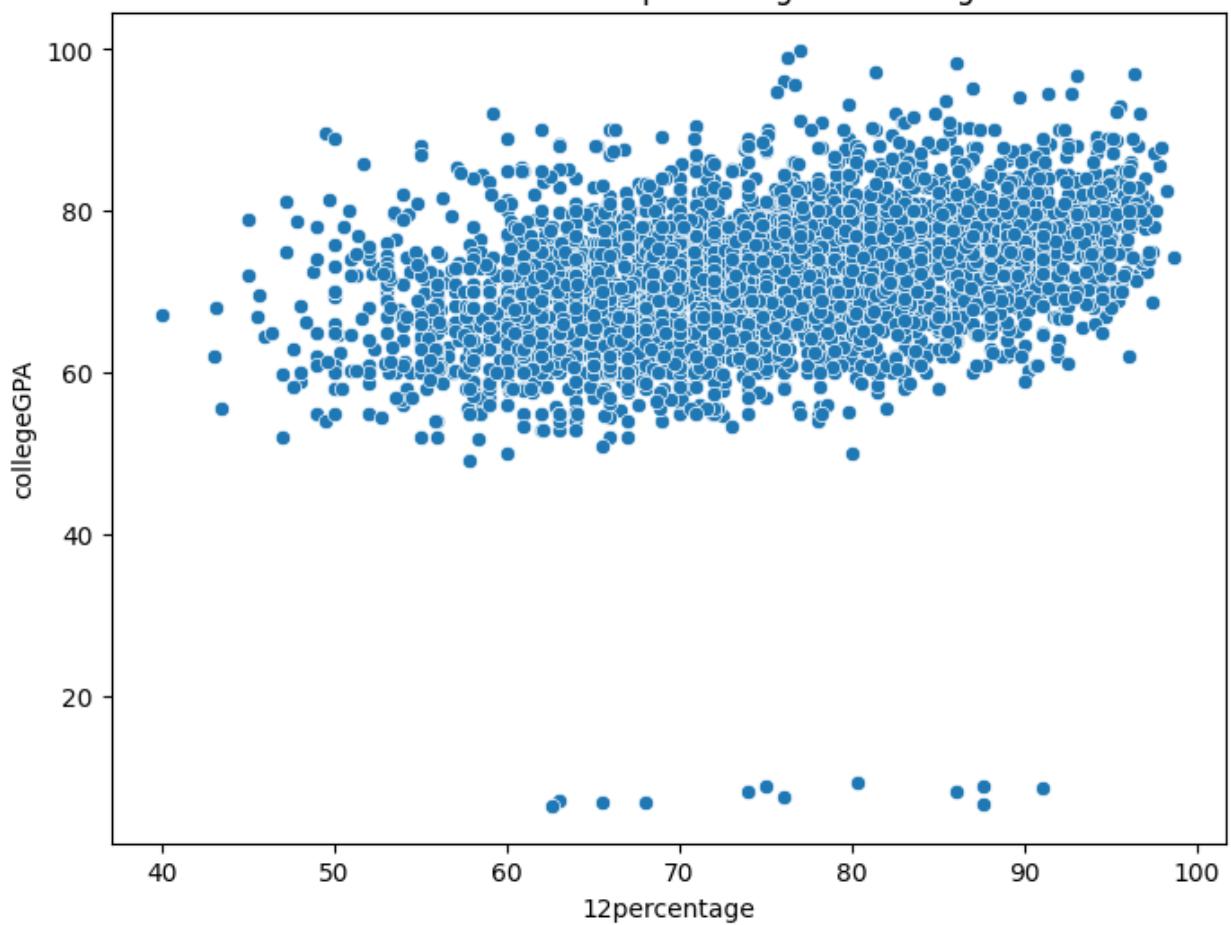
Scatter Plot between 12percentage and CollegelD



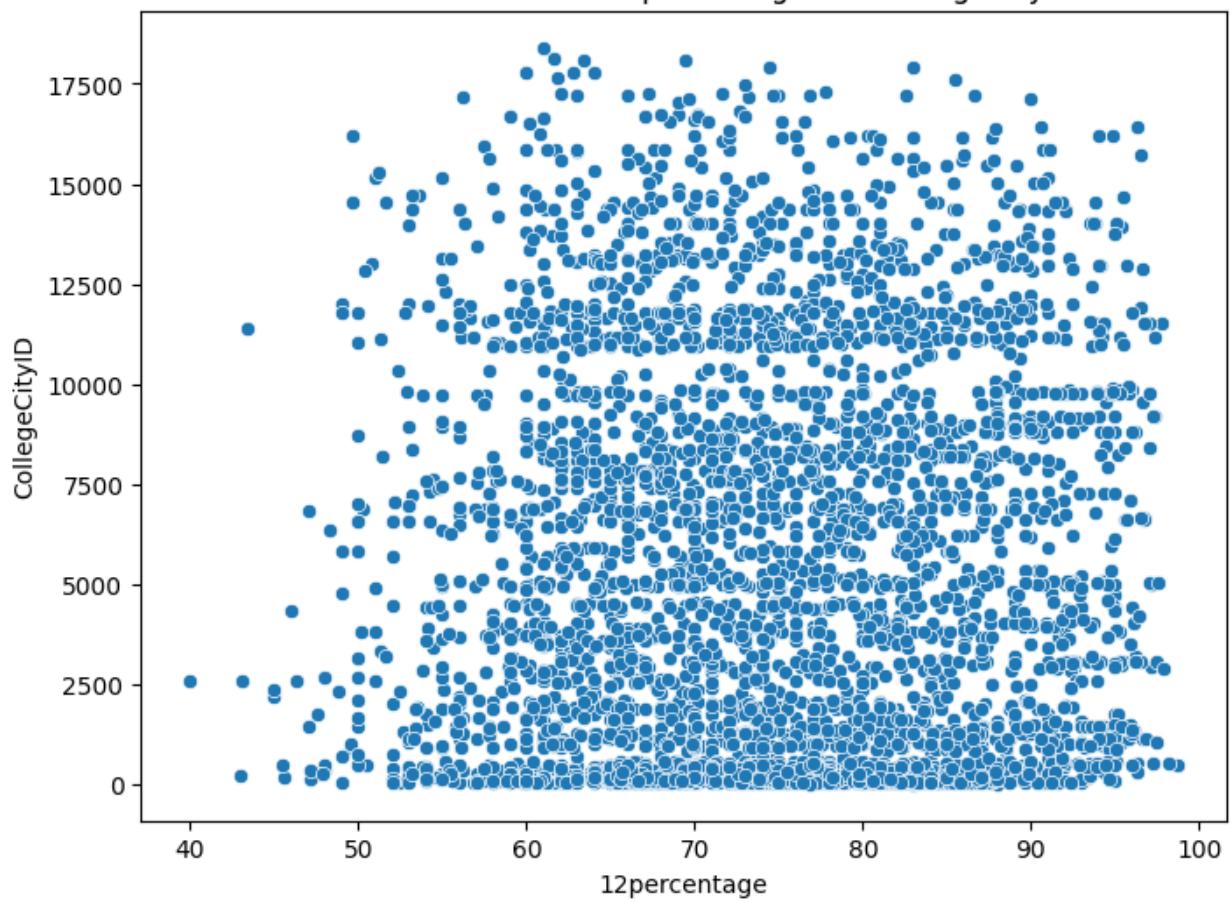
Scatter Plot between 12percentage and CollegeTier



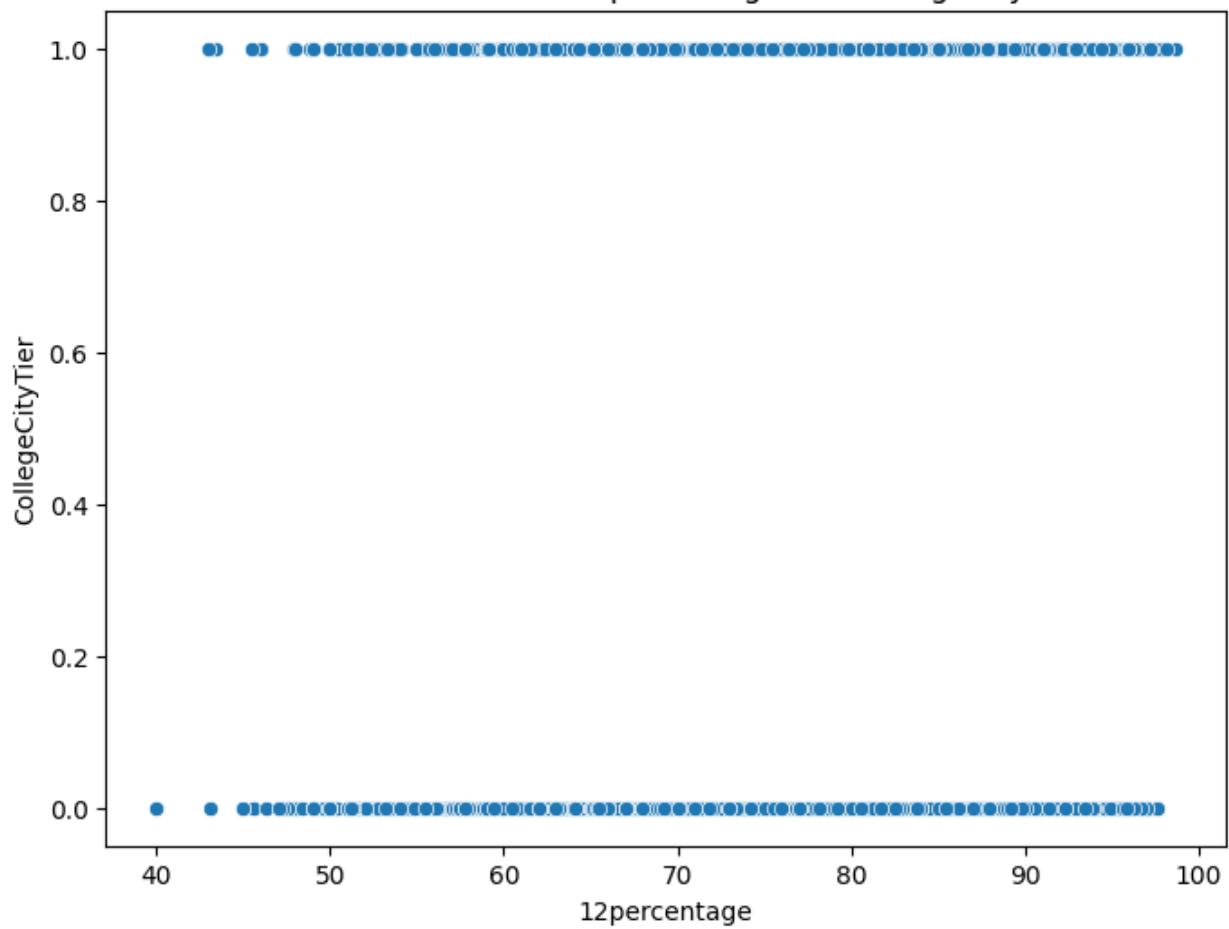
Scatter Plot between 12percentage and collegeGPA



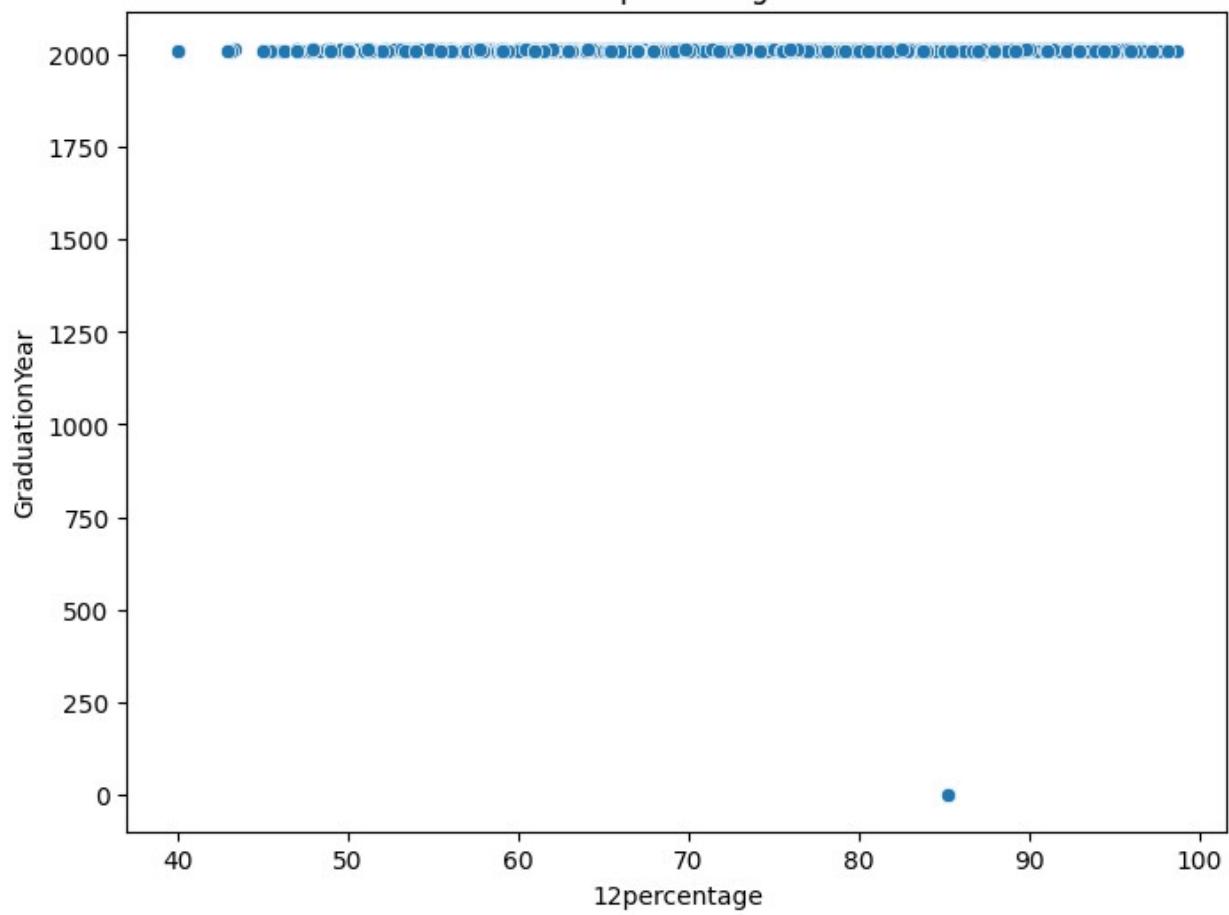
Scatter Plot between 12percentage and CollegeCityID



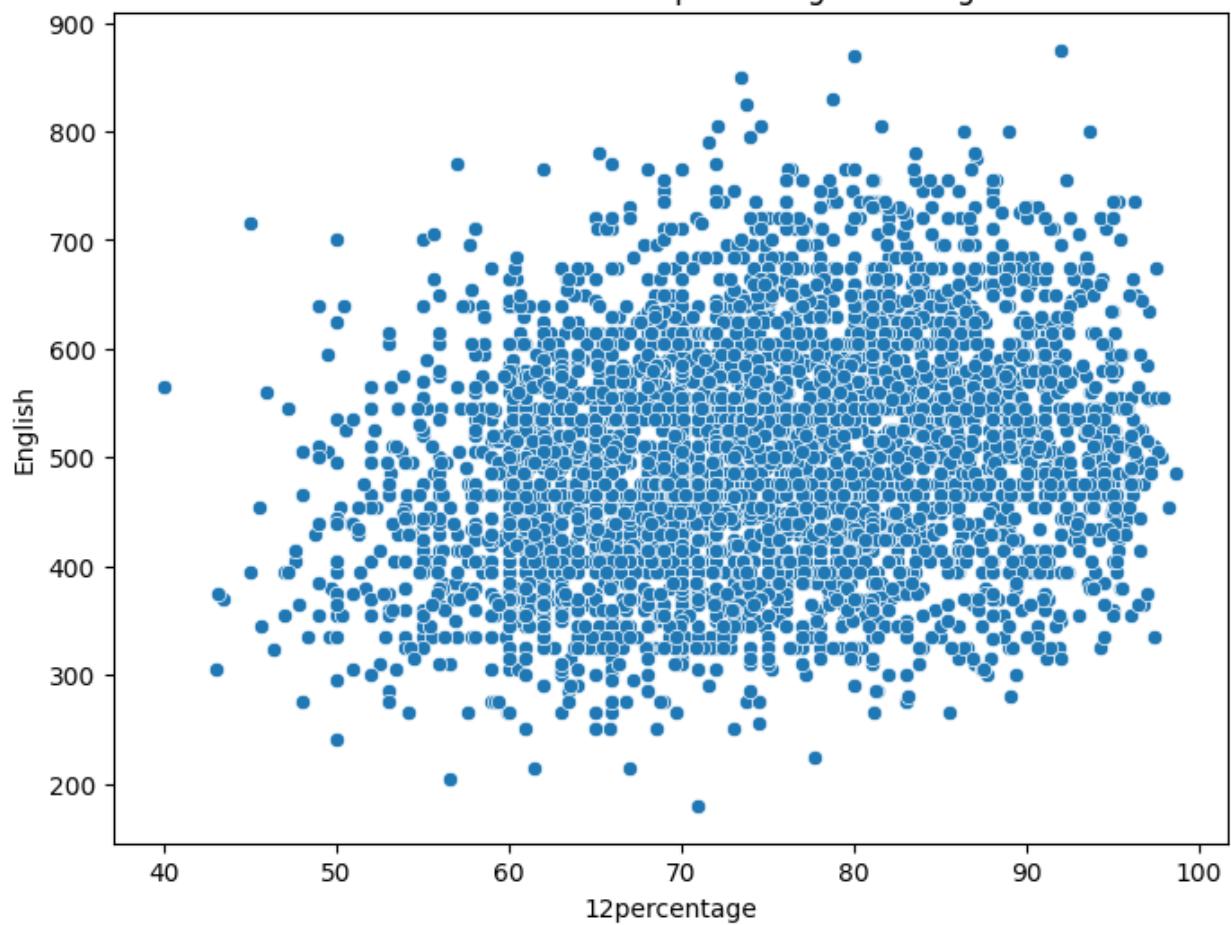
Scatter Plot between 12percentage and CollegeCityTier



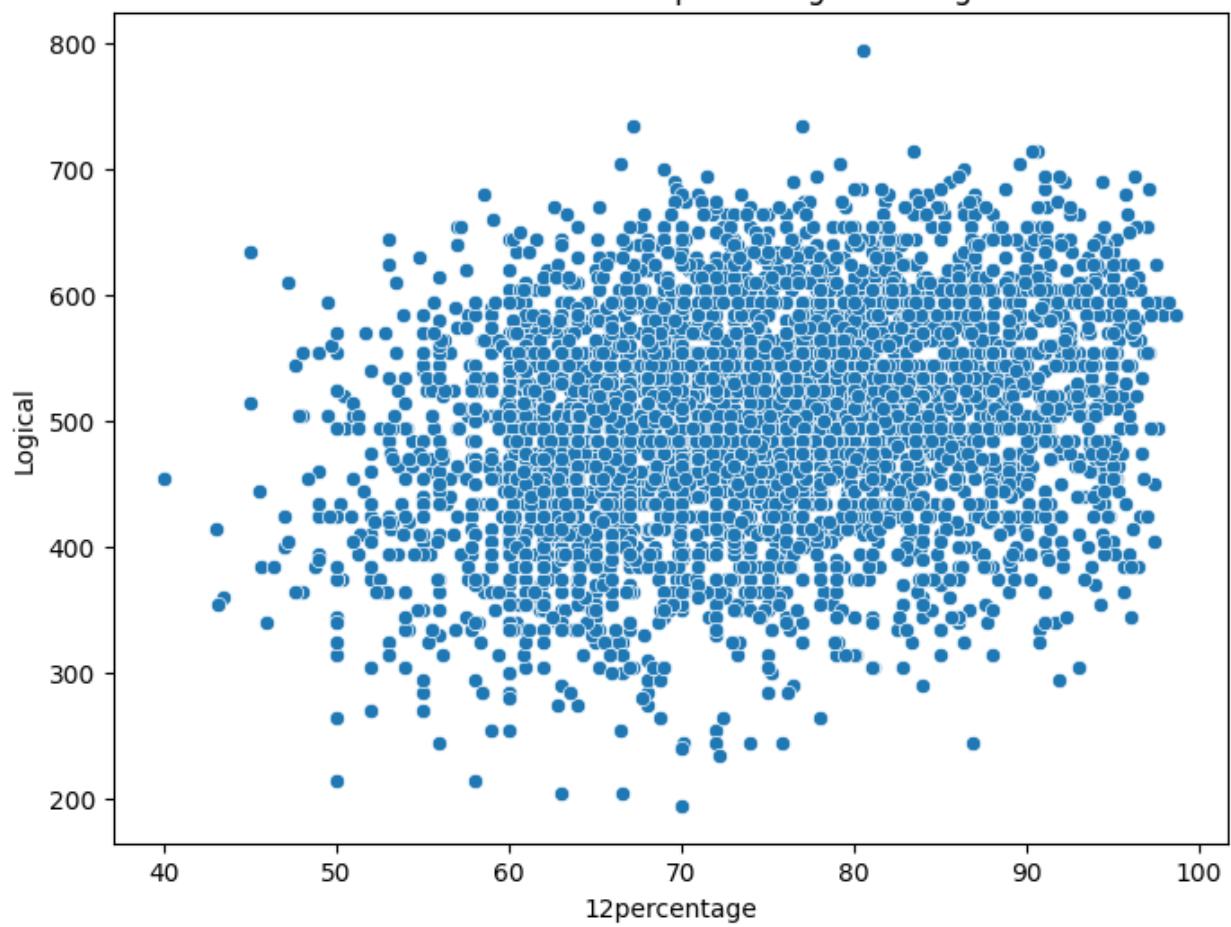
Scatter Plot between 12percentage and GraduationYear



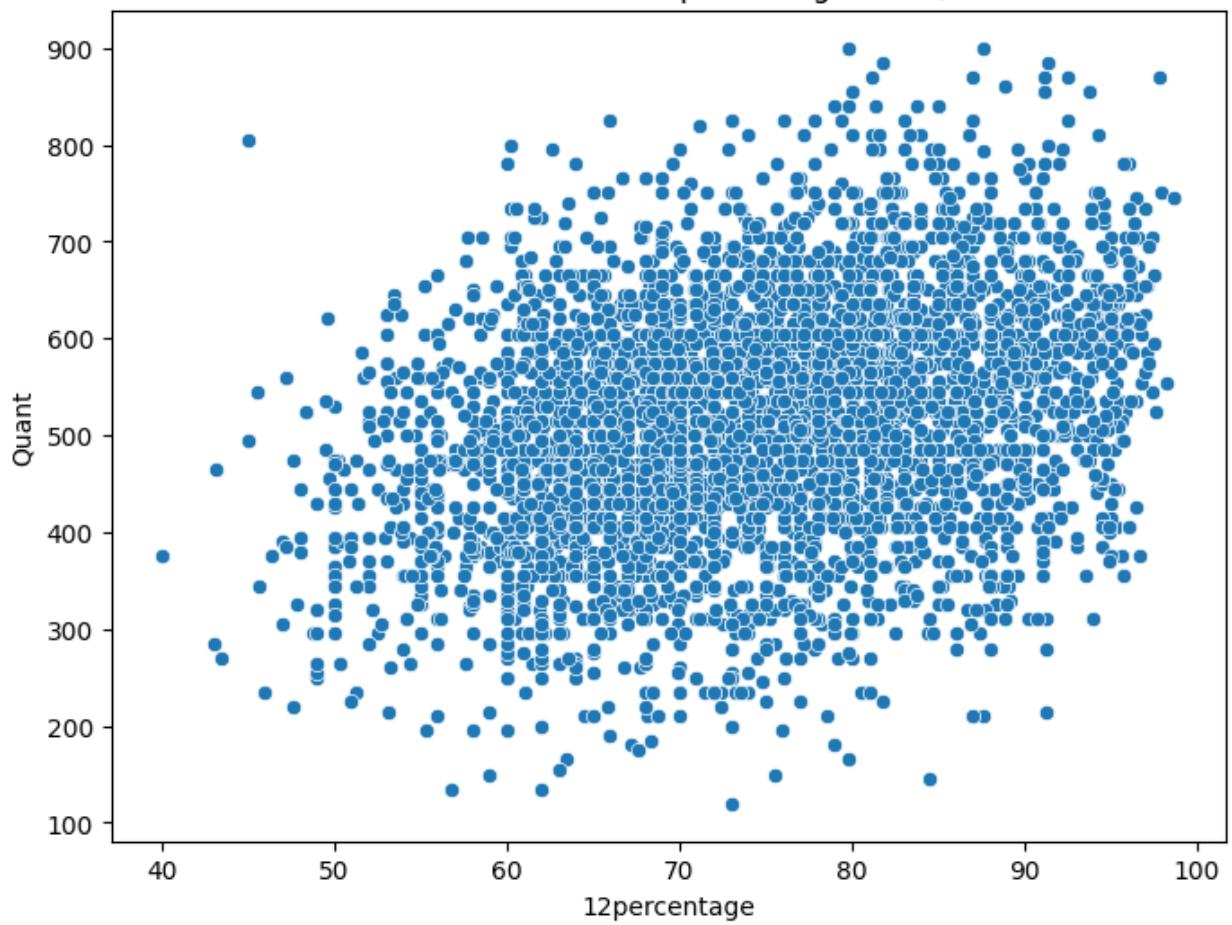
Scatter Plot between 12percentage and English



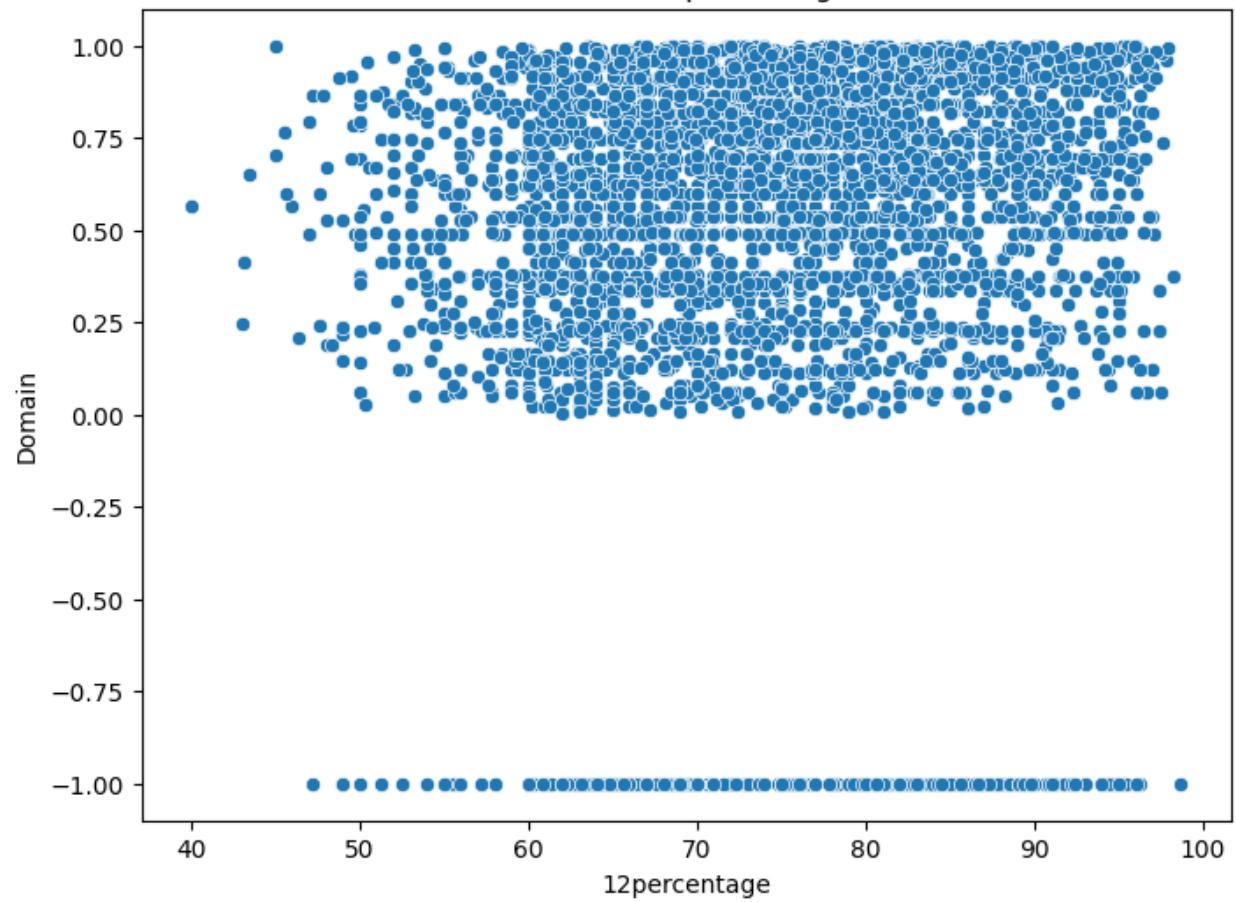
Scatter Plot between 12percentage and Logical



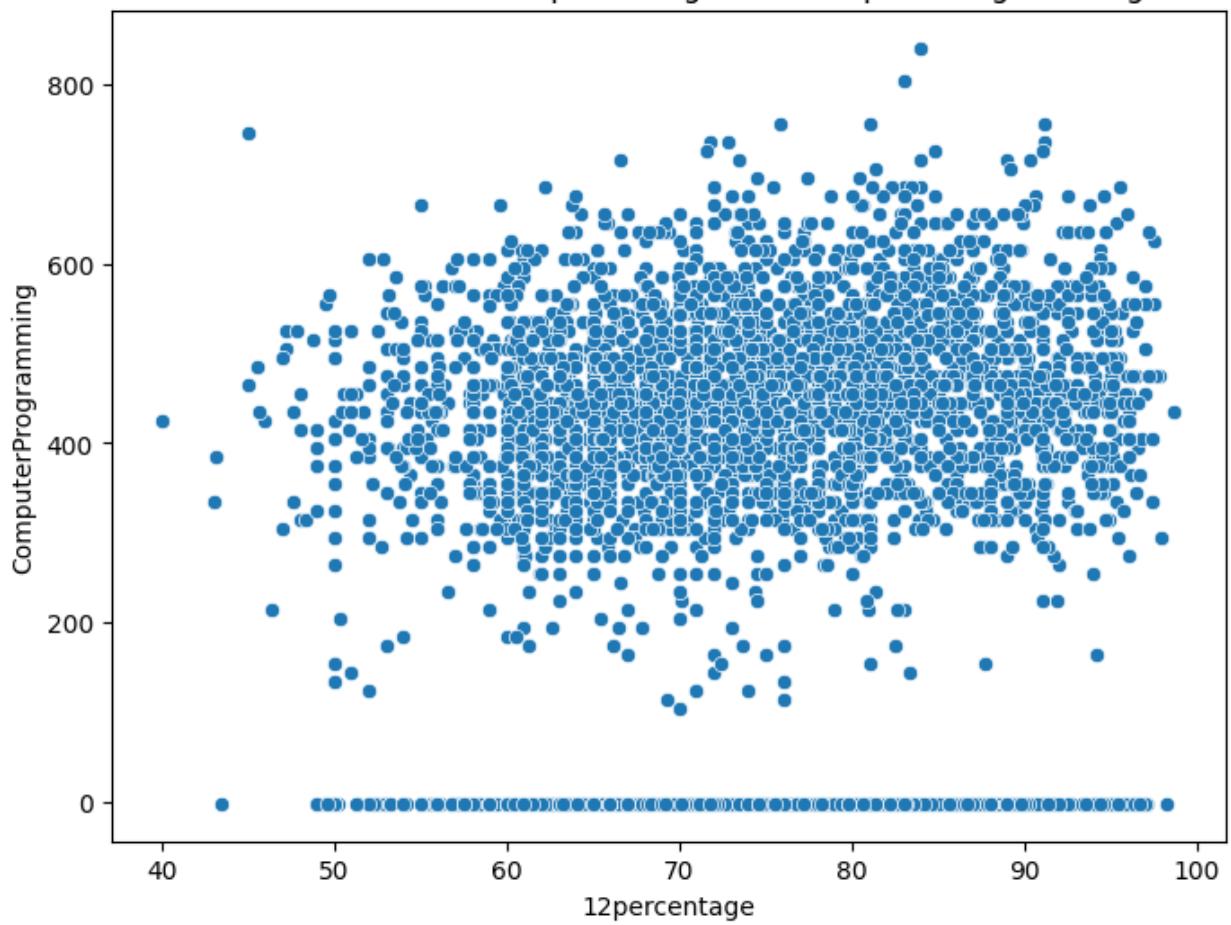
Scatter Plot between 12percentage and Quant



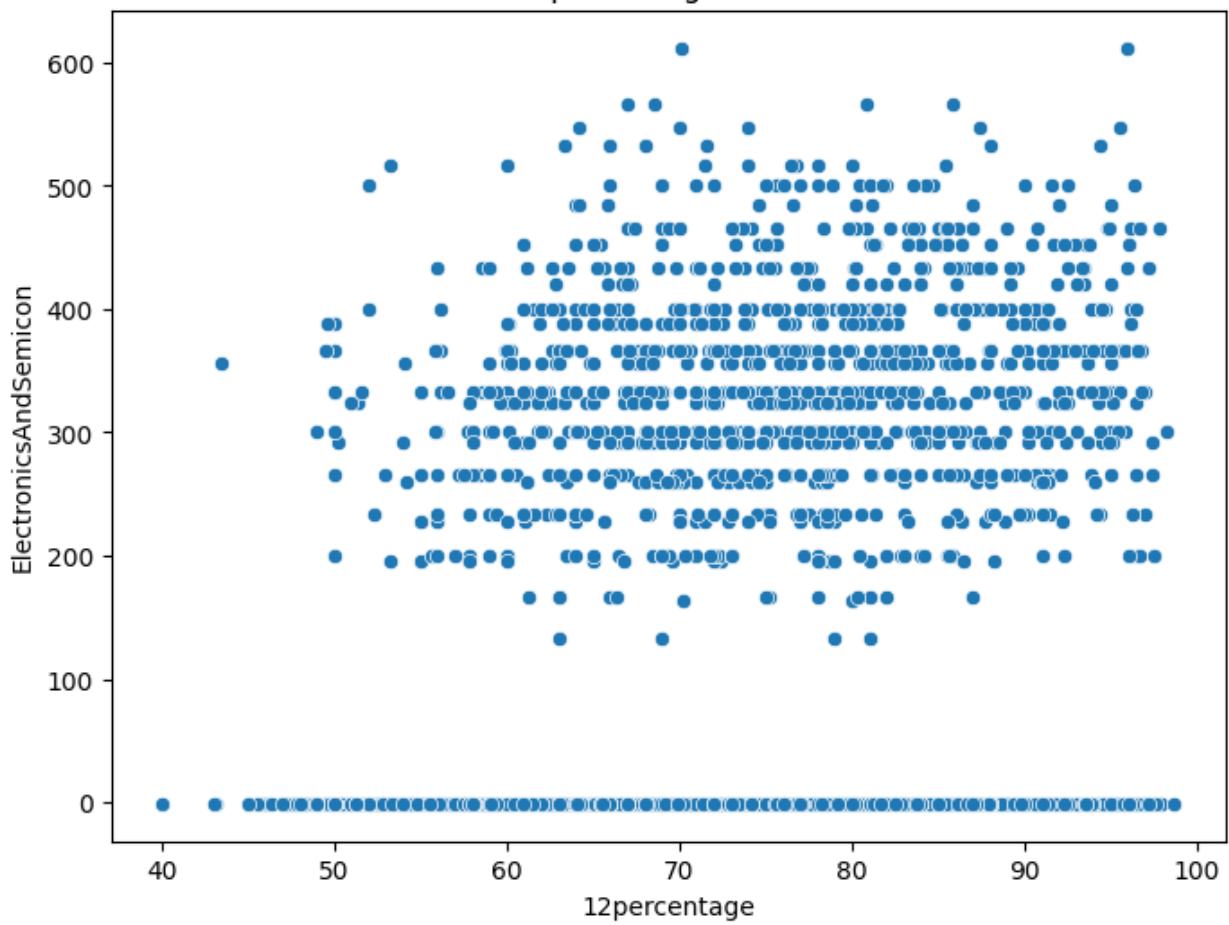
Scatter Plot between 12percentage and Domain



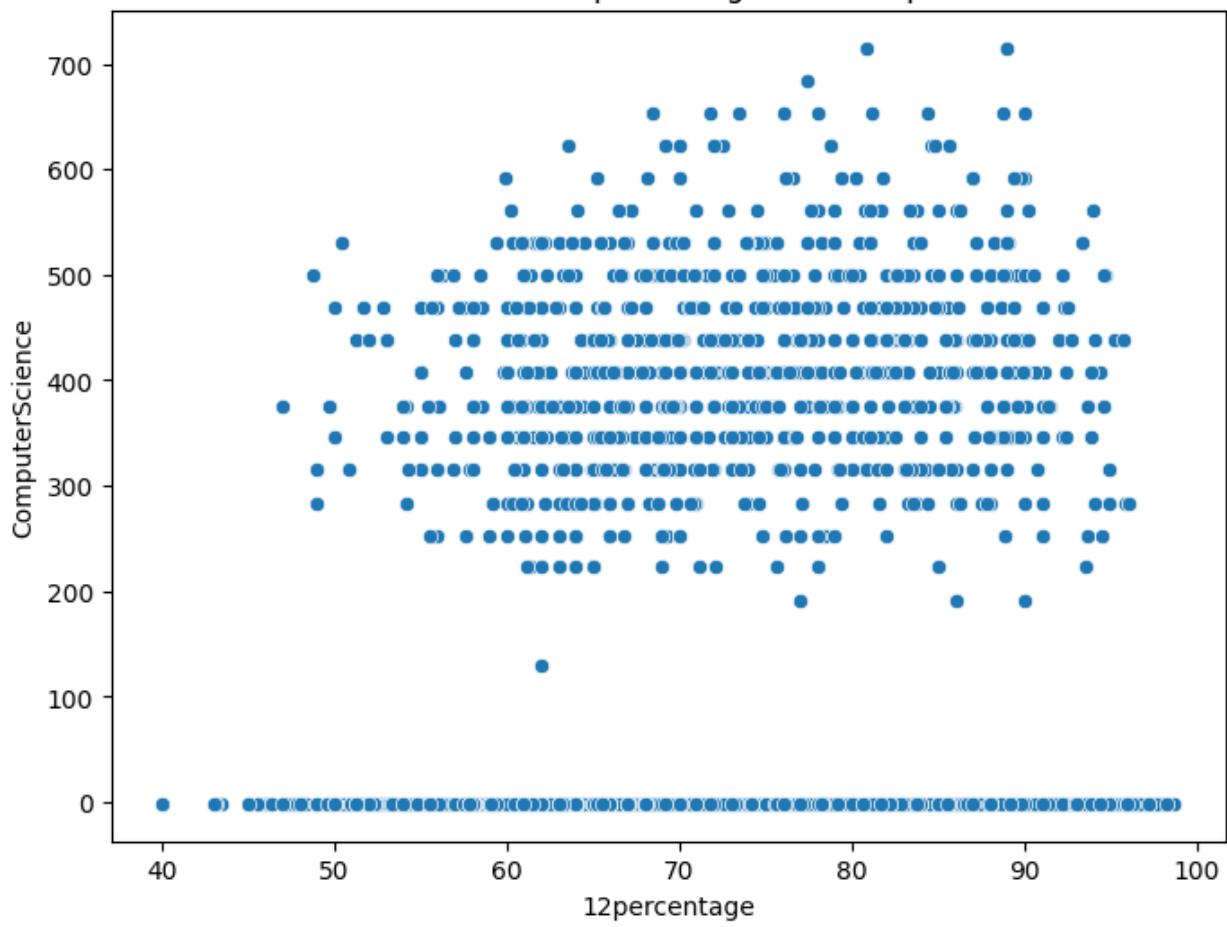
Scatter Plot between 12percentage and ComputerProgramming



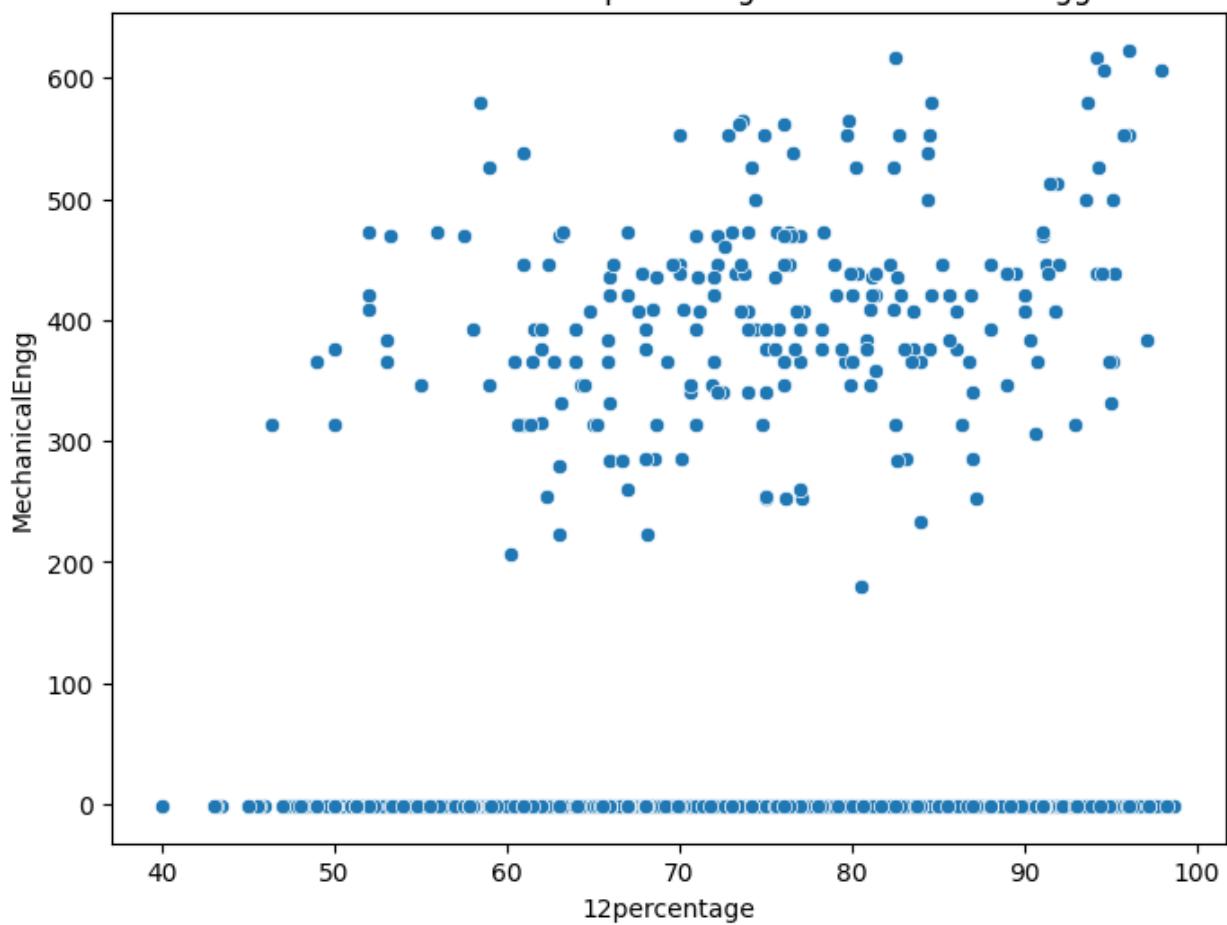
Scatter Plot between 12percentage and ElectronicsAndSemicon



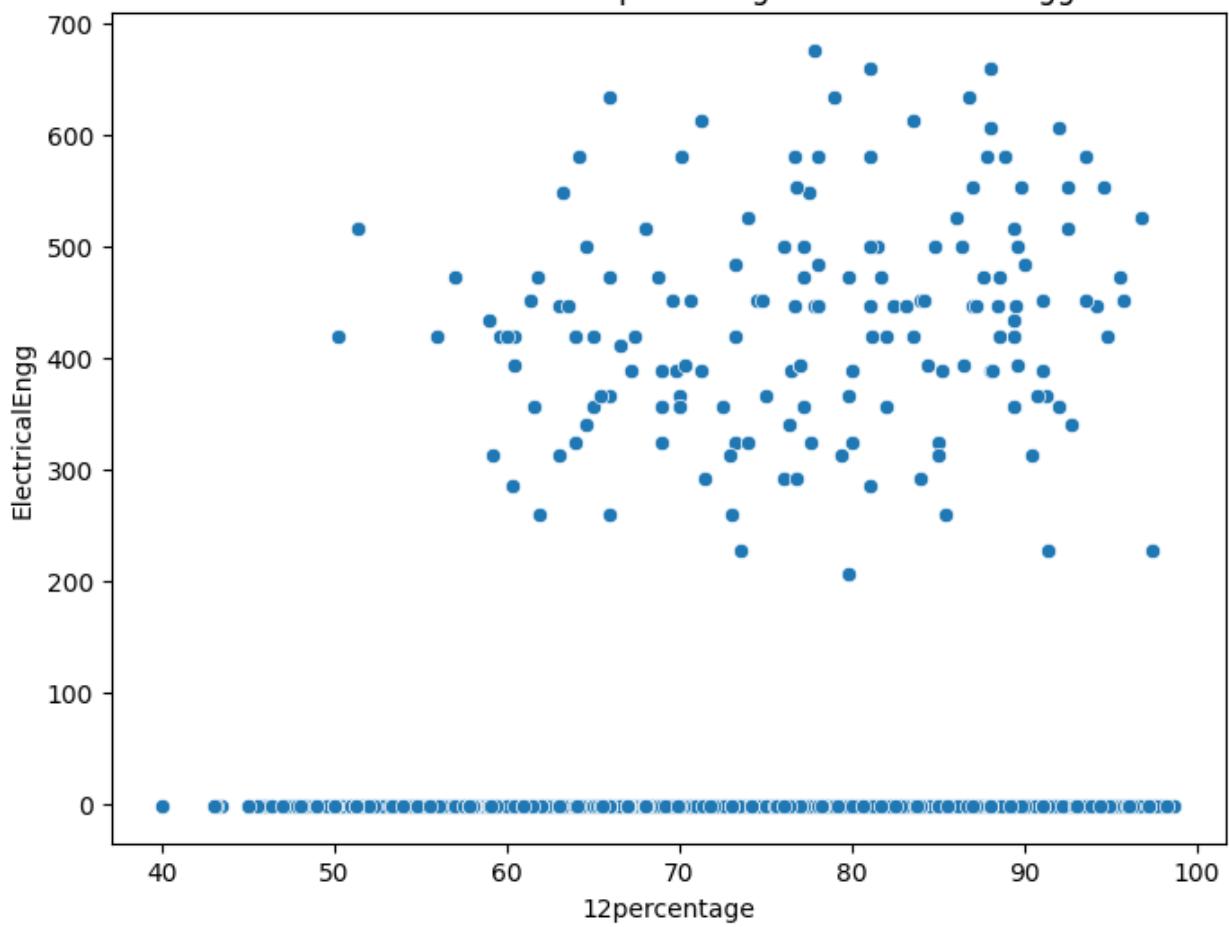
Scatter Plot between 12percentage and ComputerScience



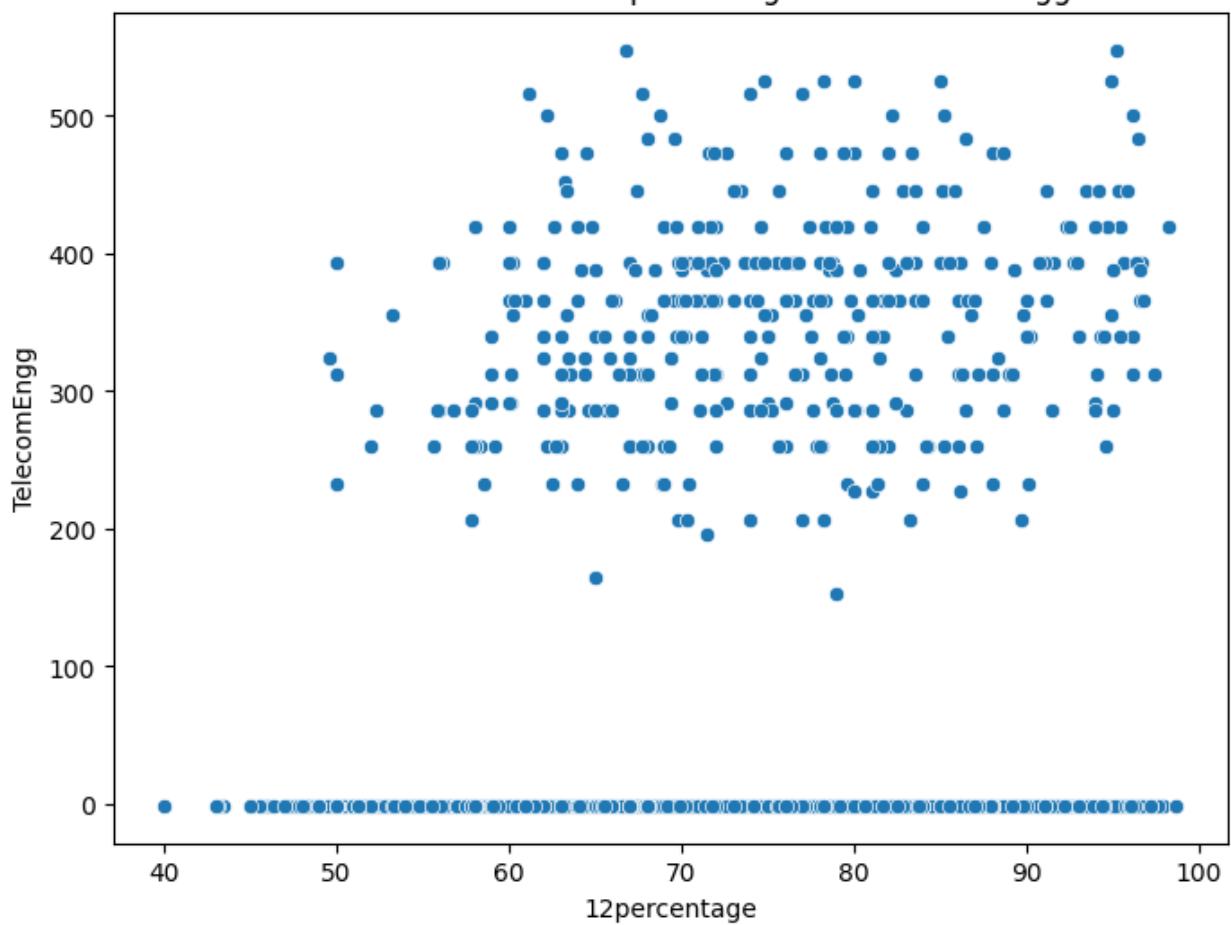
Scatter Plot between 12percentage and MechanicalEngg



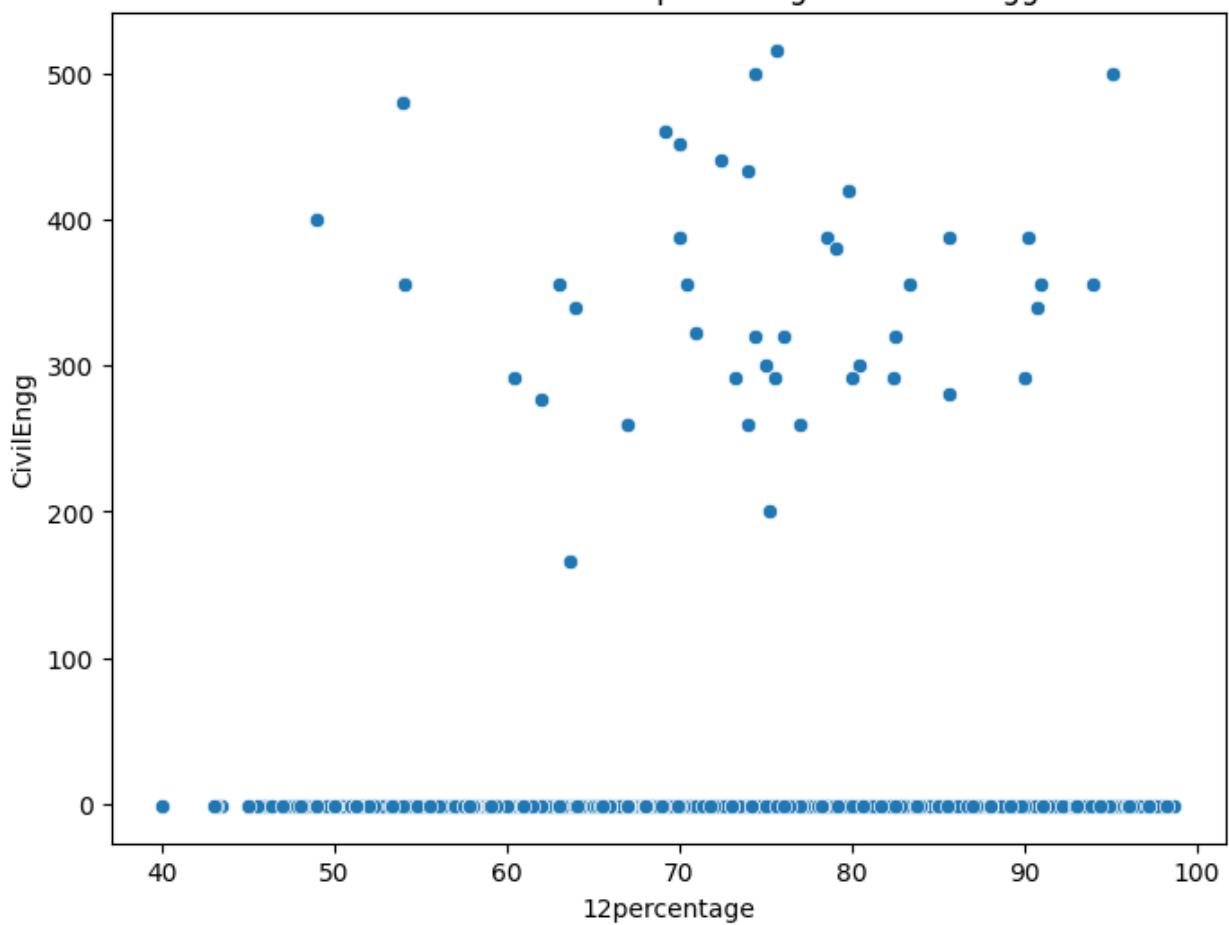
Scatter Plot between 12percentage and ElectricalEngg



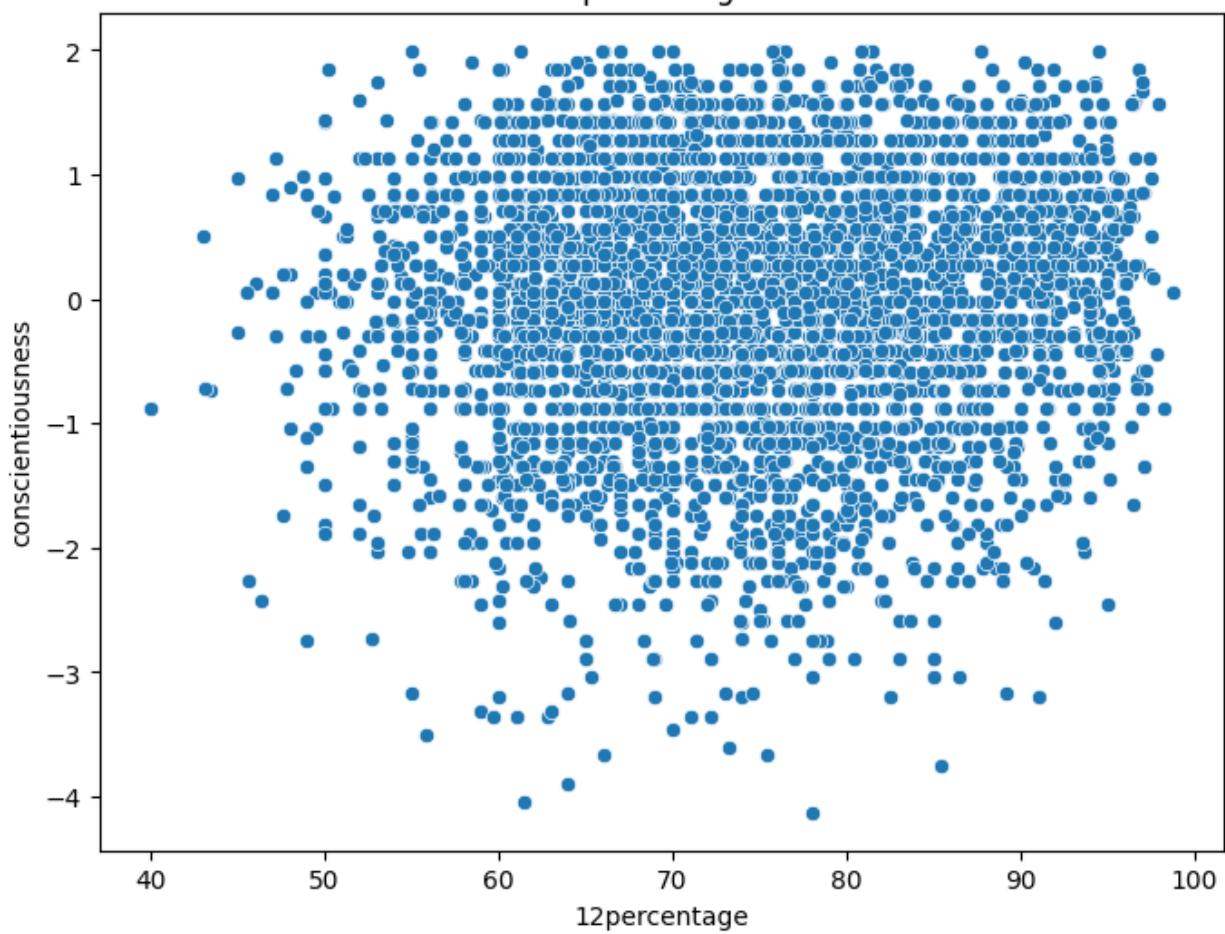
Scatter Plot between 12percentage and TelecomEngg



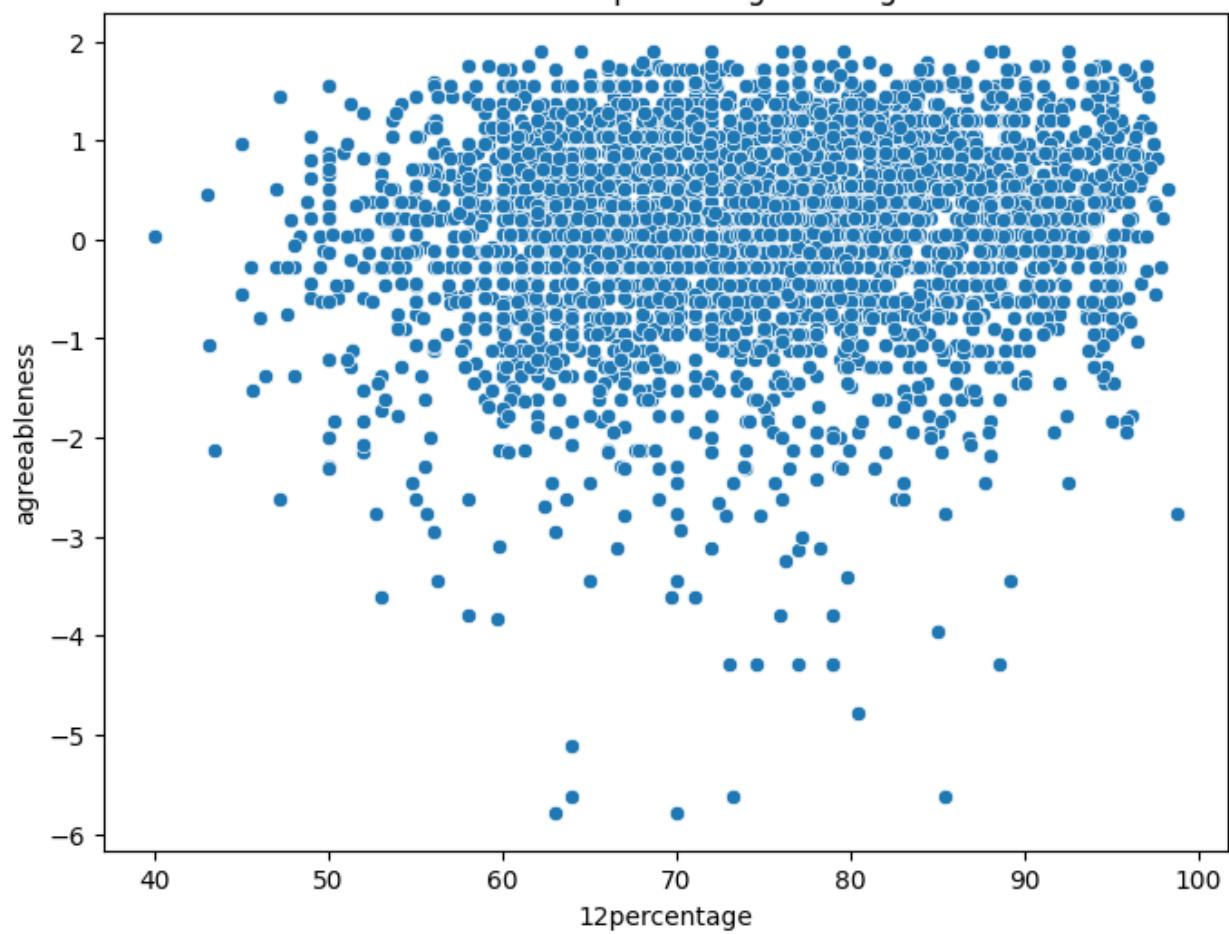
Scatter Plot between 12percentage and CivilEngg



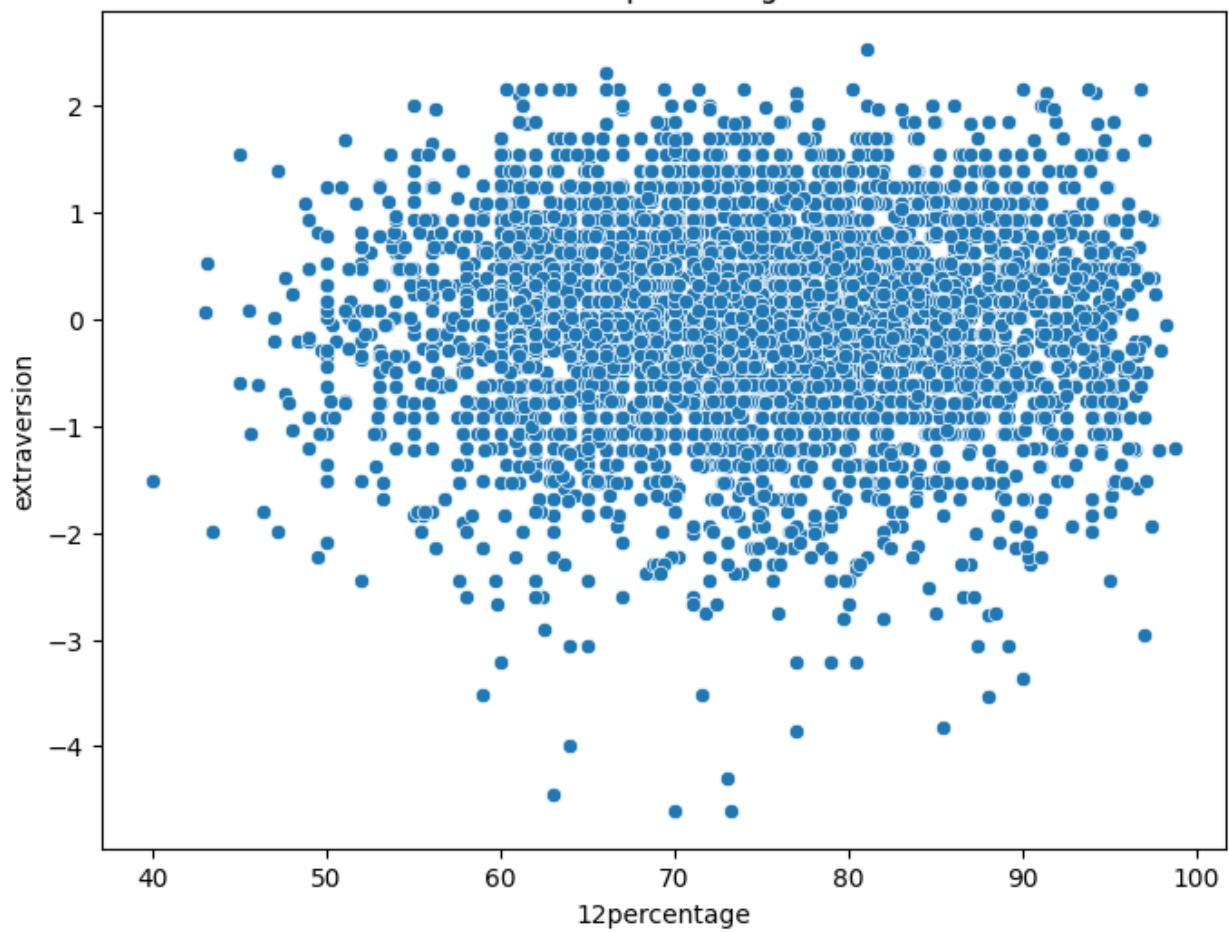
Scatter Plot between 12percentage and conscientiousness



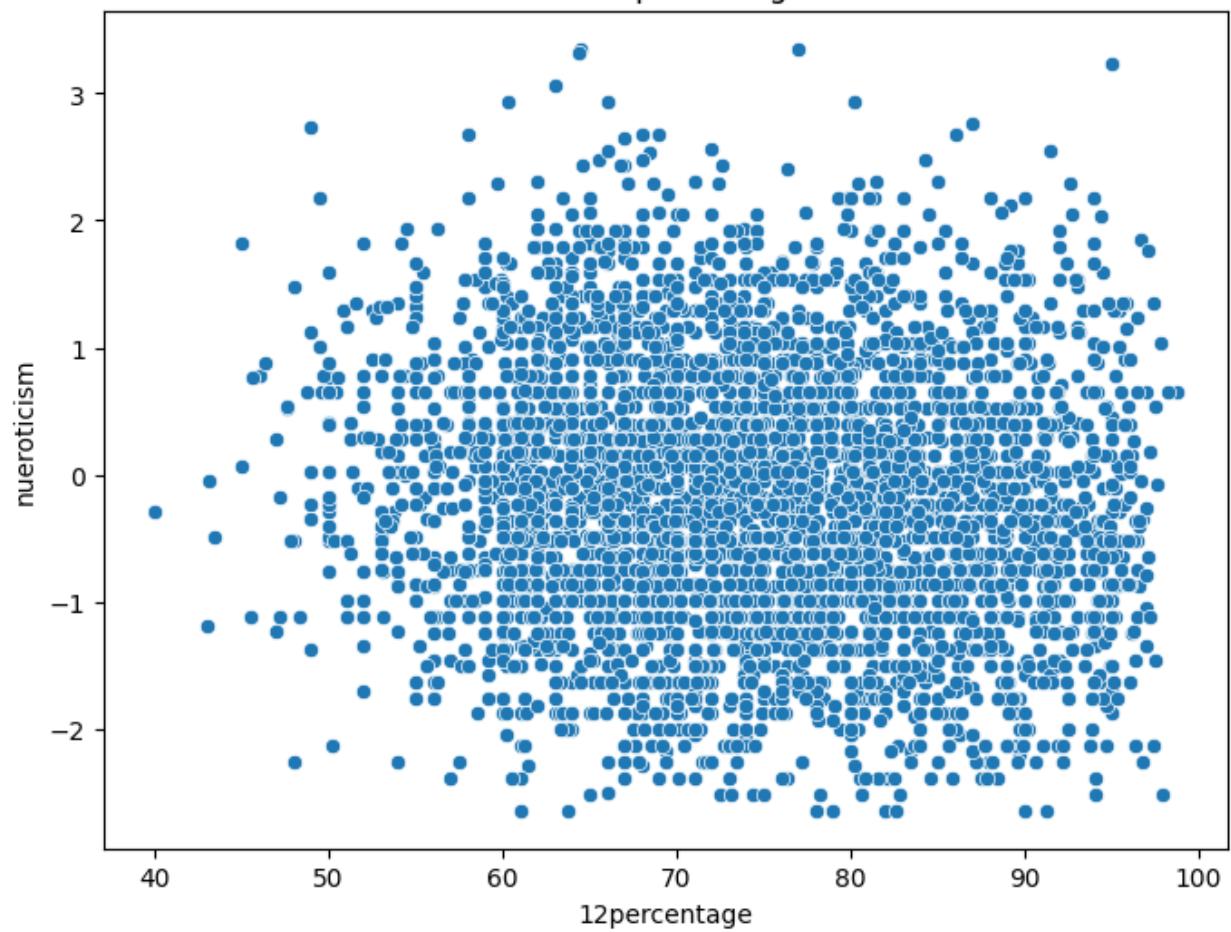
Scatter Plot between 12percentage and agreeableness



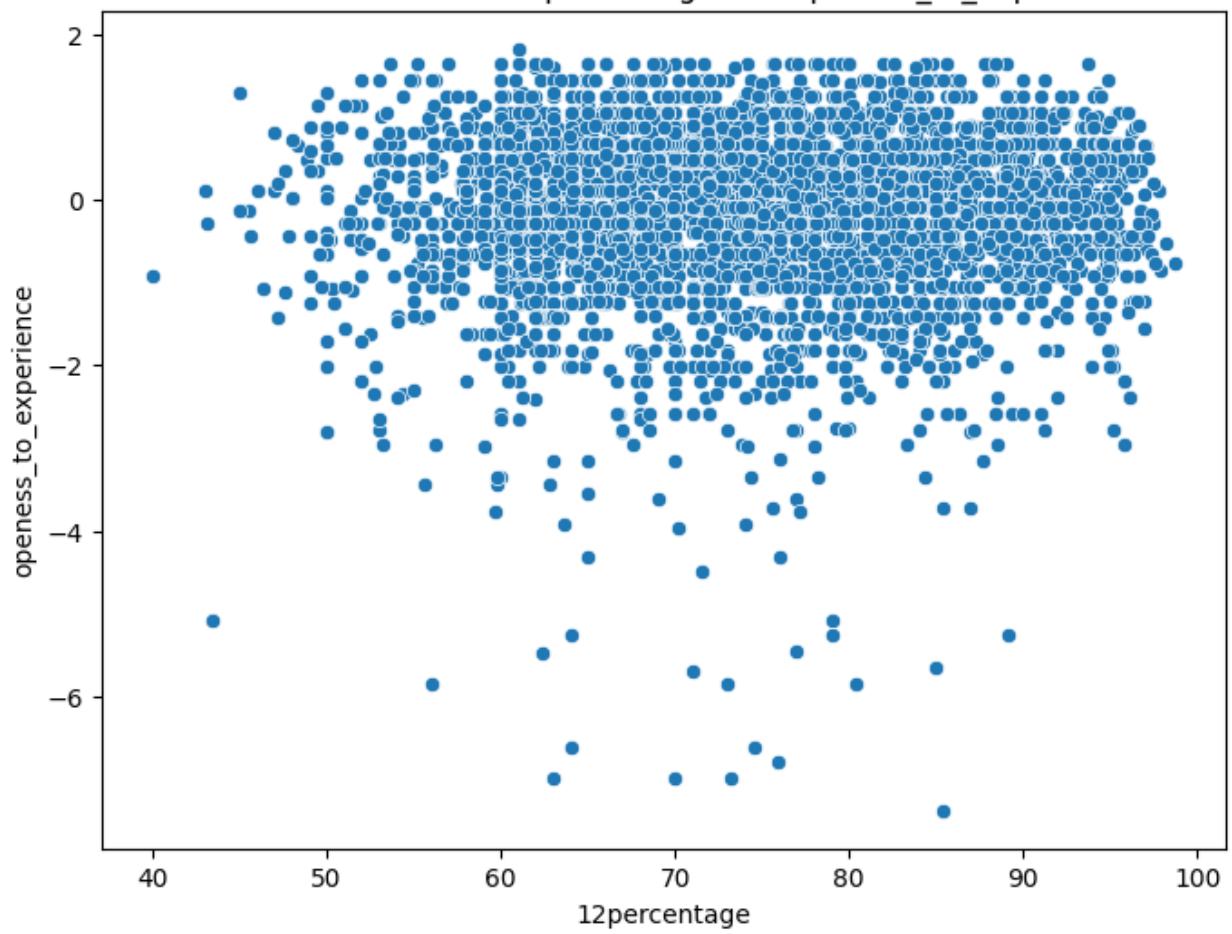
Scatter Plot between 12percentage and extraversion



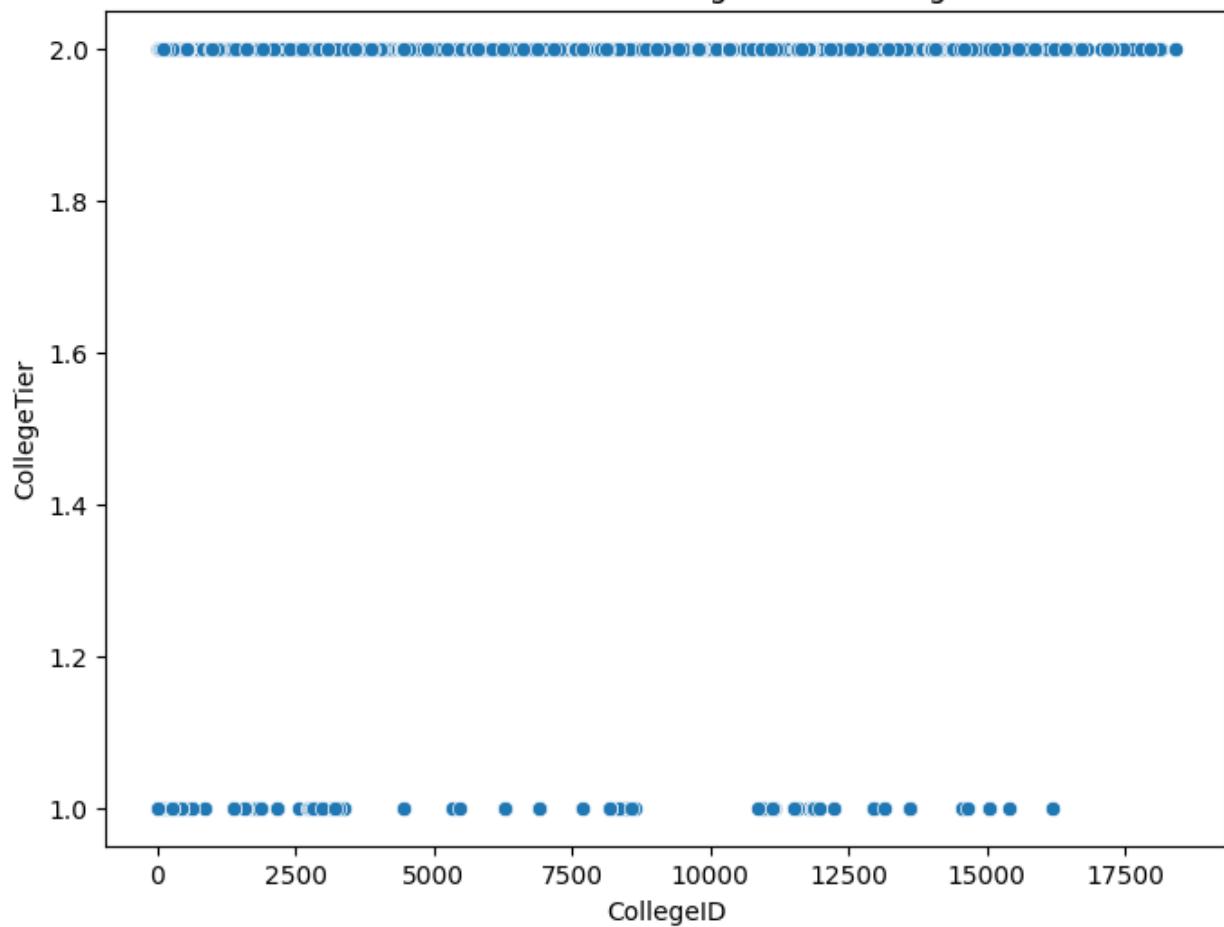
Scatter Plot between 12percentage and nueroticism



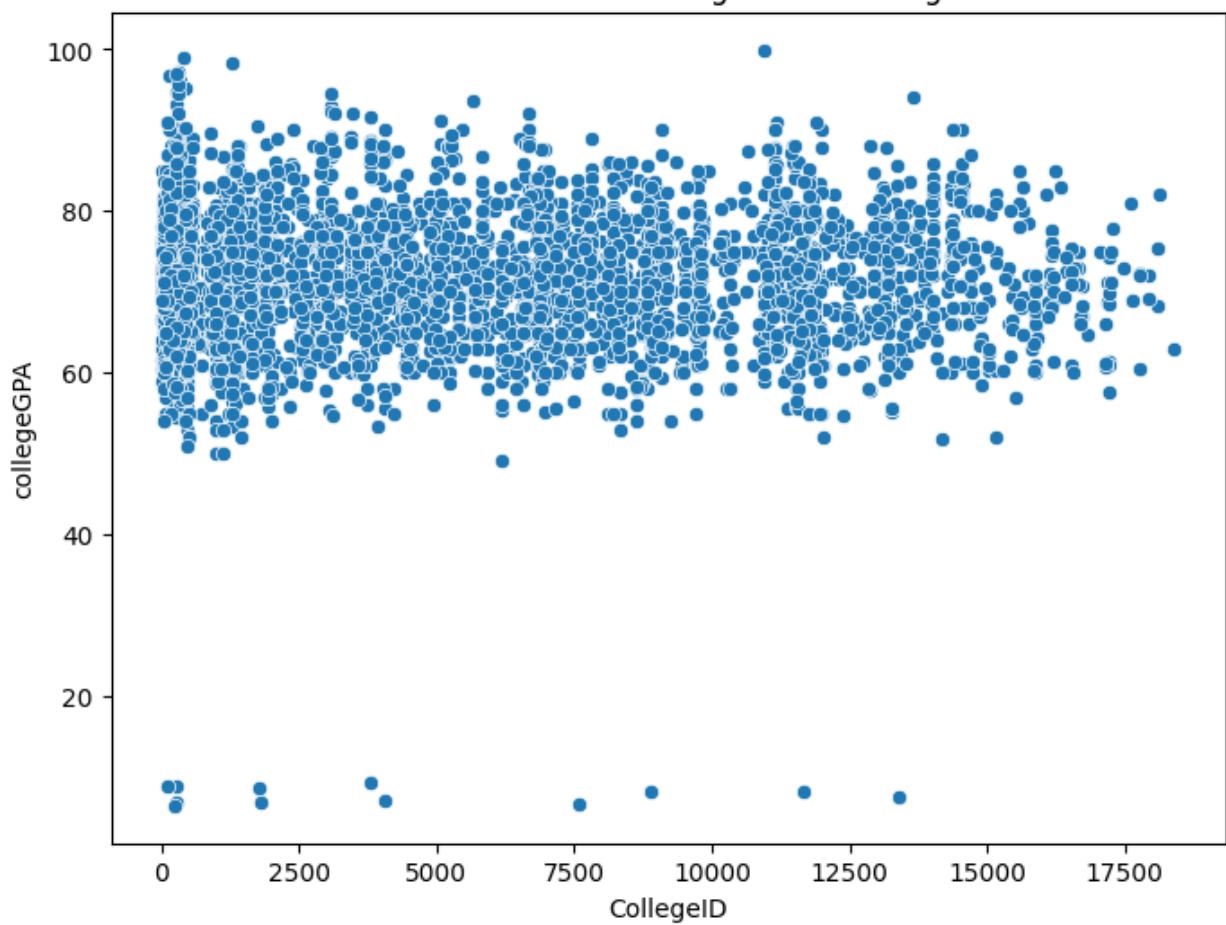
Scatter Plot between 12percentage and openness_to_experience



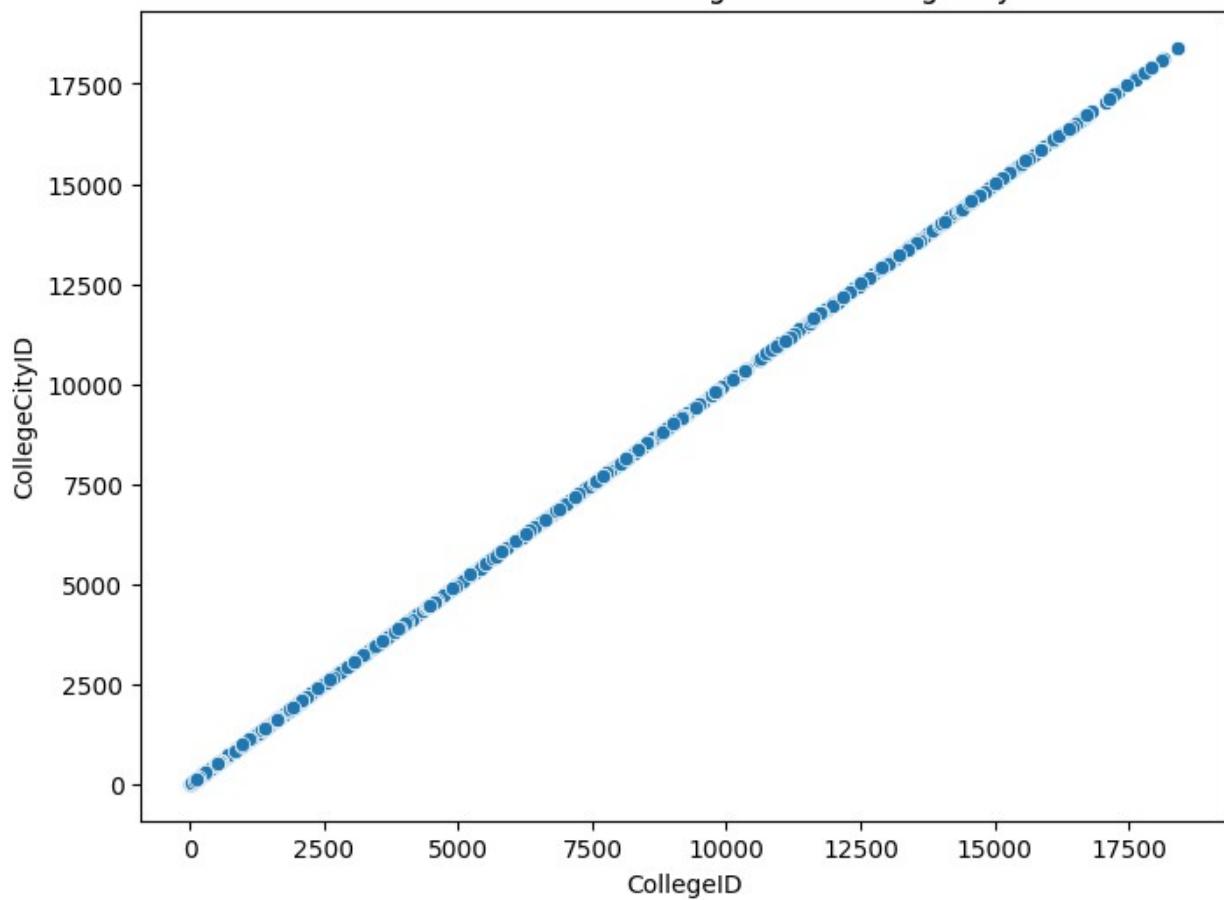
Scatter Plot between CollegeID and CollegeTier



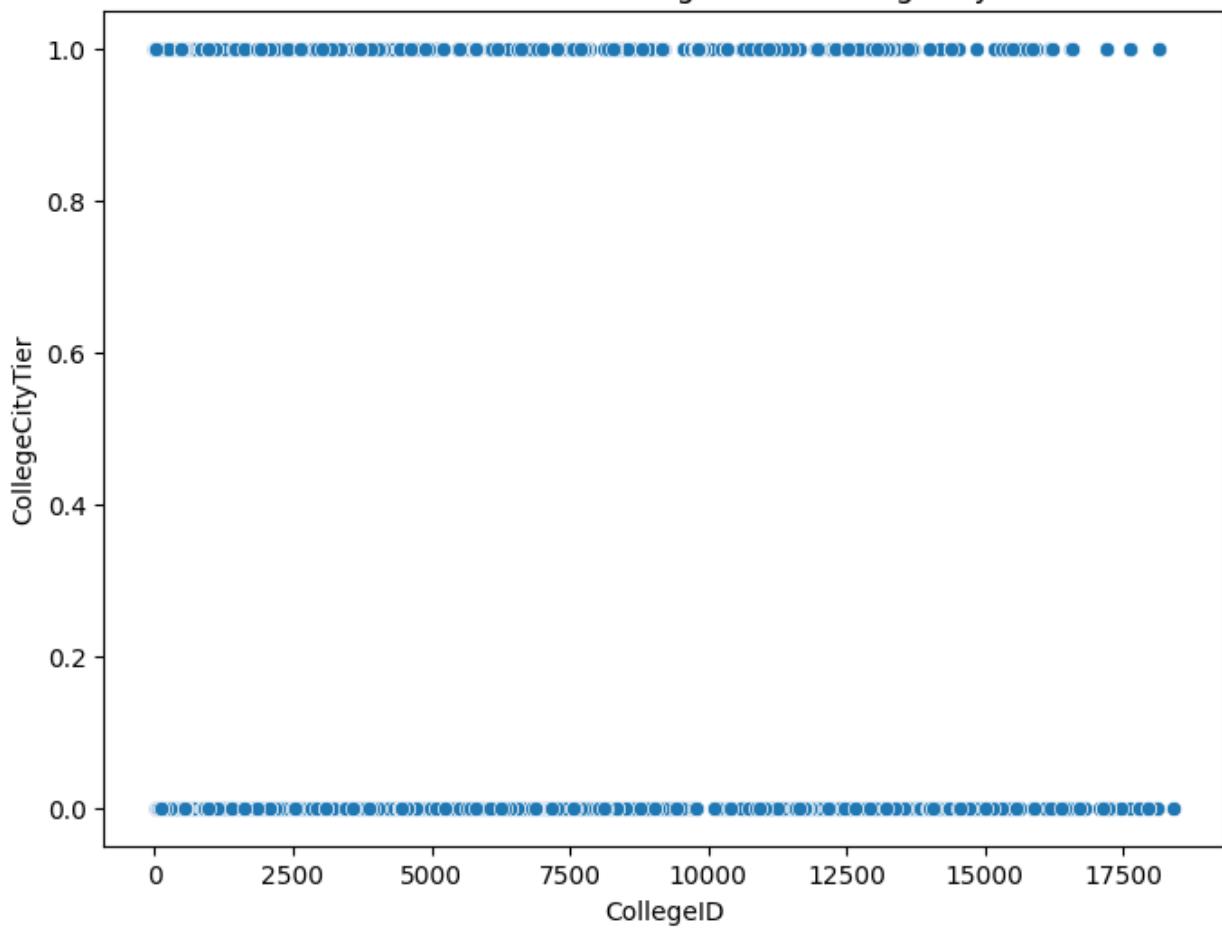
Scatter Plot between CollegeID and collegeGPA



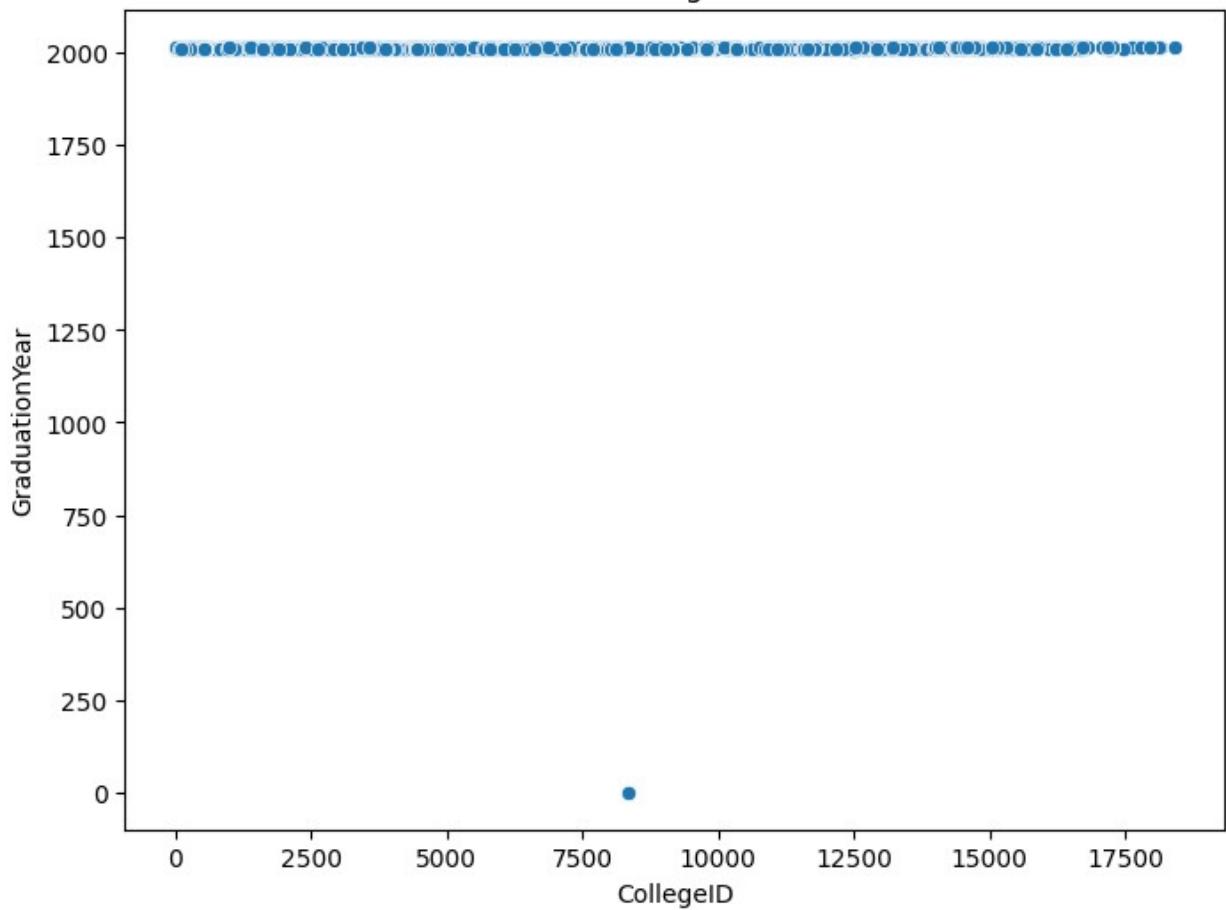
Scatter Plot between CollegeID and CollegeCityID



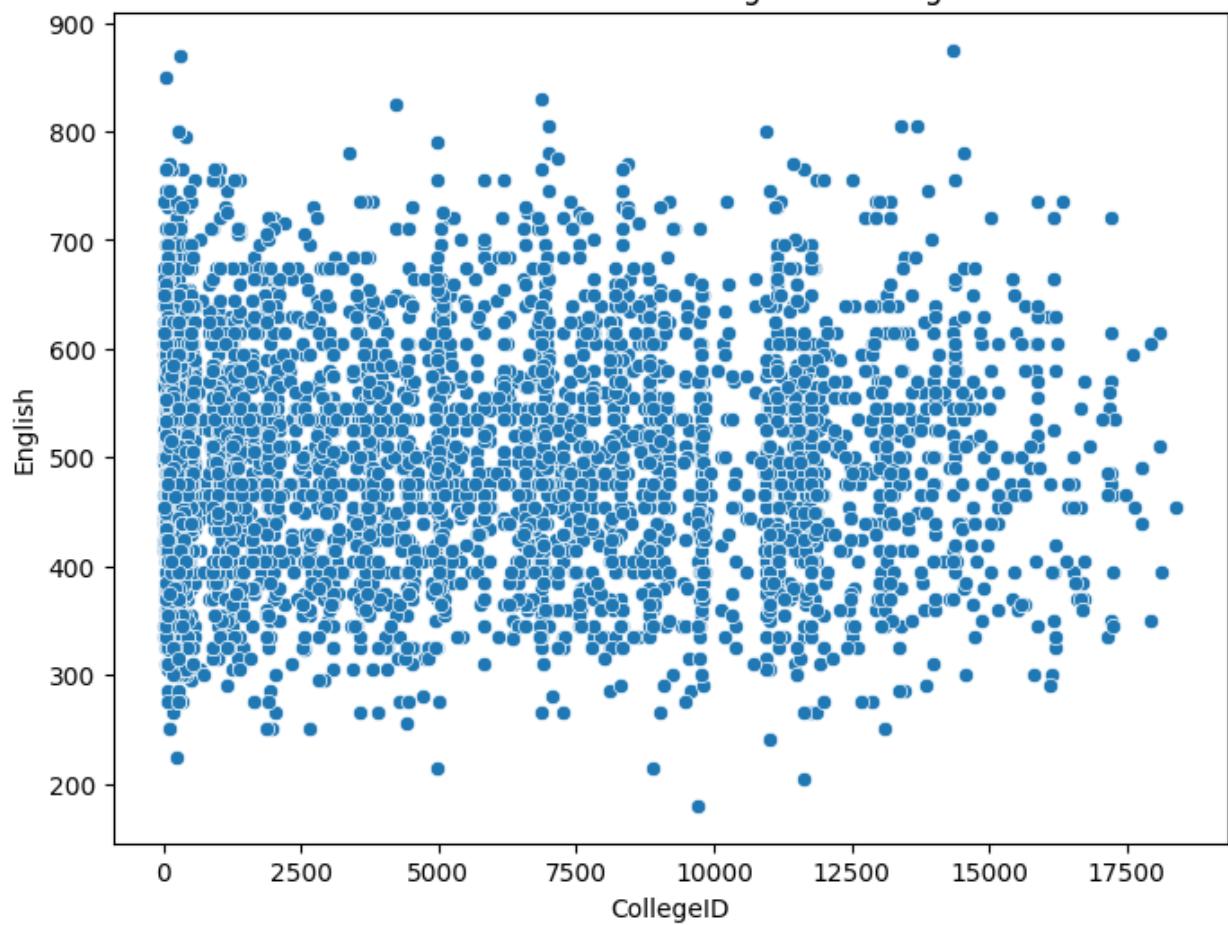
Scatter Plot between CollegeID and CollegeCityTier



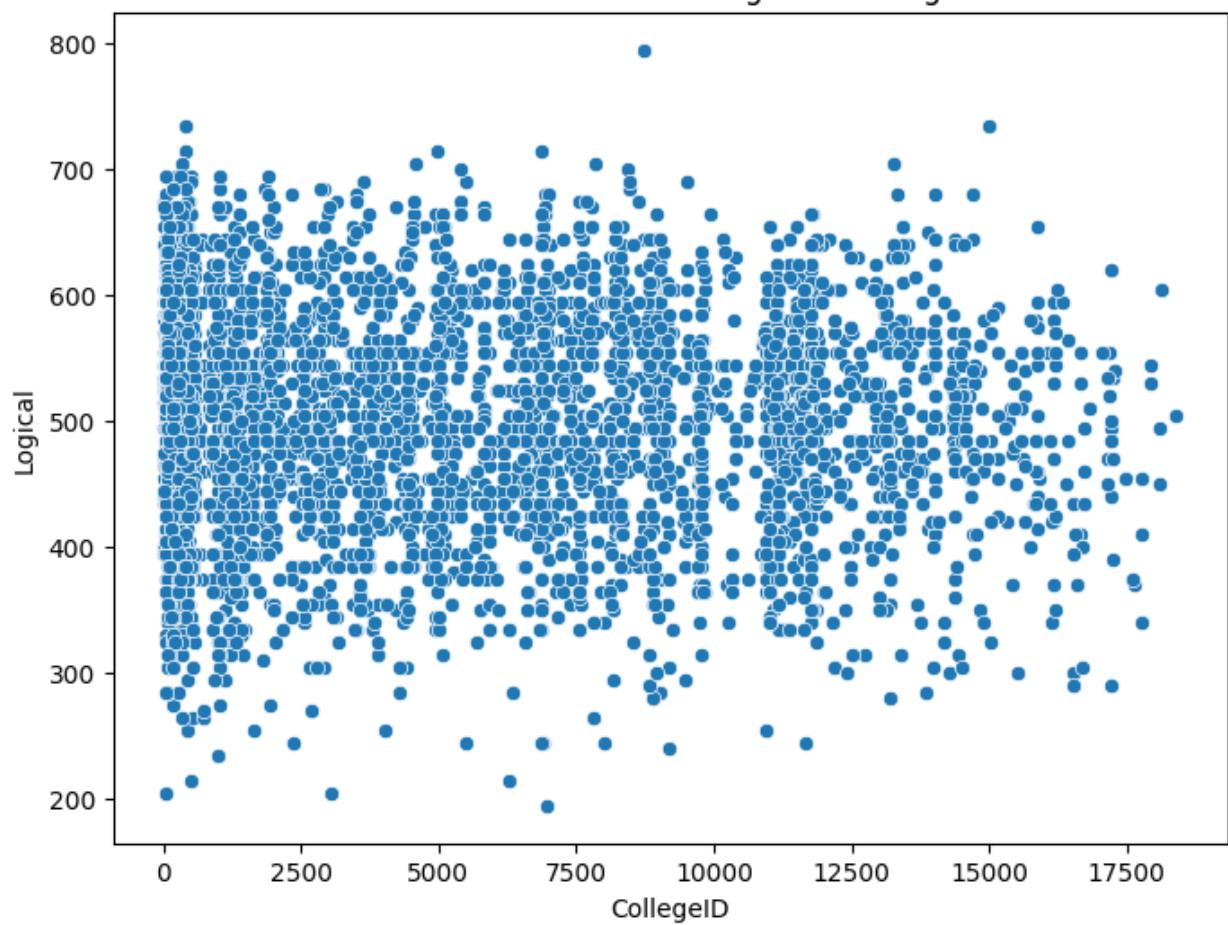
Scatter Plot between CollegeID and GraduationYear



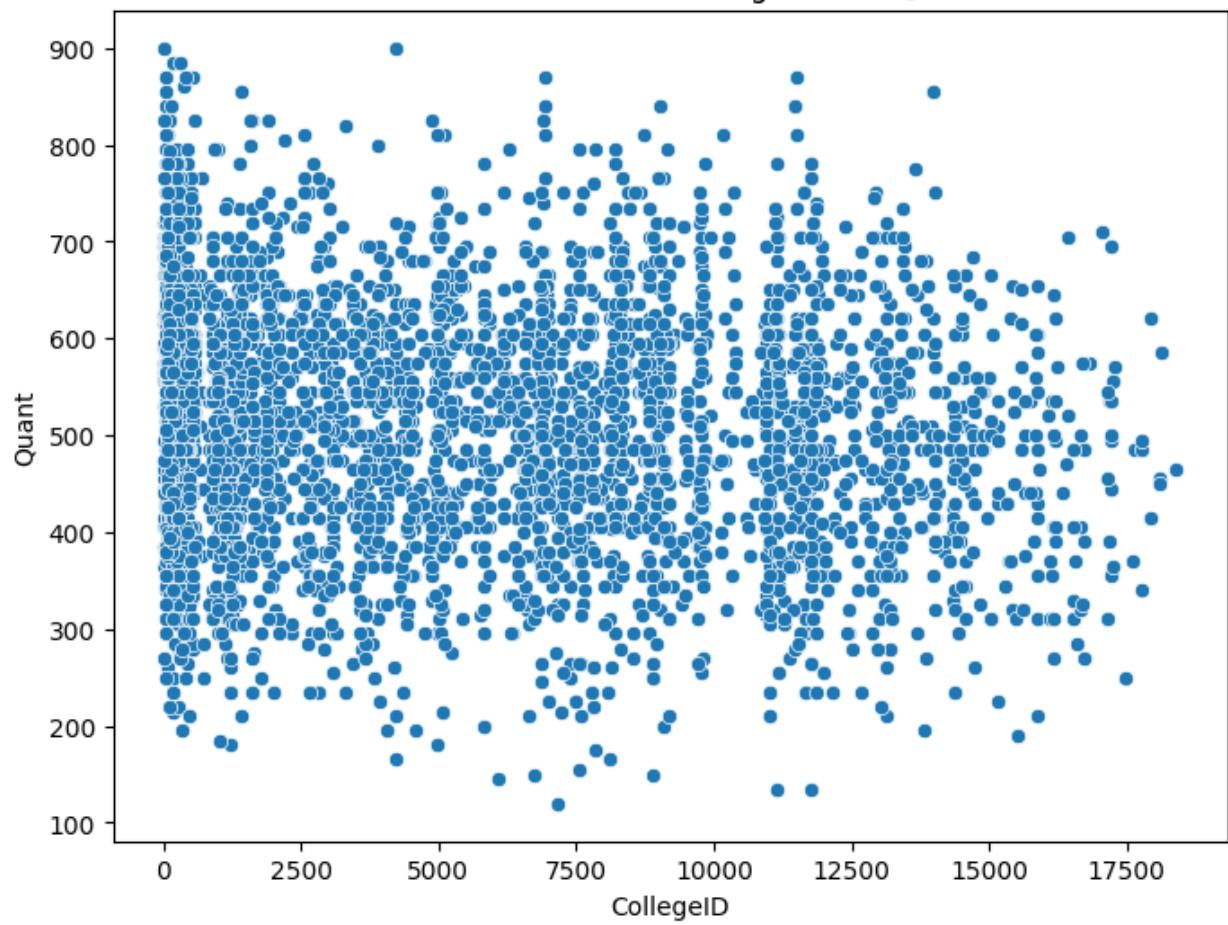
Scatter Plot between CollegelD and English



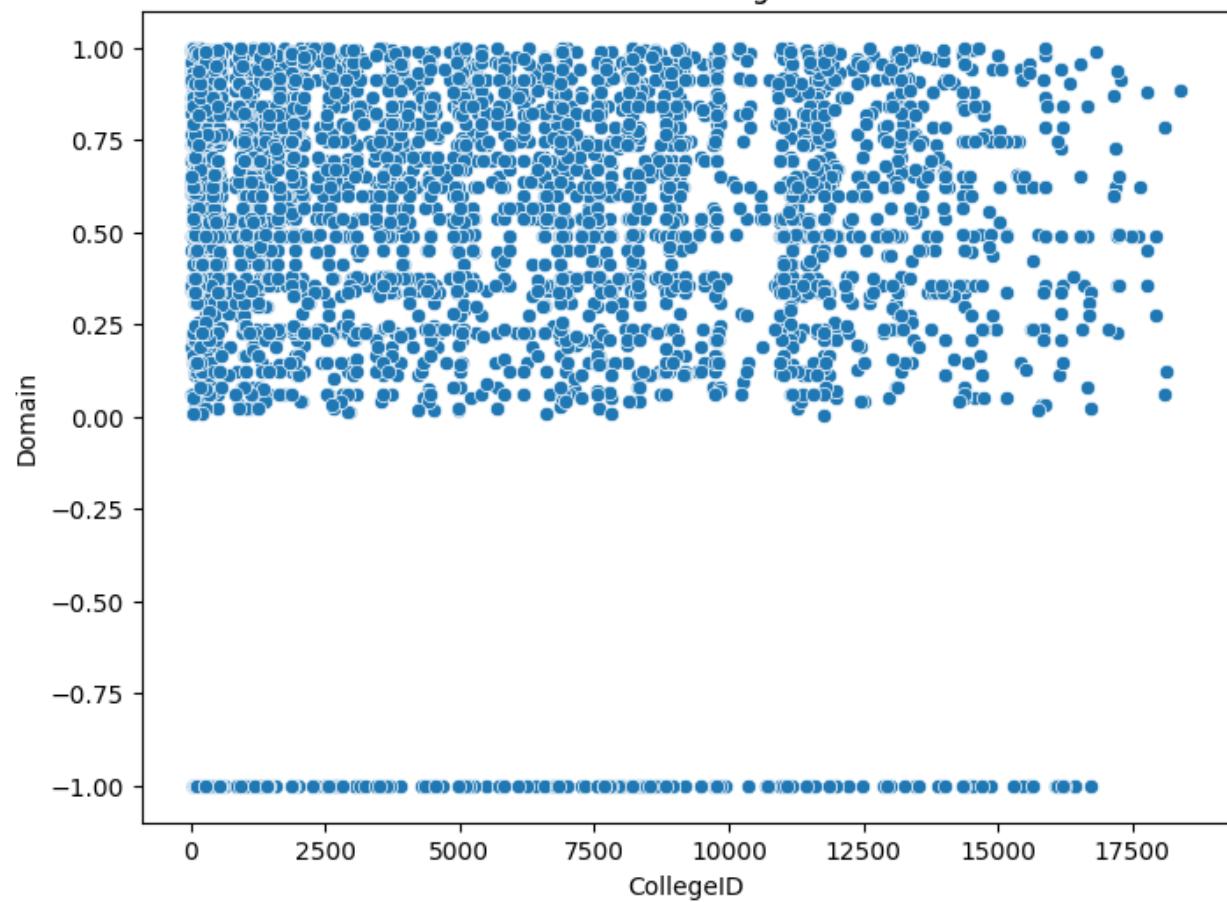
Scatter Plot between CollegelD and Logical



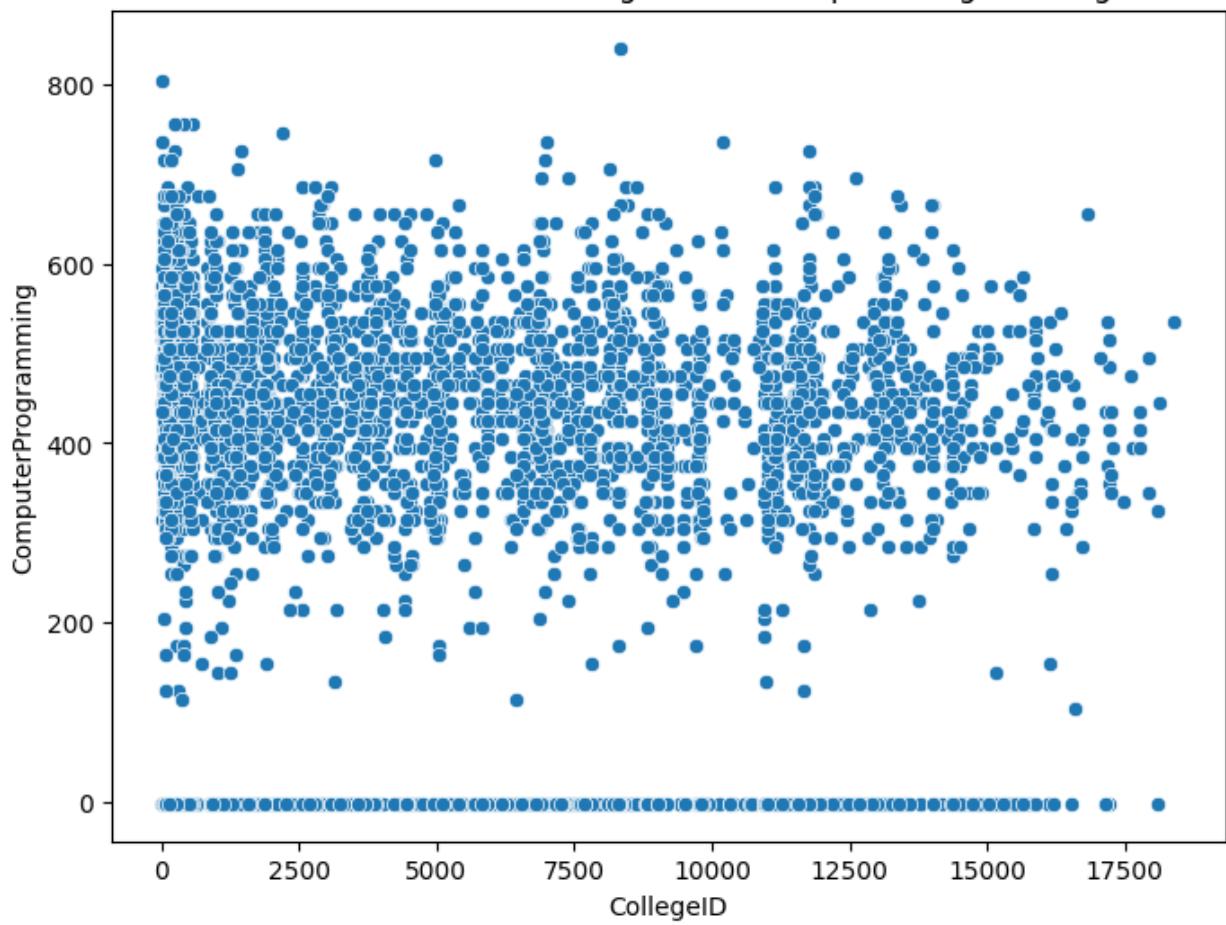
Scatter Plot between CollegelD and Quant



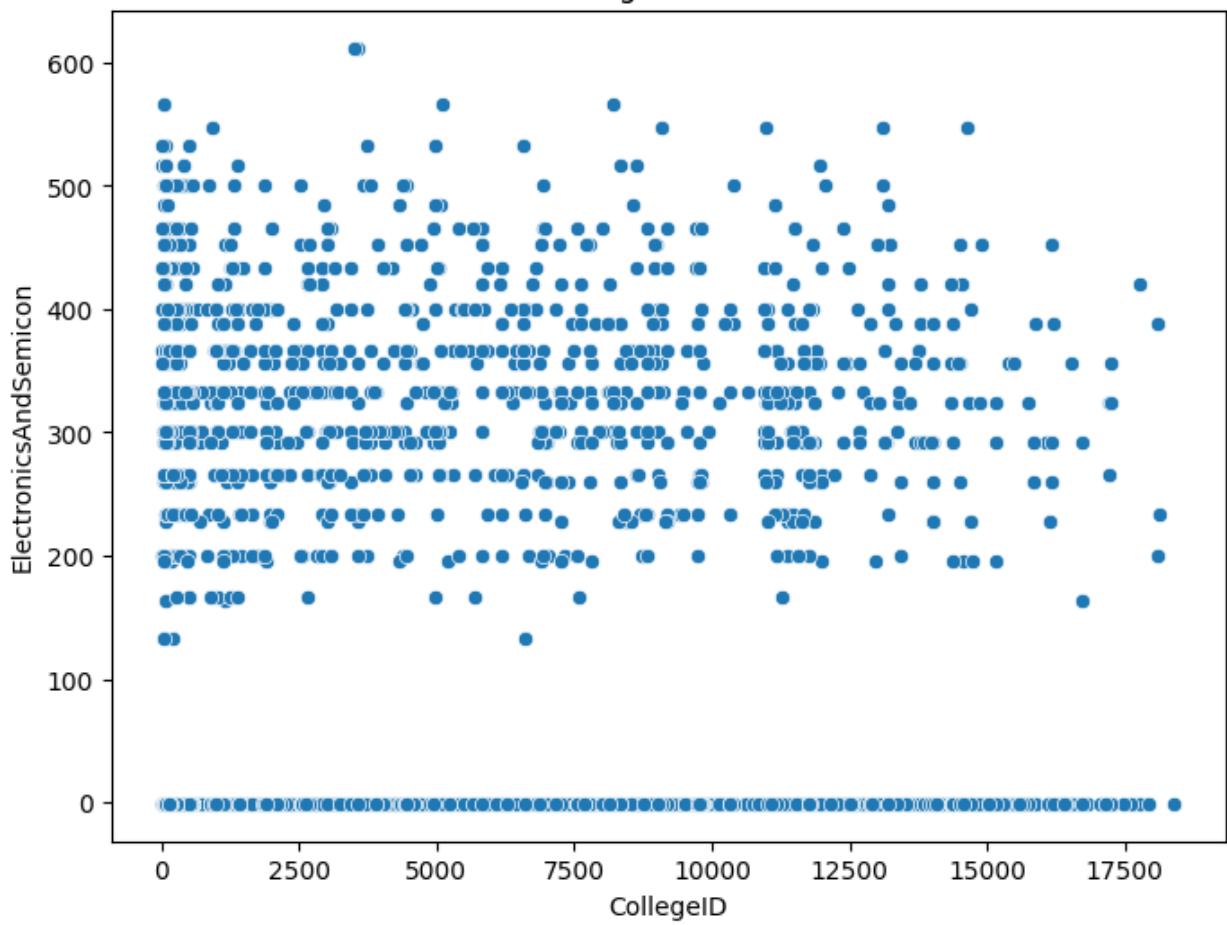
Scatter Plot between CollegelD and Domain



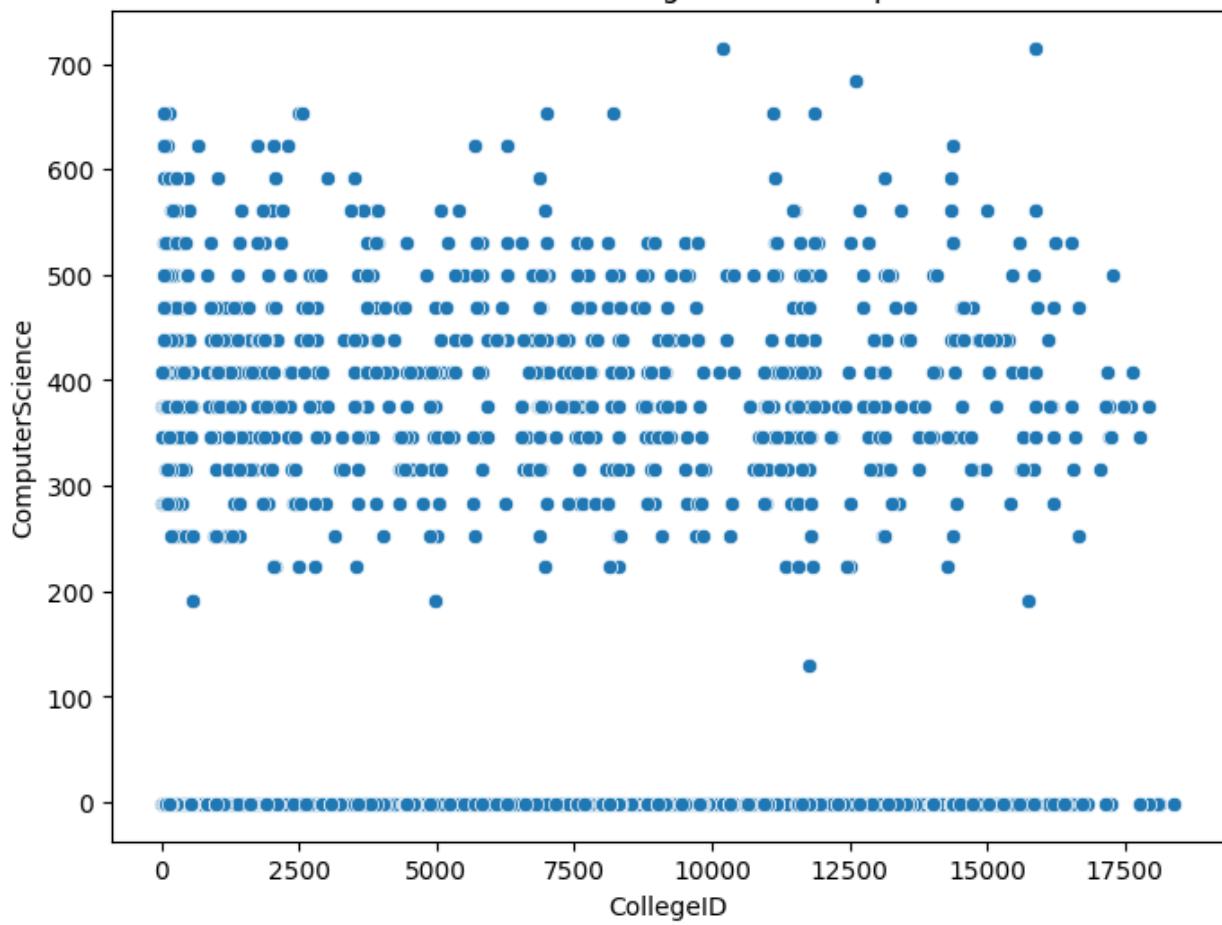
Scatter Plot between CollegelD and ComputerProgramming



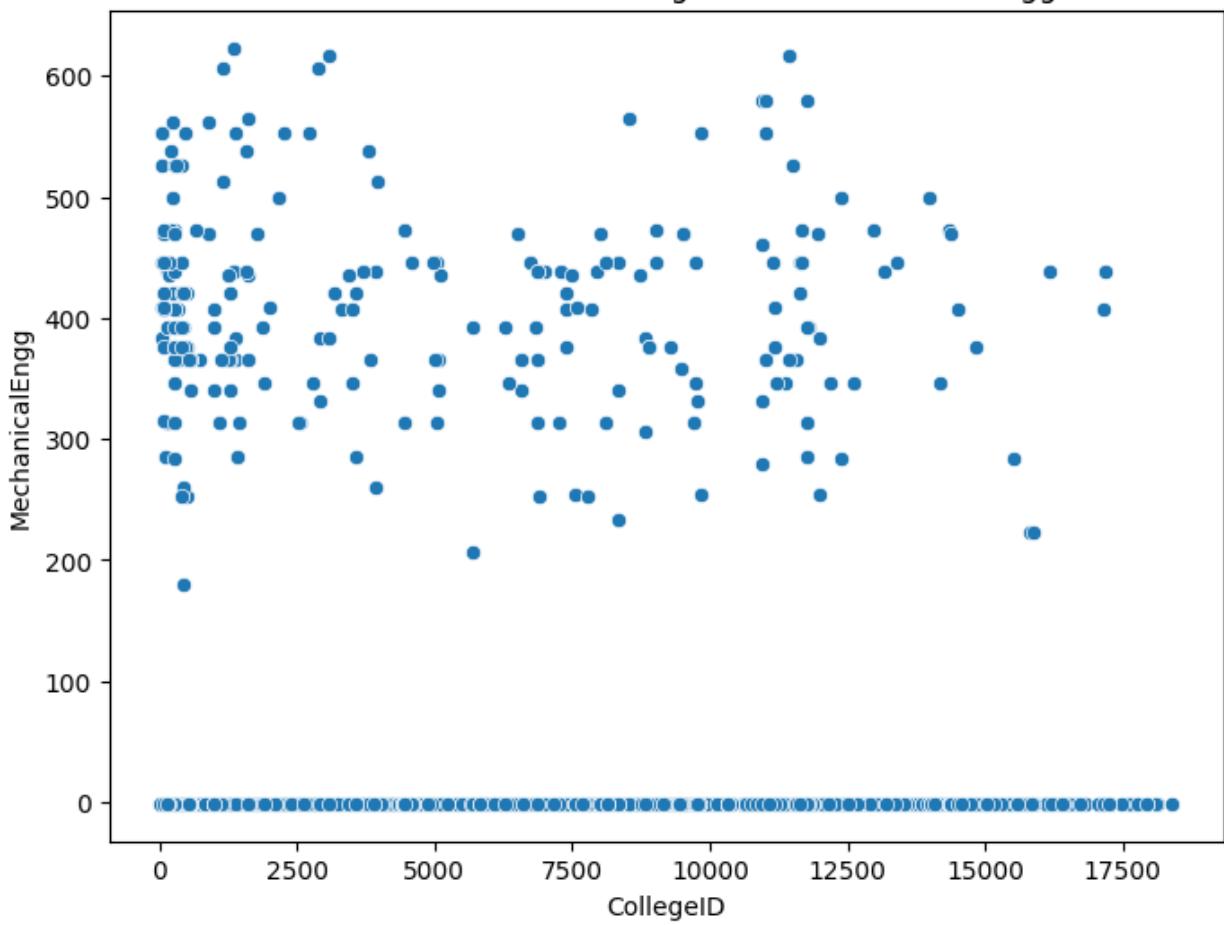
Scatter Plot between CollegelD and ElectronicsAndSemicon



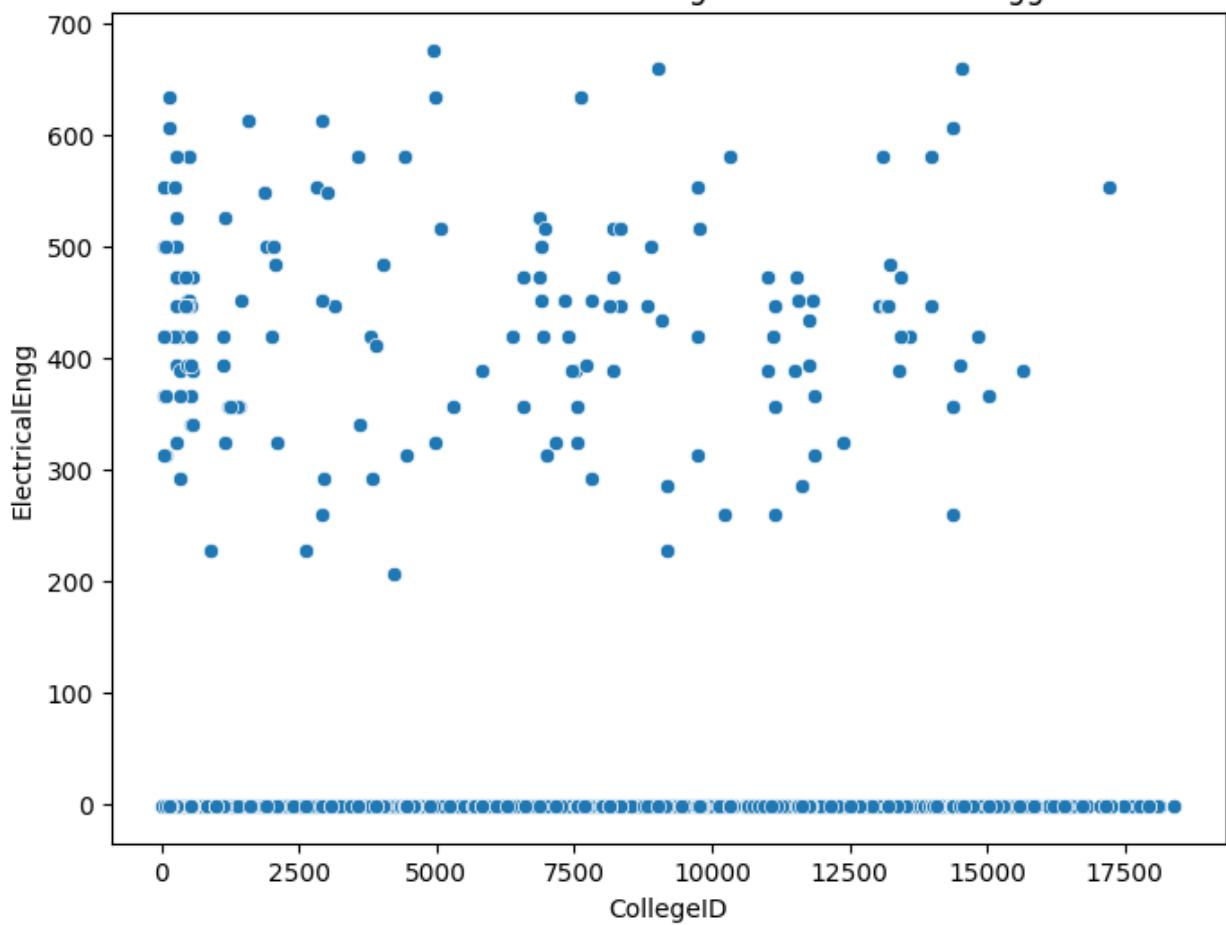
Scatter Plot between CollegelD and ComputerScience



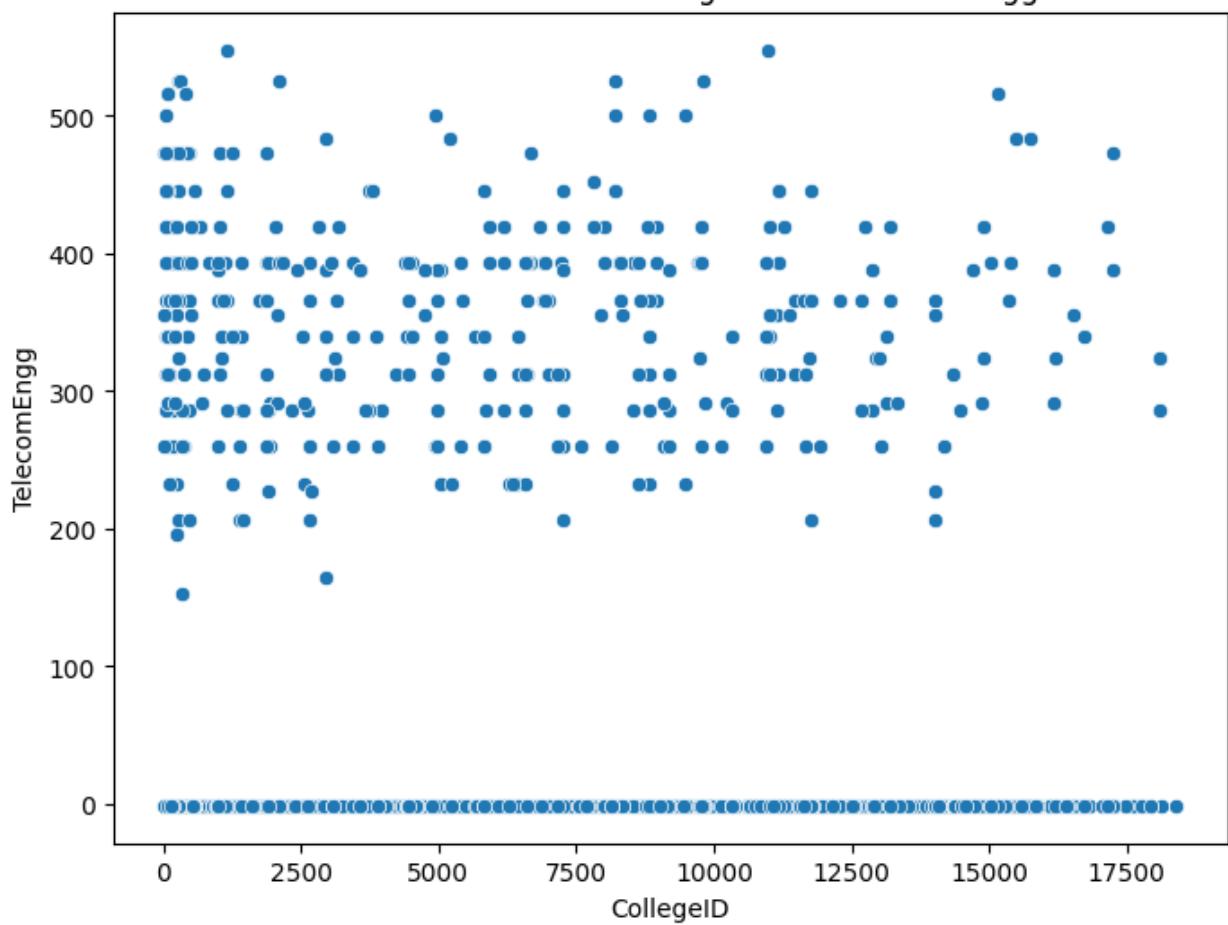
Scatter Plot between CollegelD and MechanicalEngg



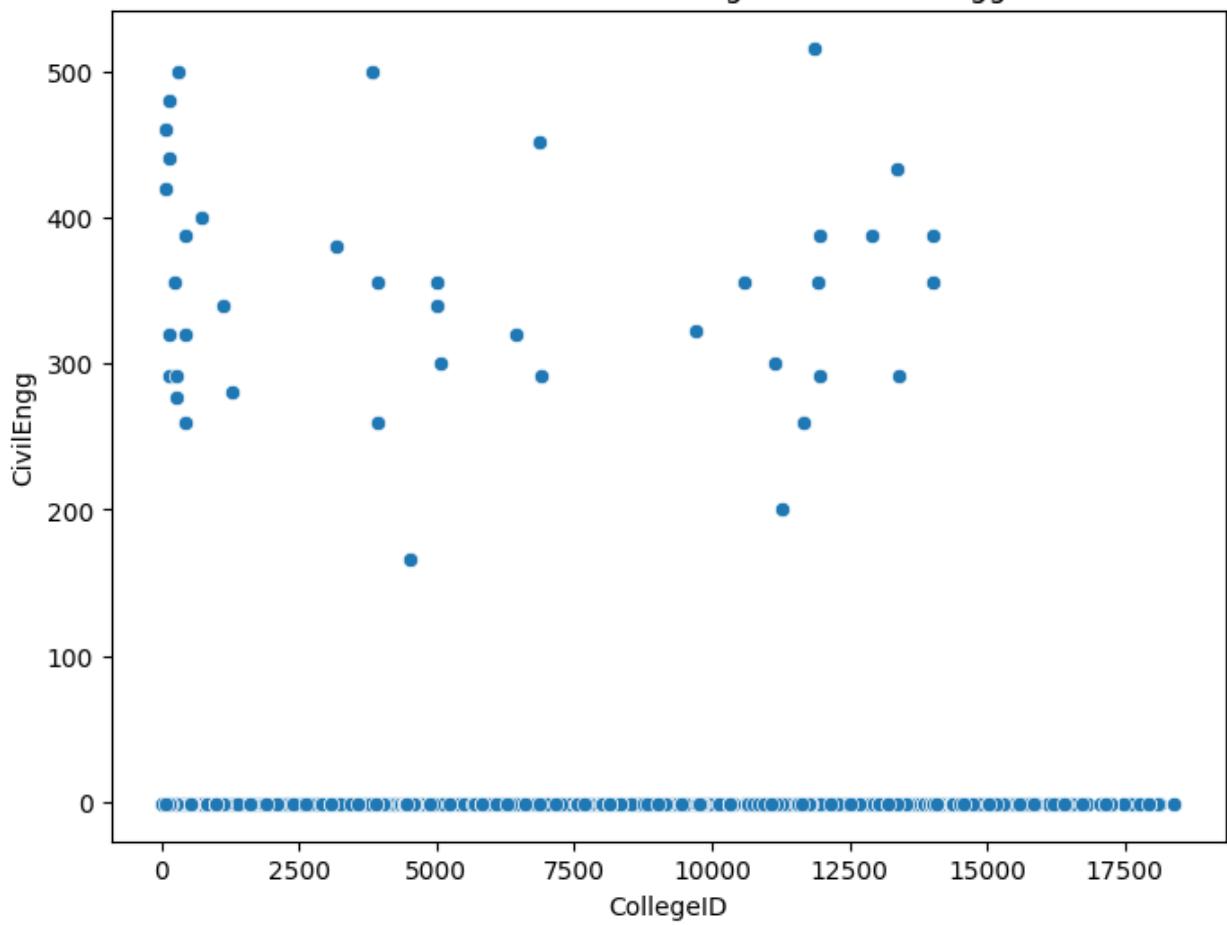
Scatter Plot between CollegelD and ElectricalEngg



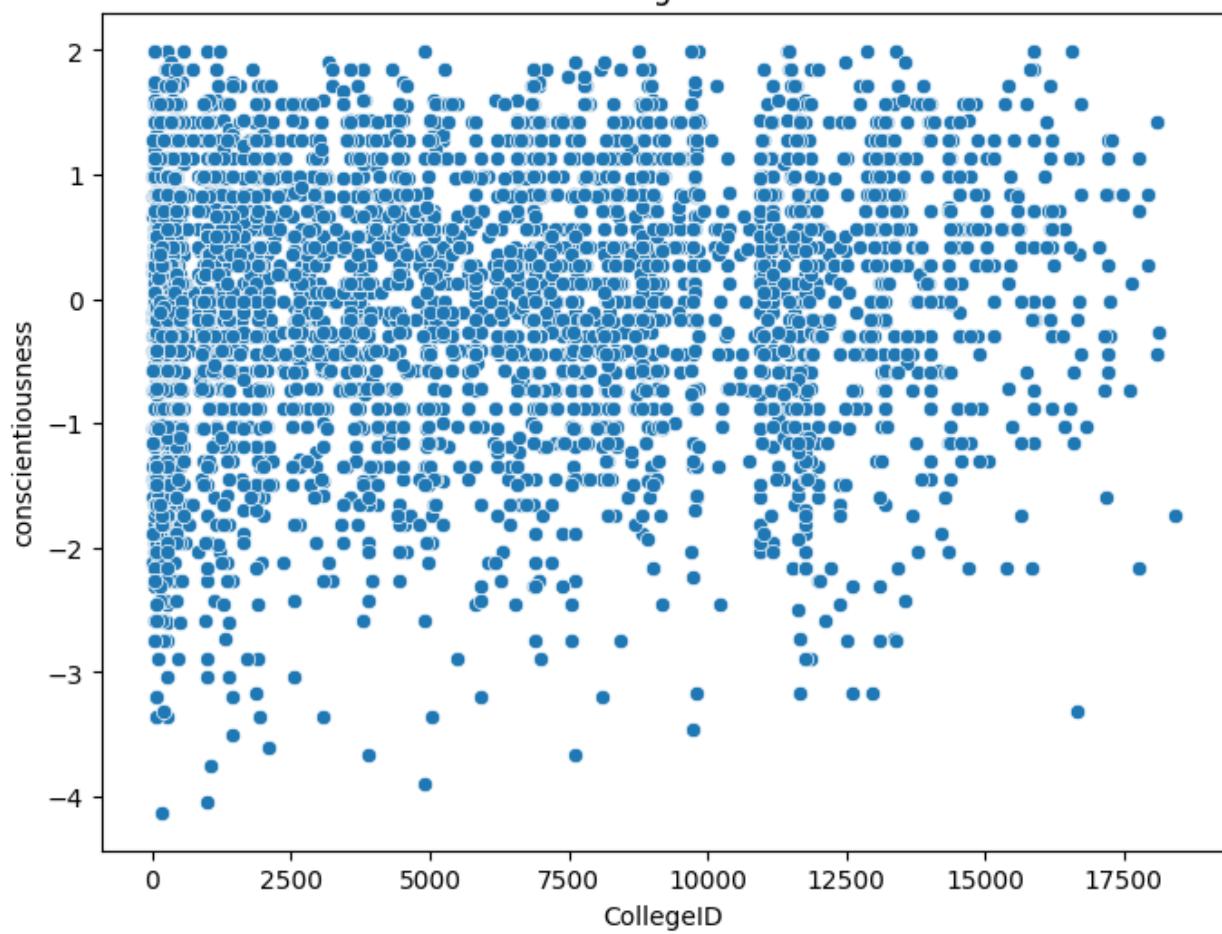
Scatter Plot between CollegelD and TelecomEngg



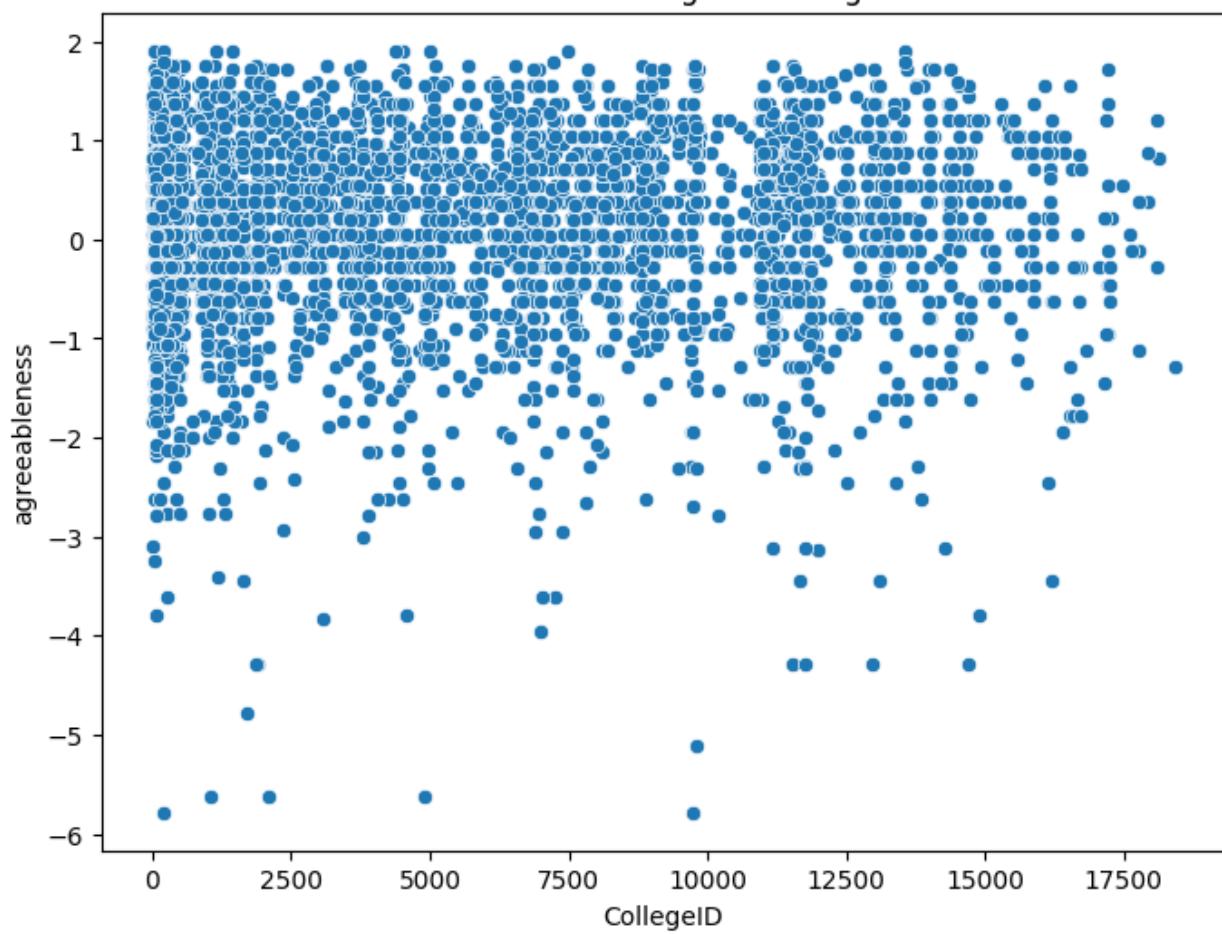
Scatter Plot between CollegelD and CivilEngg



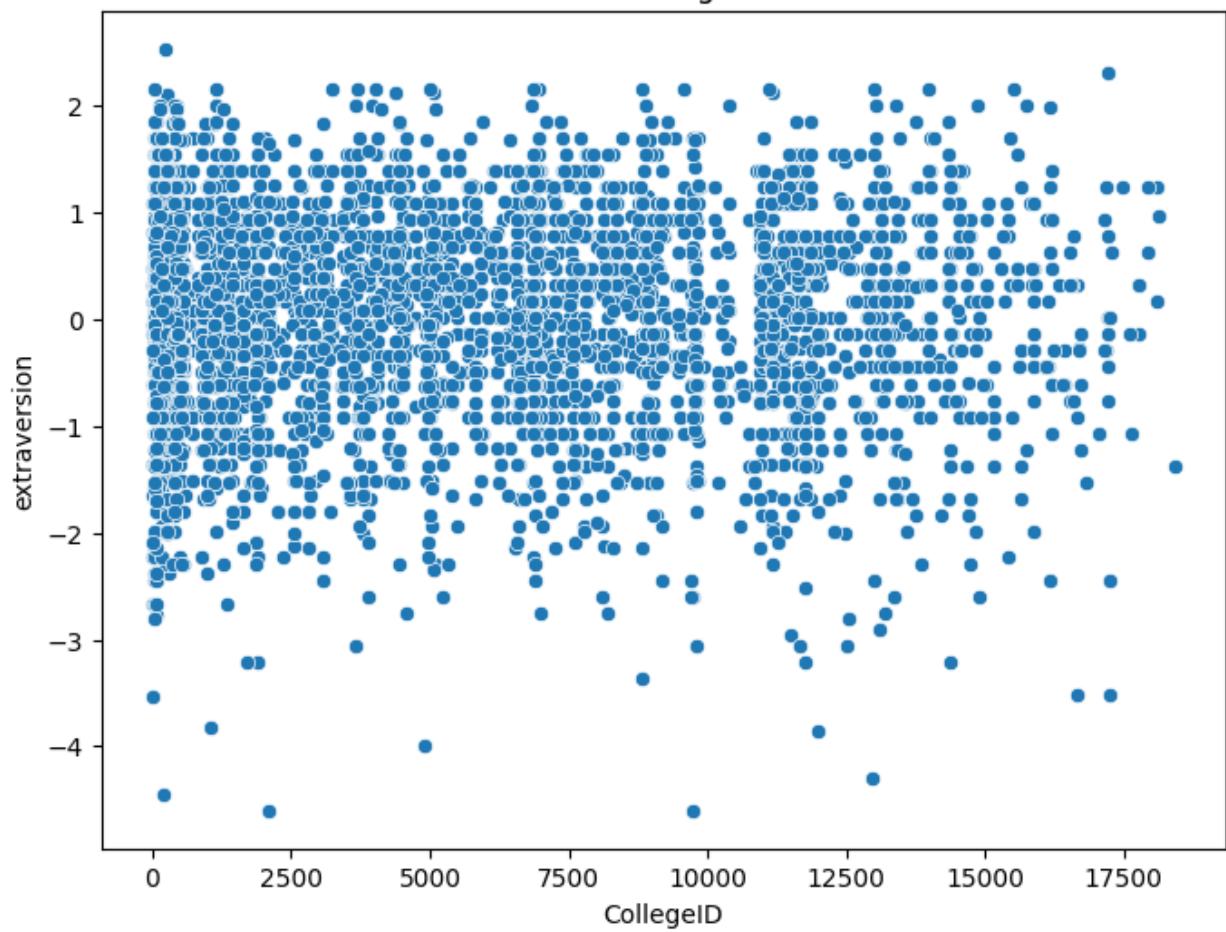
Scatter Plot between CollegelD and conscientiousness



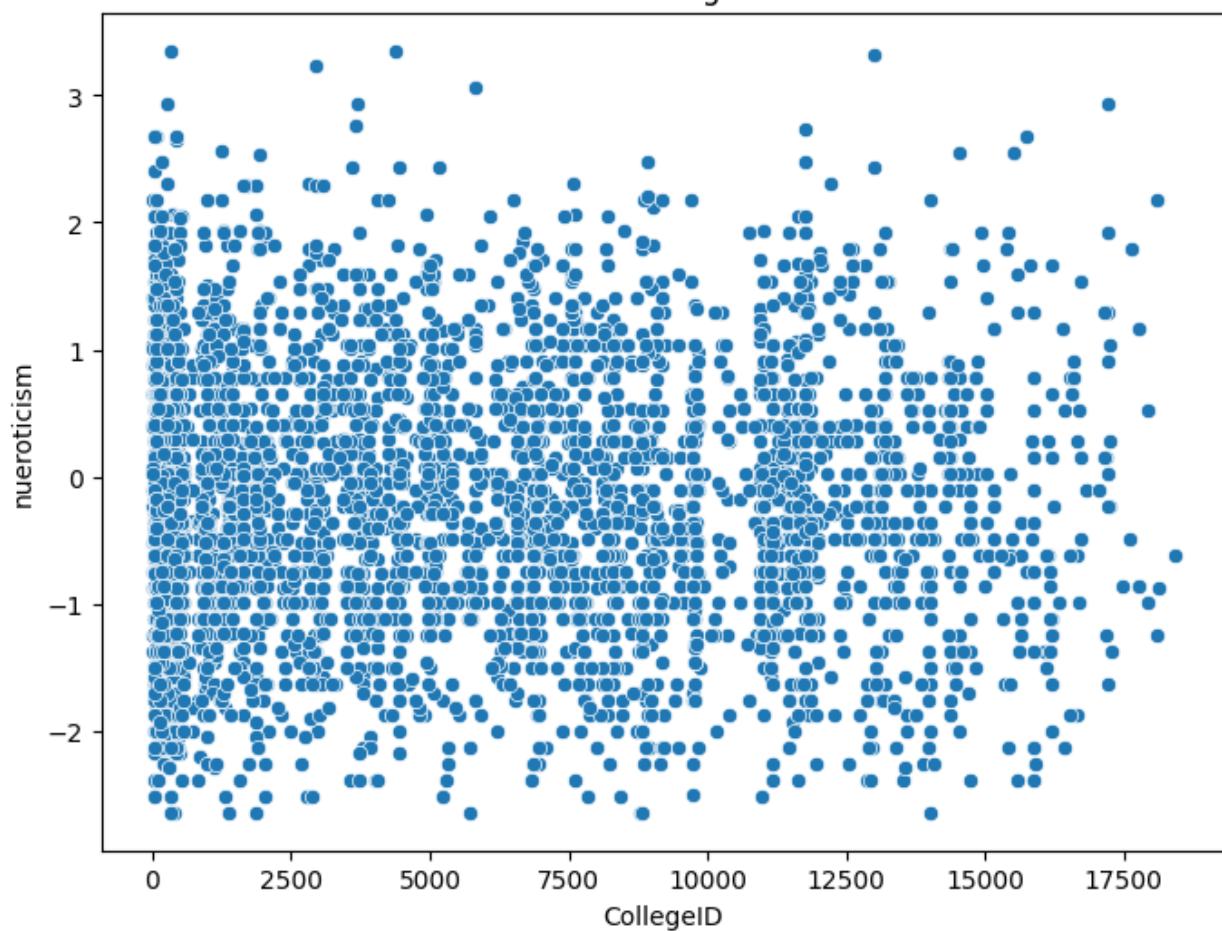
Scatter Plot between CollegelD and agreeableness



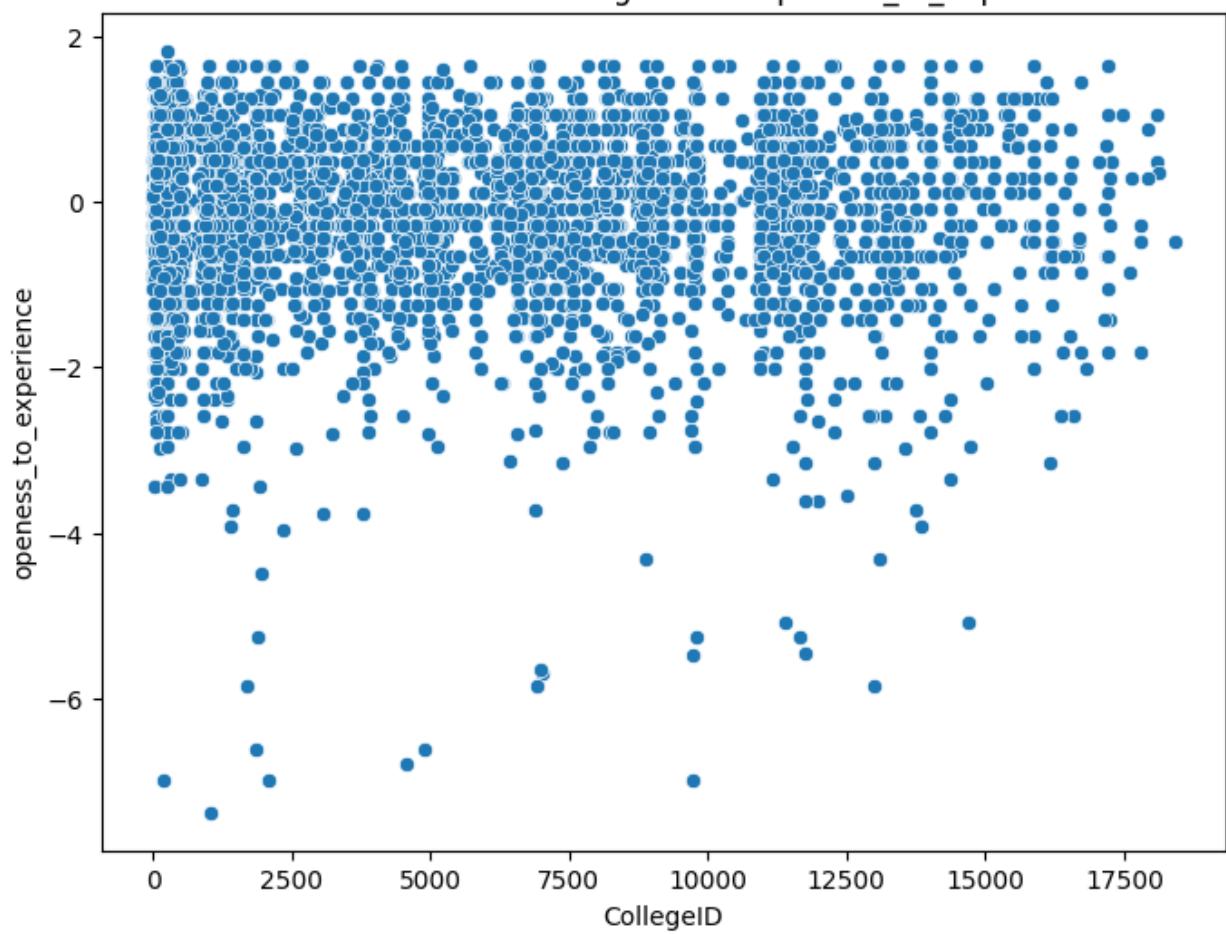
Scatter Plot between CollegelD and extraversion



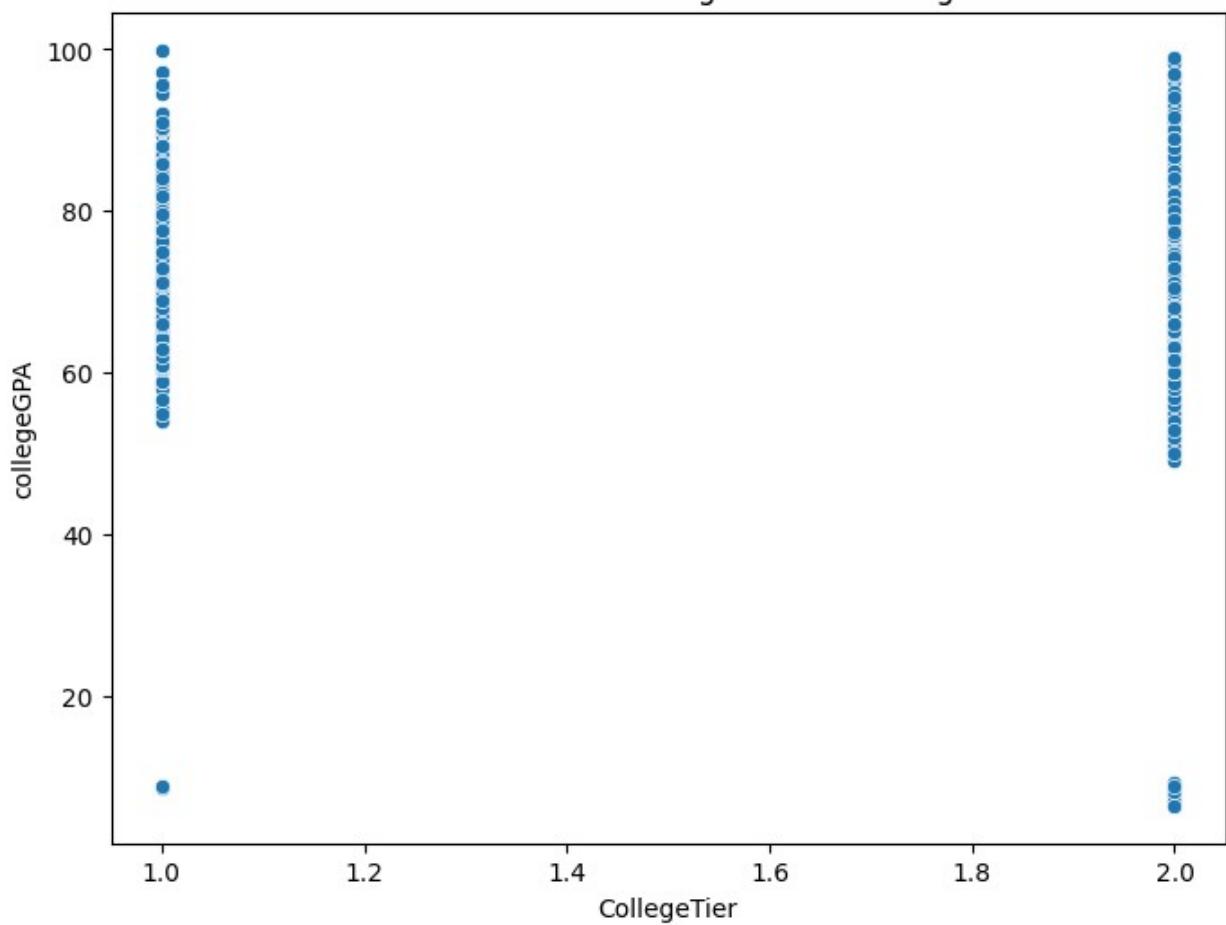
Scatter Plot between CollegelD and nueroticism



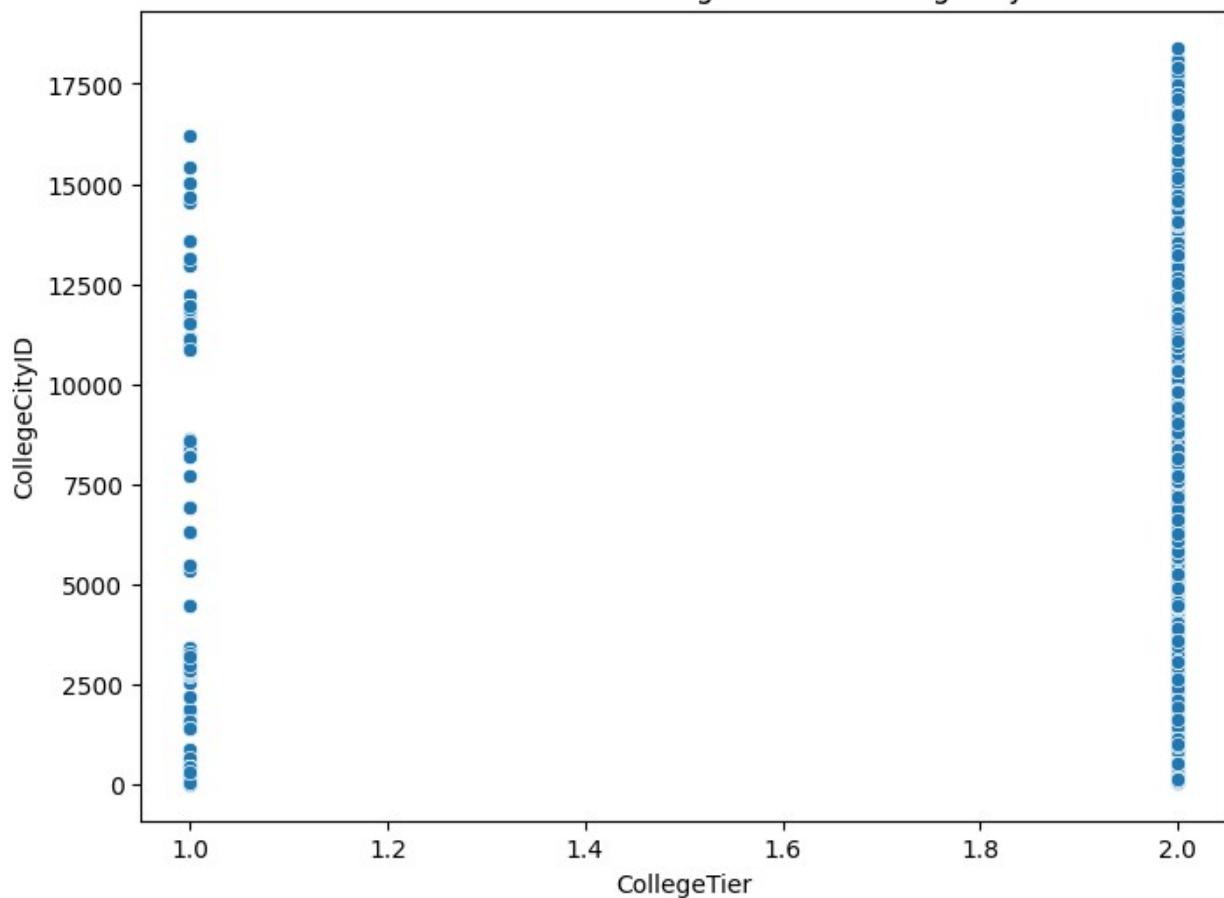
Scatter Plot between CollegelD and openness_to_experience



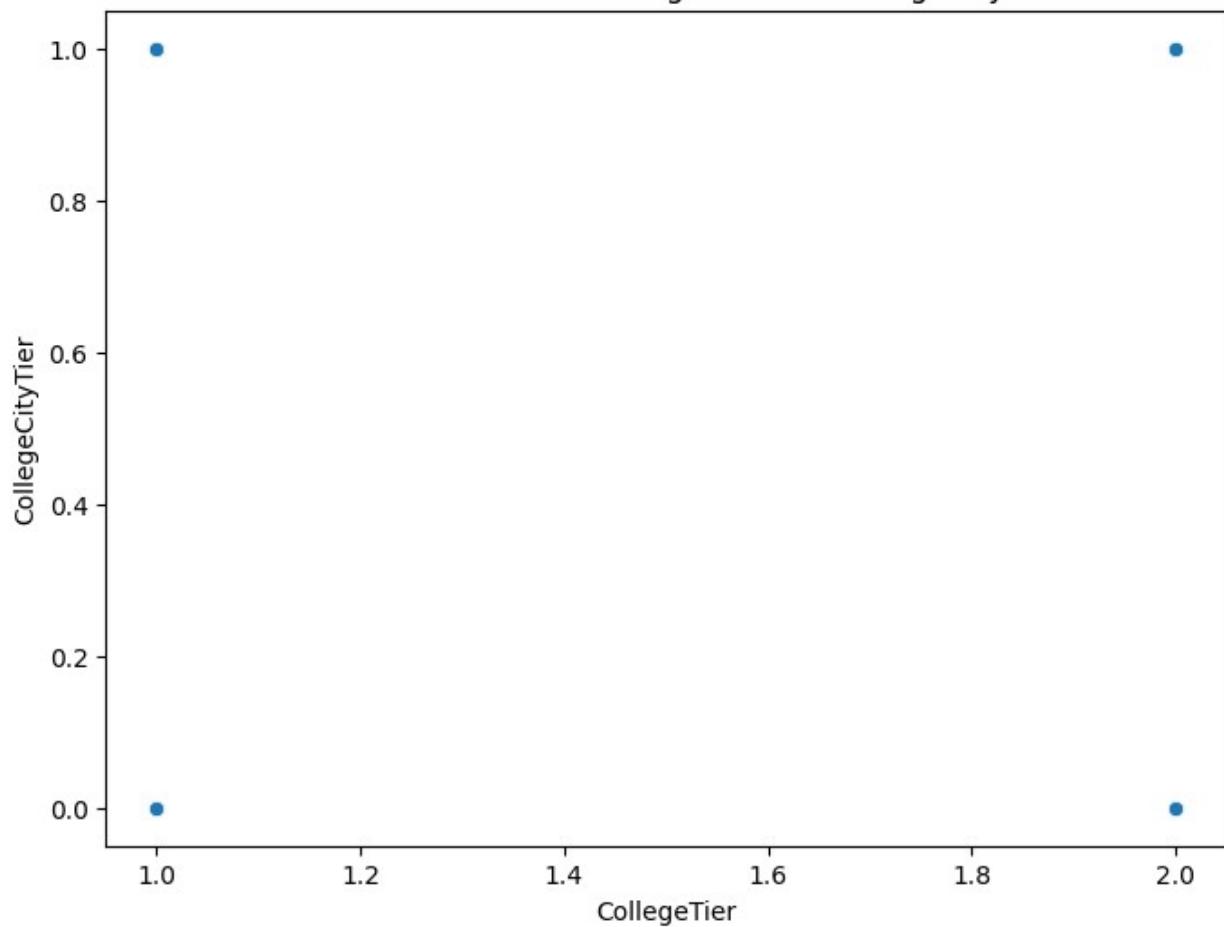
Scatter Plot between CollegeTier and collegeGPA



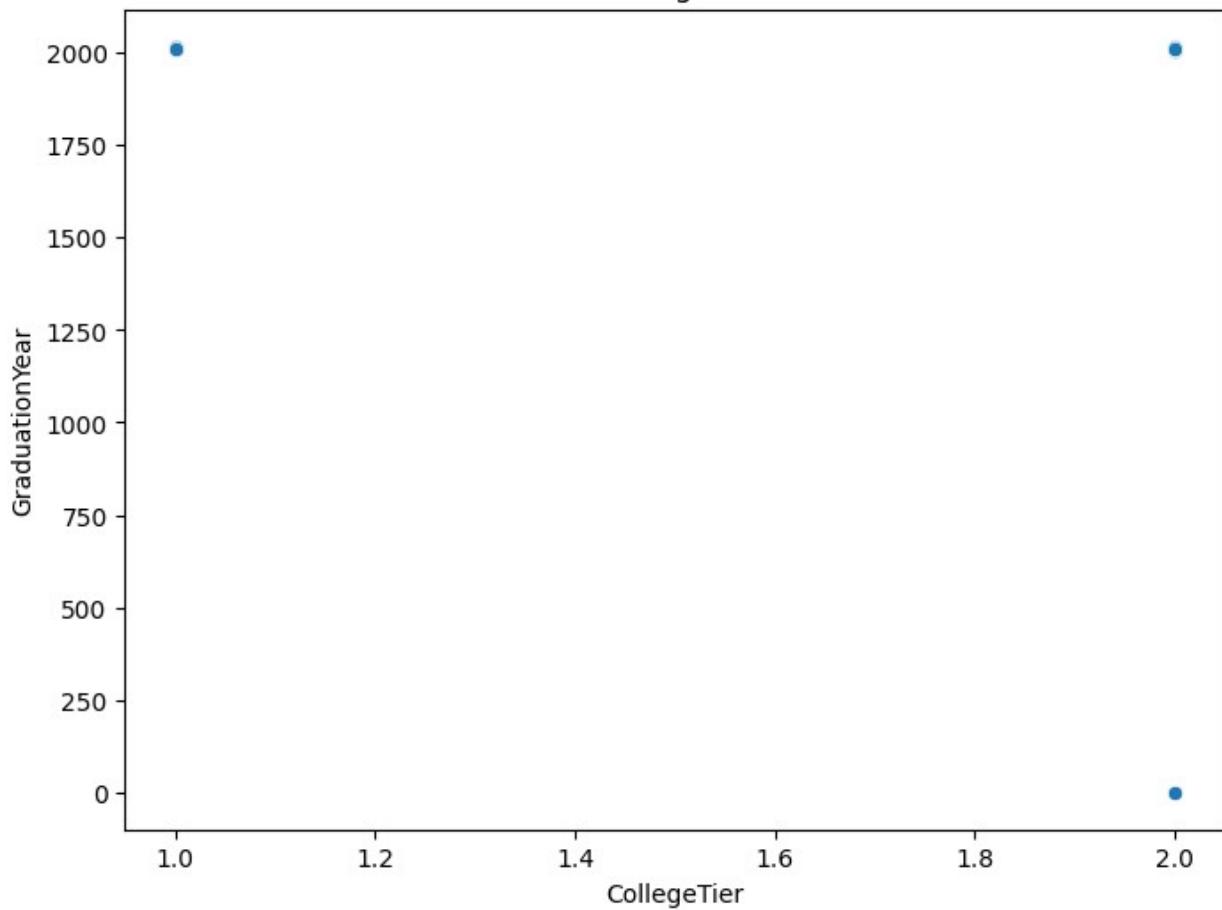
Scatter Plot between CollegeTier and CollegeCityID



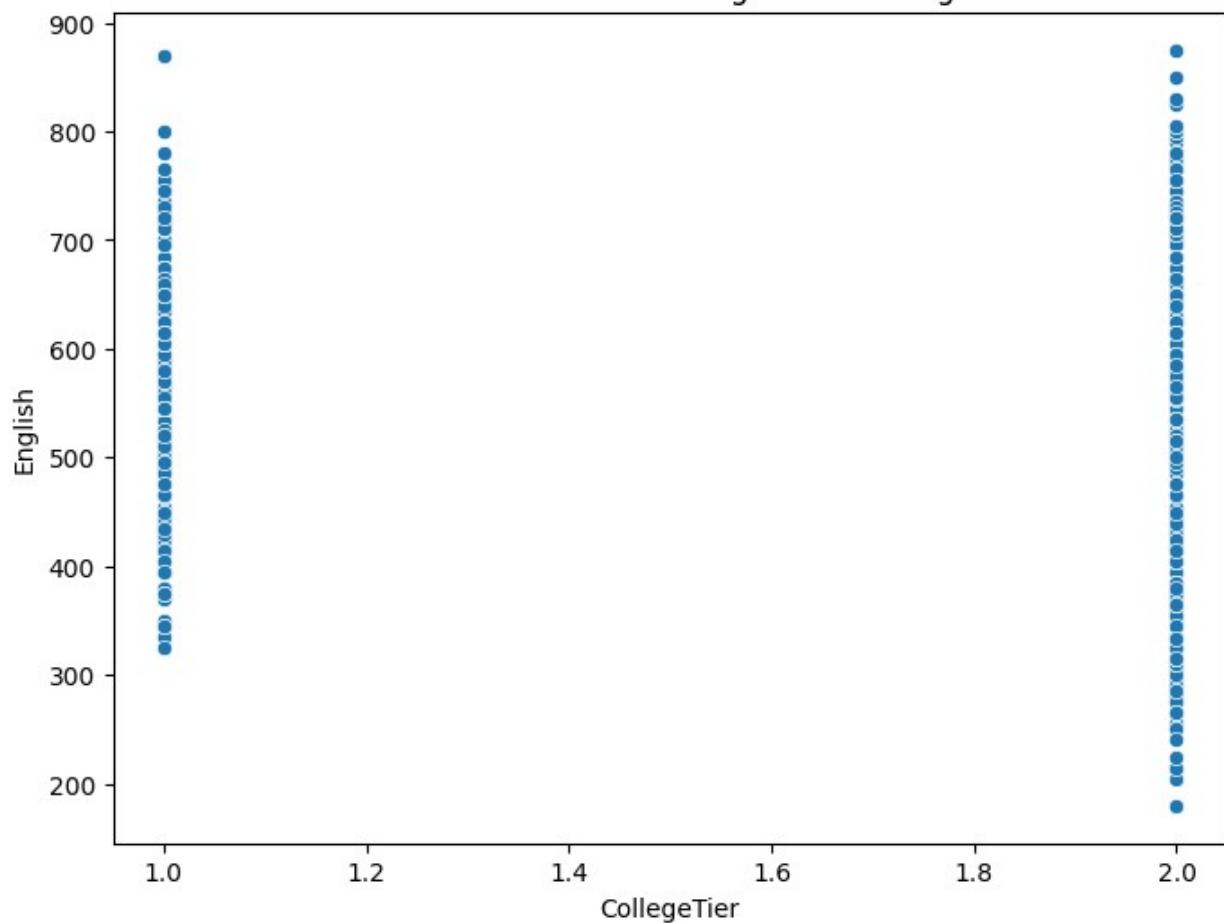
Scatter Plot between CollegeTier and CollegeCityTier



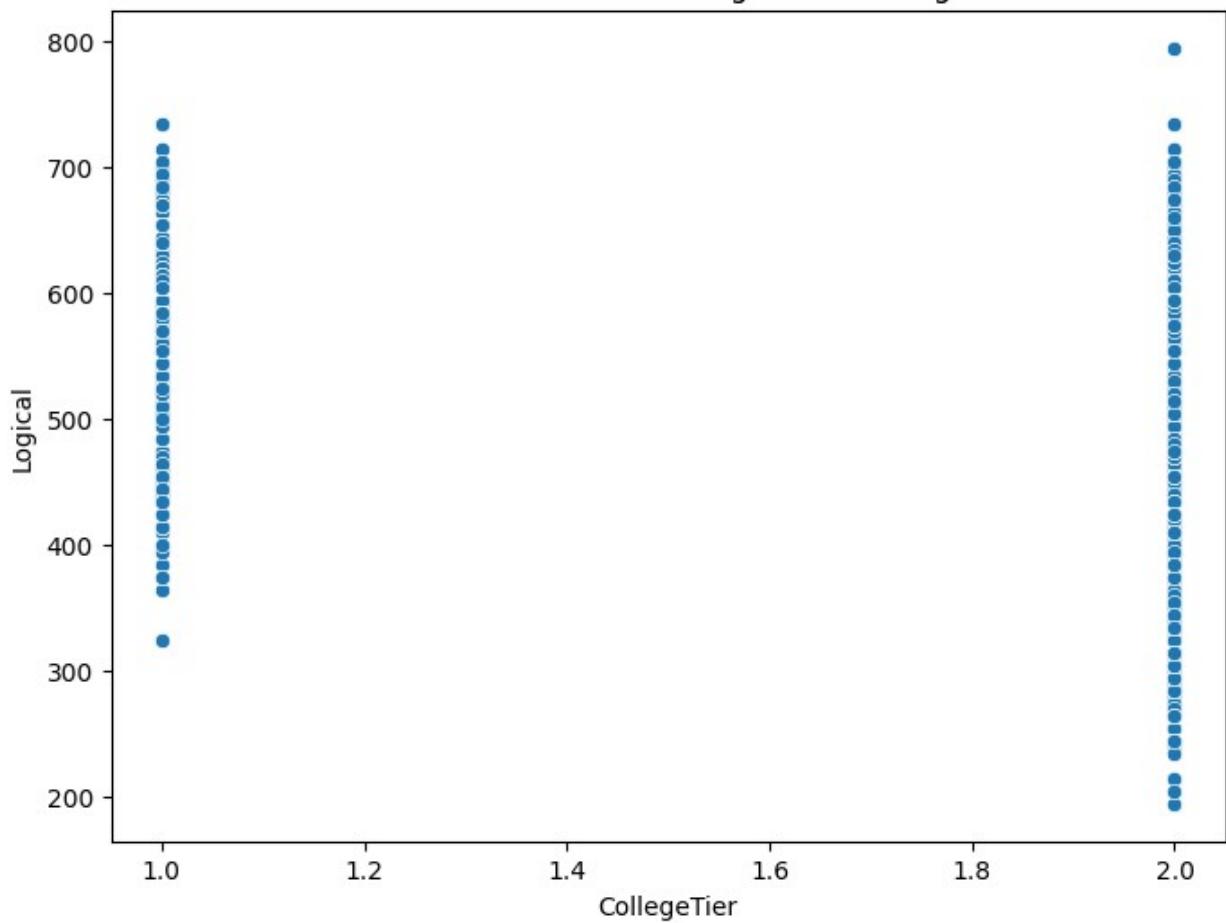
Scatter Plot between CollegeTier and GraduationYear



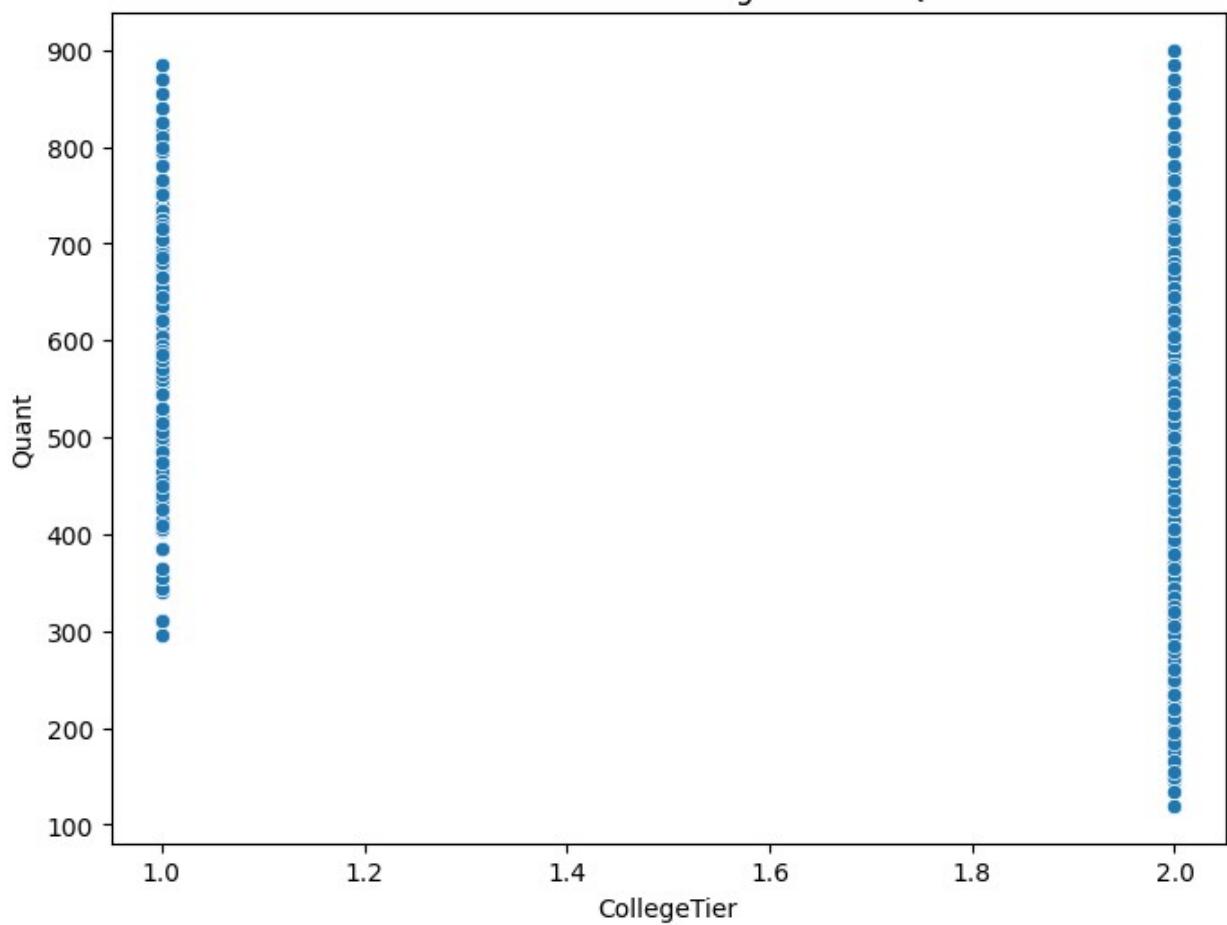
Scatter Plot between CollegeTier and English



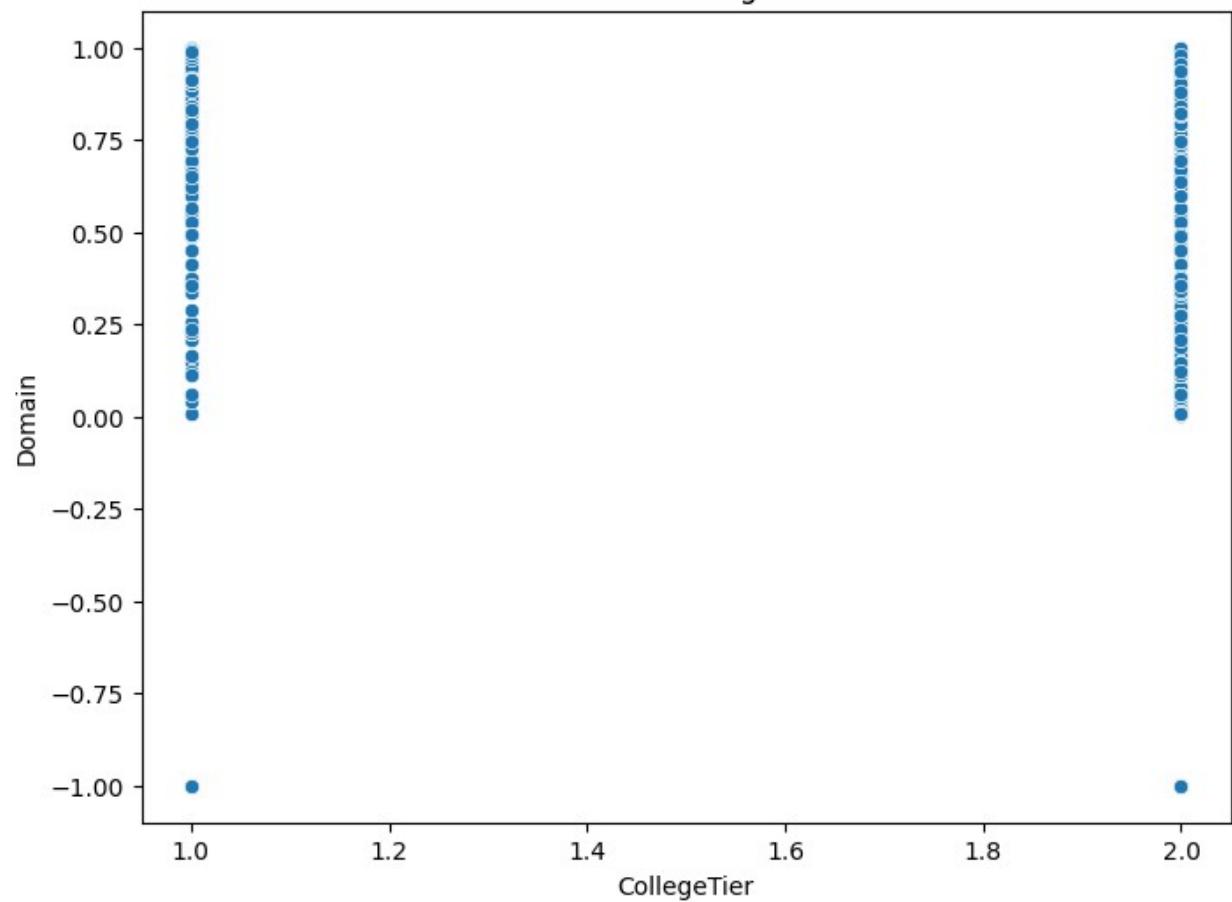
Scatter Plot between CollegeTier and Logical



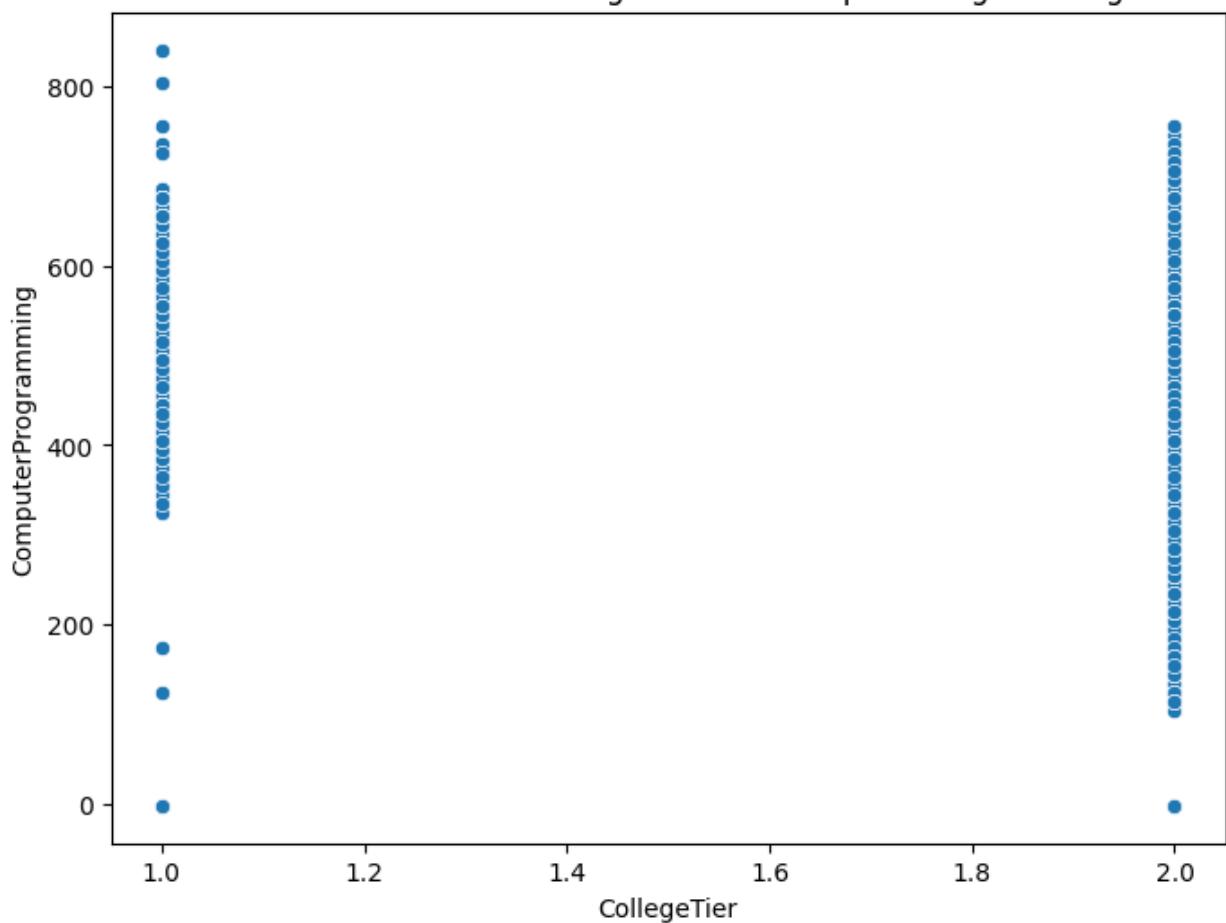
Scatter Plot between CollegeTier and Quant



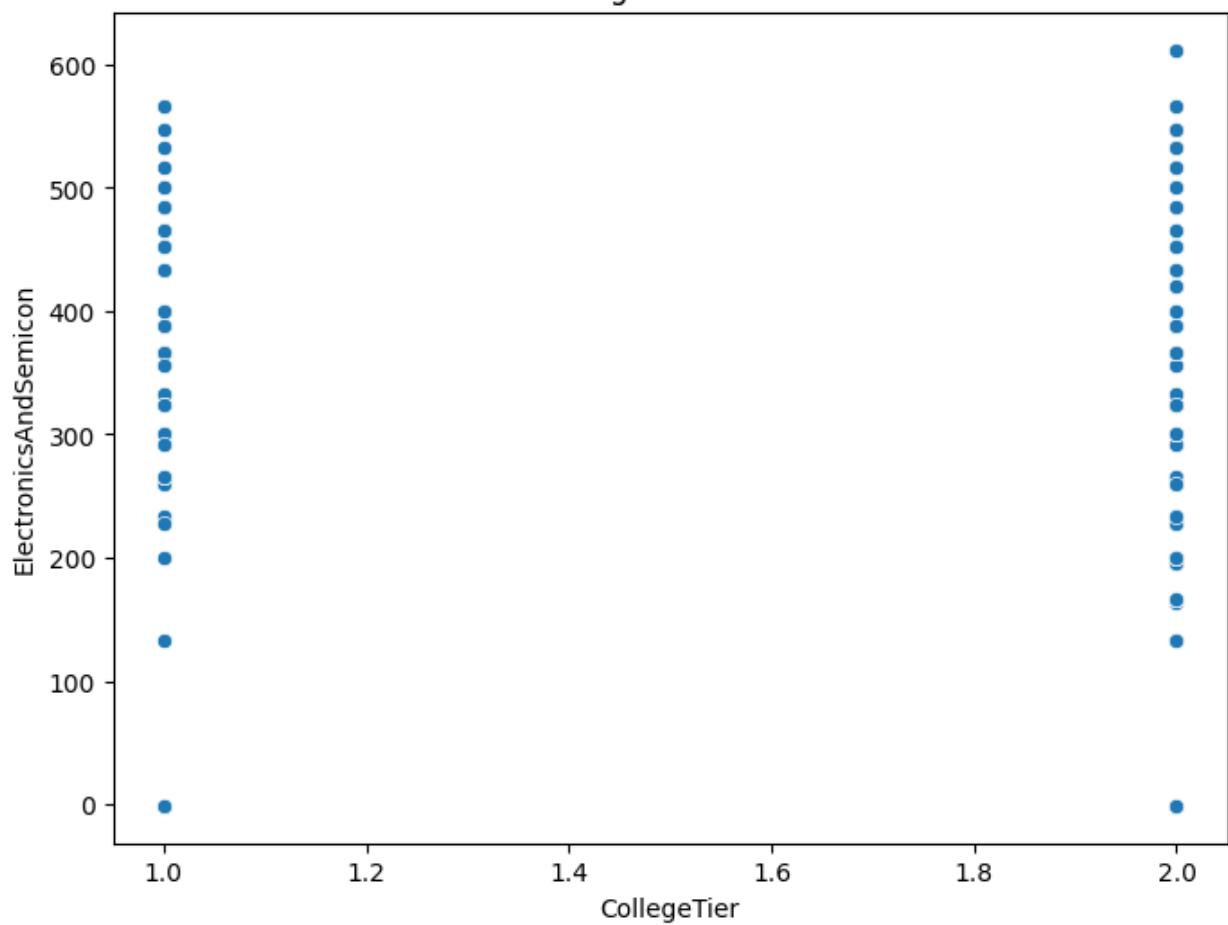
Scatter Plot between CollegeTier and Domain



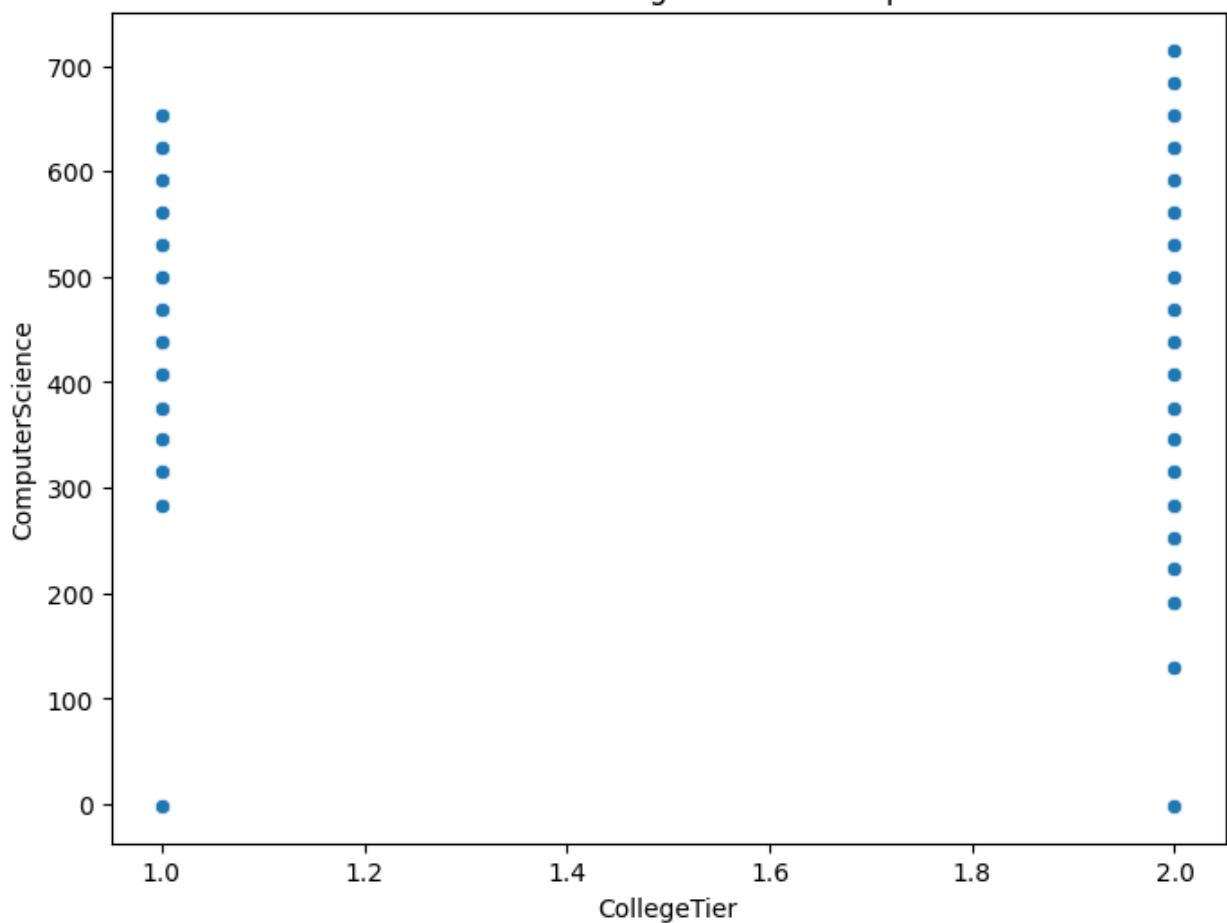
Scatter Plot between CollegeTier and ComputerProgramming



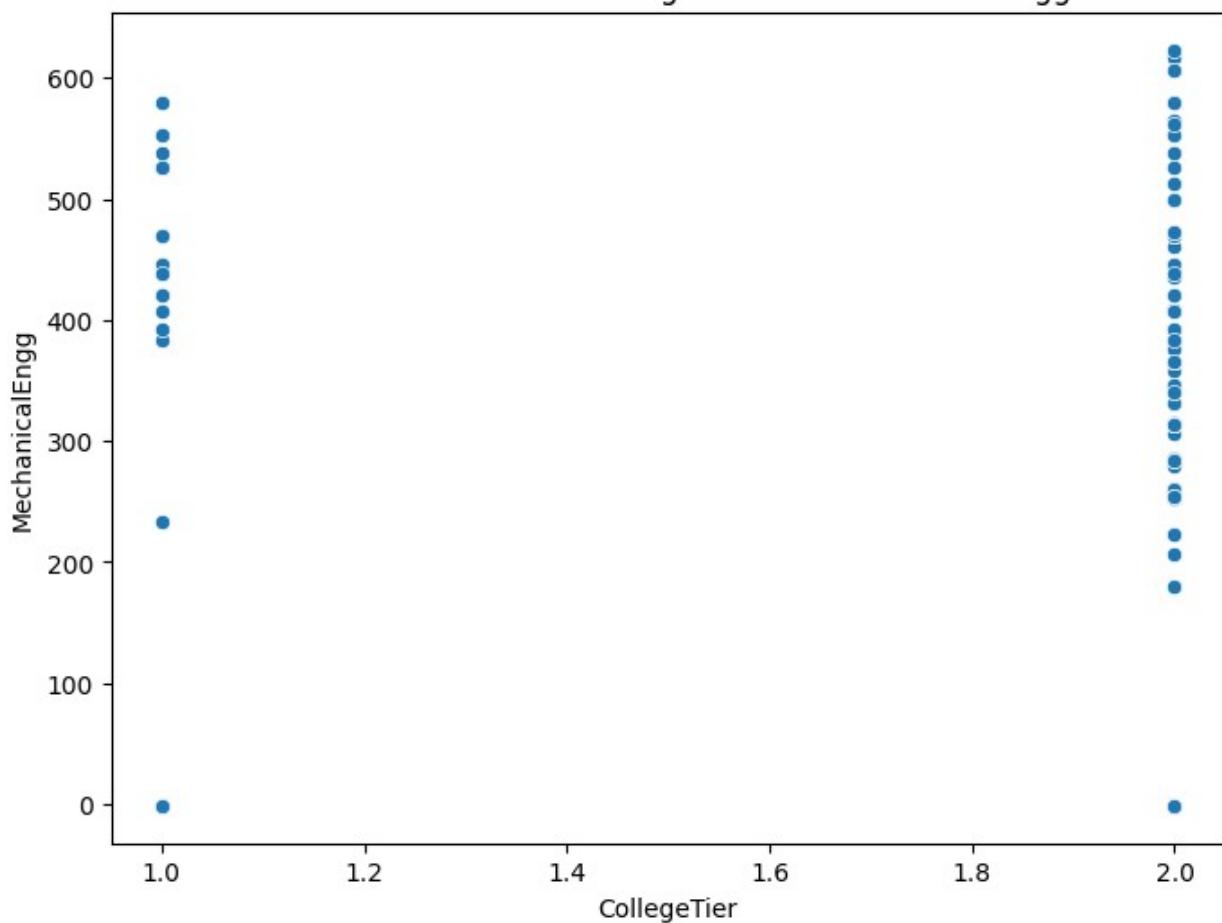
Scatter Plot between CollegeTier and ElectronicsAndSemicon



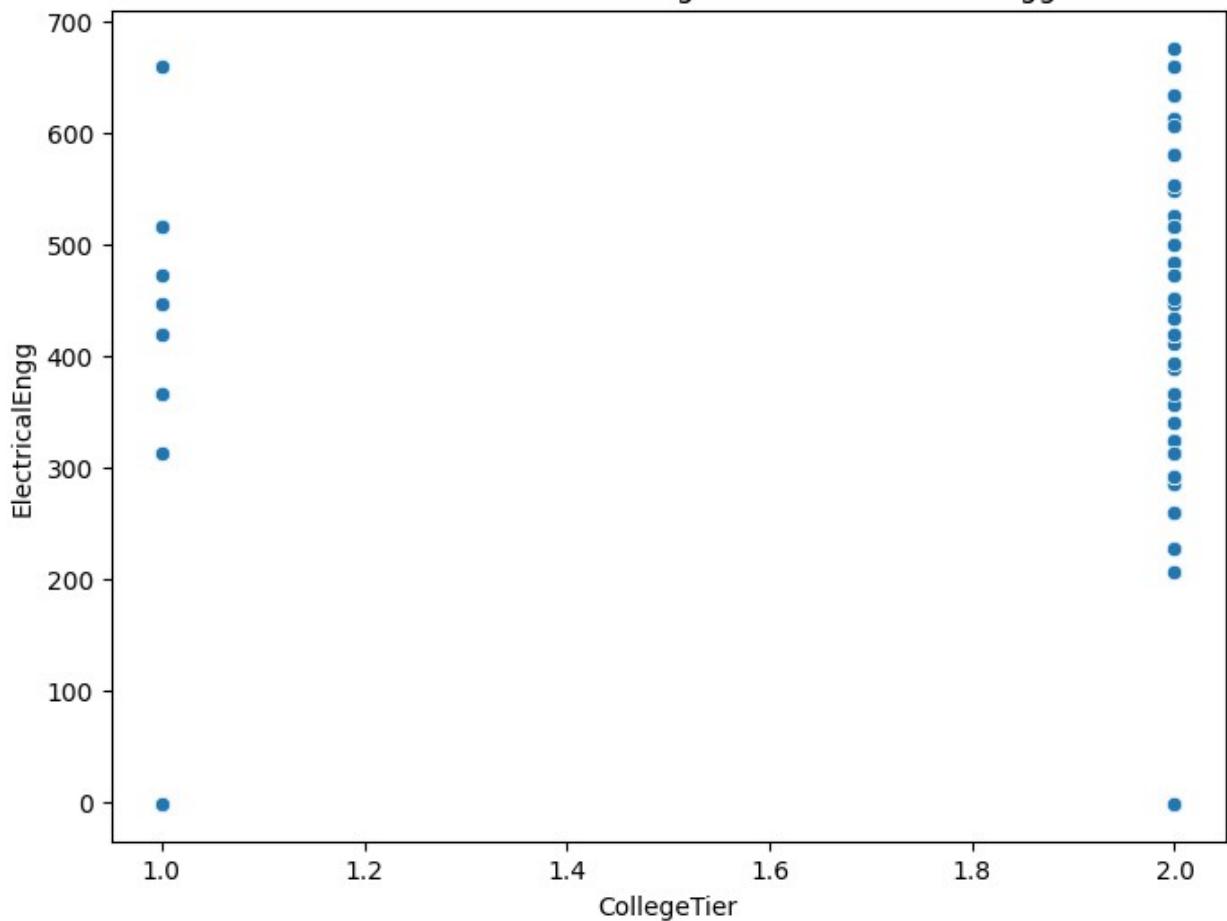
Scatter Plot between CollegeTier and ComputerScience



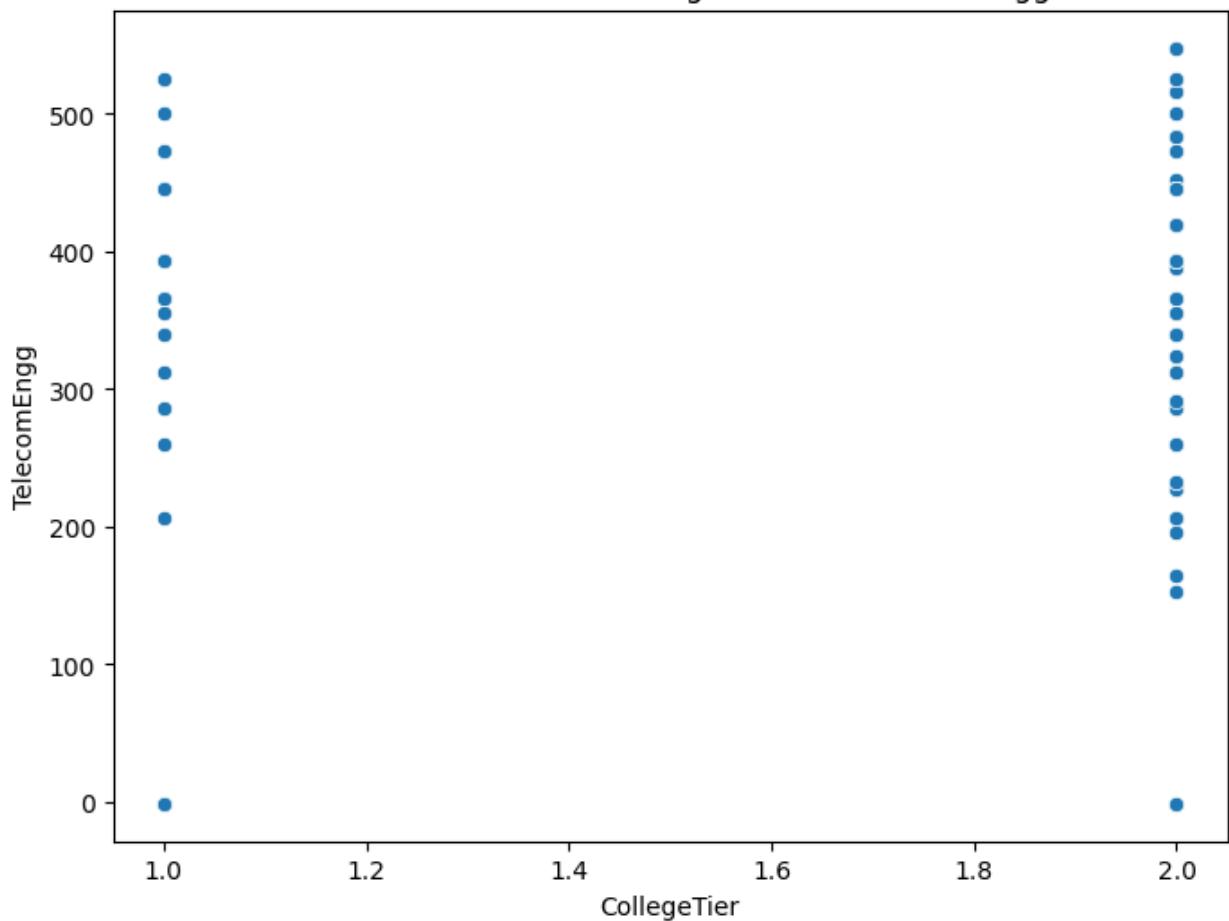
Scatter Plot between CollegeTier and MechanicalEngg



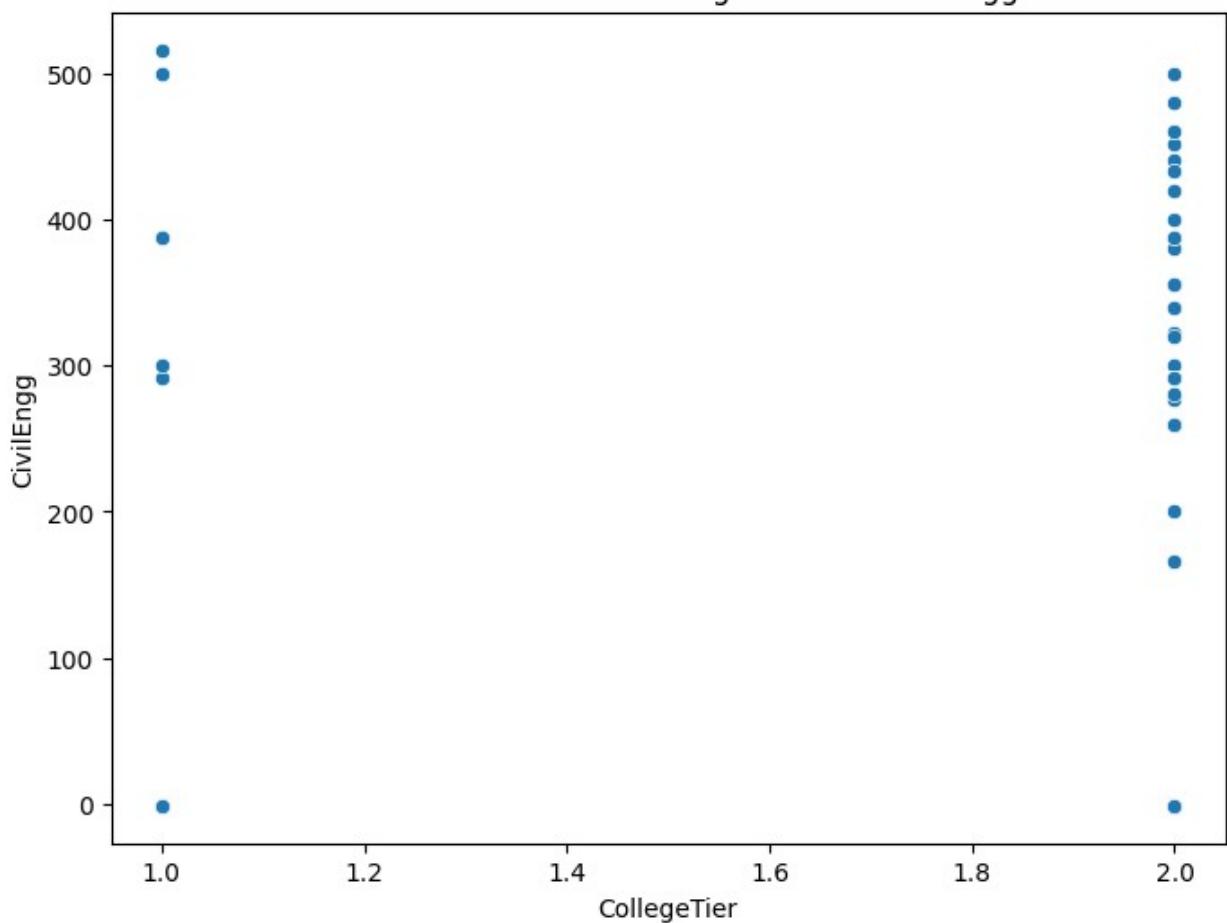
Scatter Plot between CollegeTier and ElectricalEngg



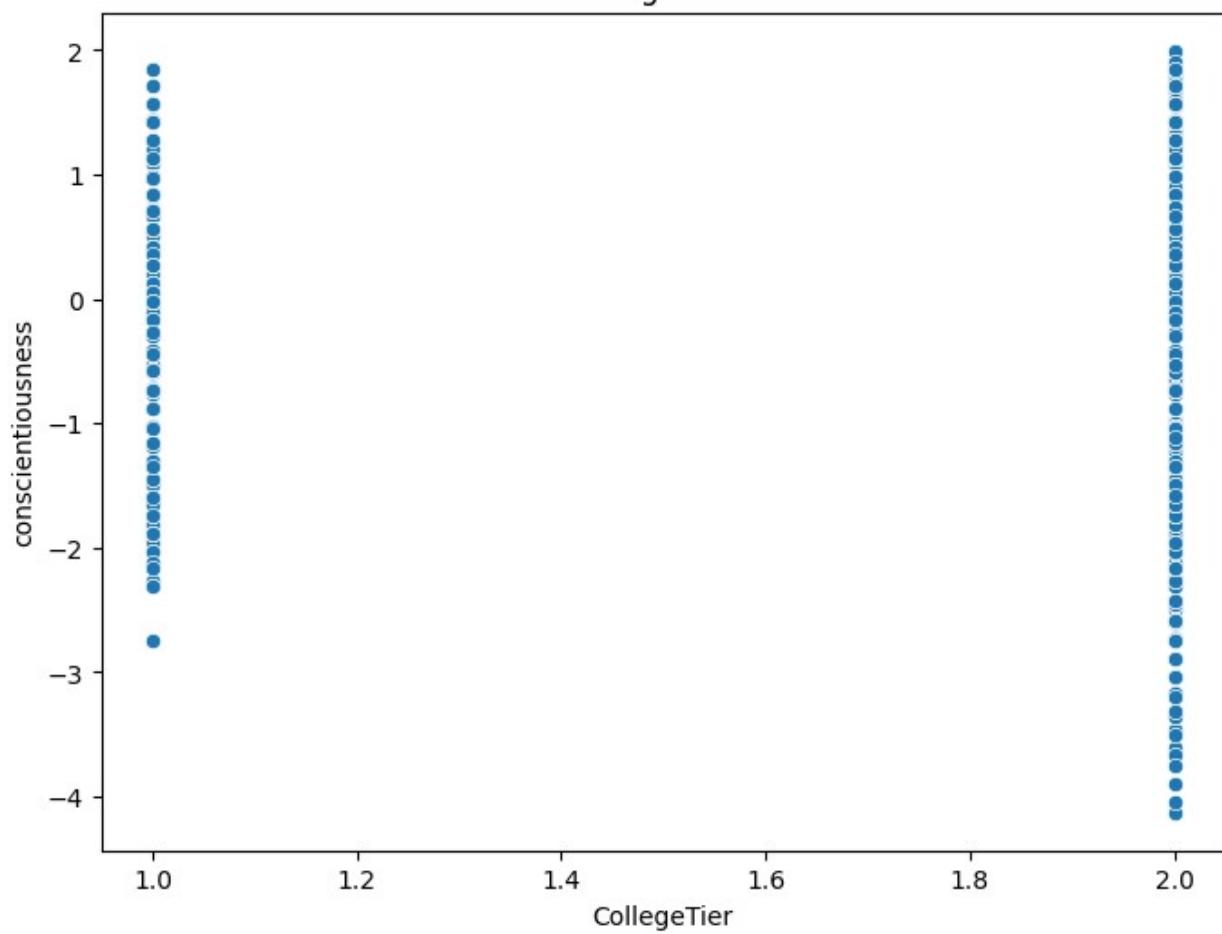
Scatter Plot between CollegeTier and TelecomEngg



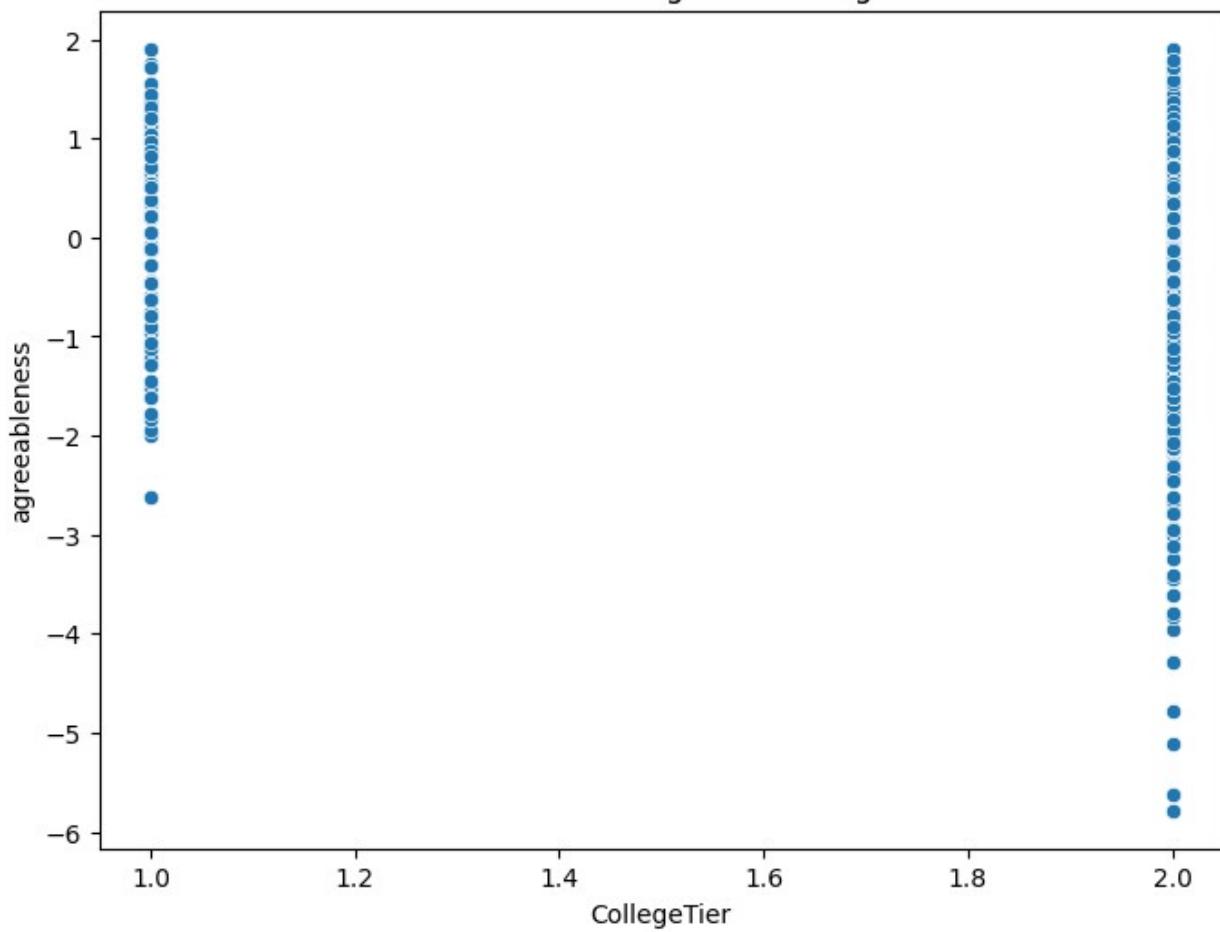
Scatter Plot between CollegeTier and CivilEngg



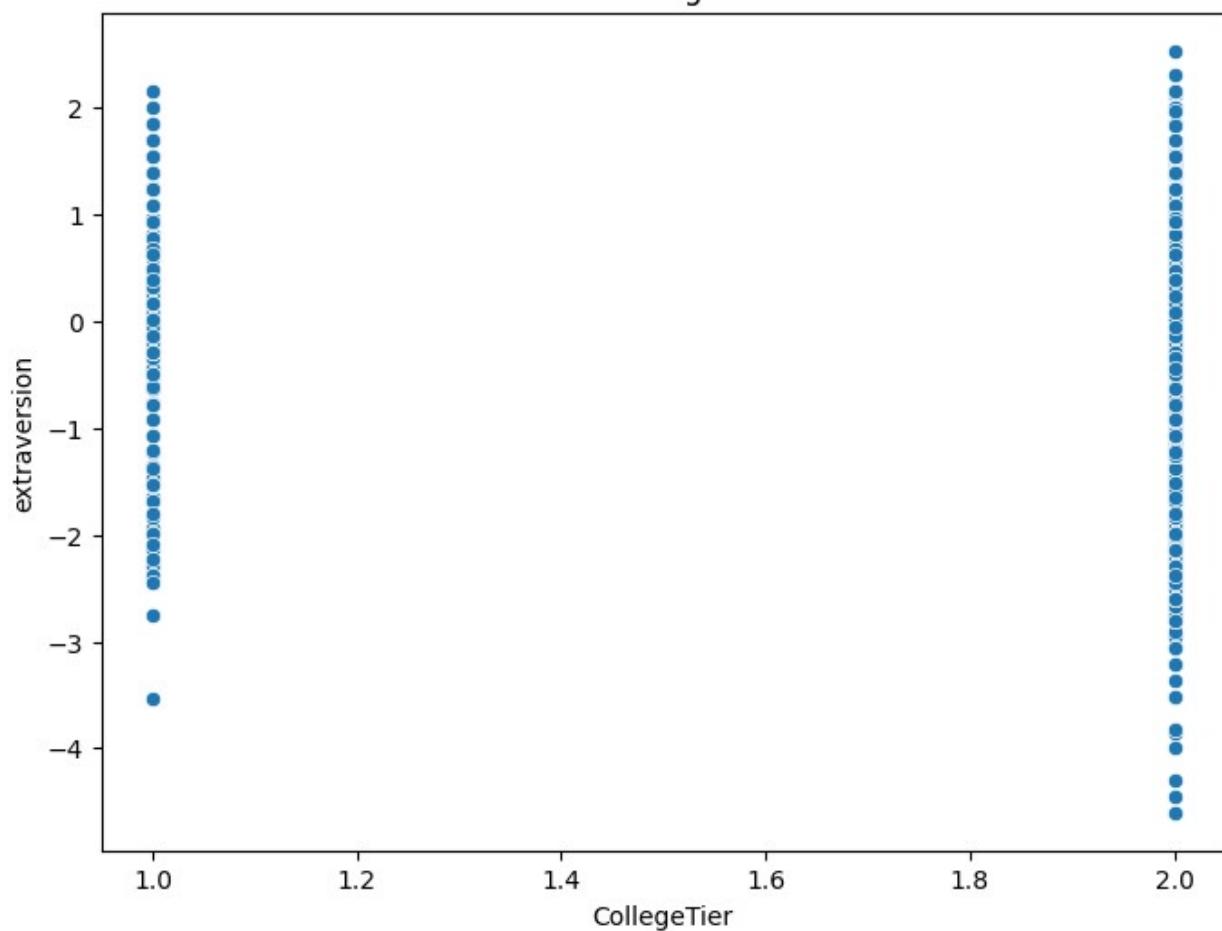
Scatter Plot between CollegeTier and conscientiousness



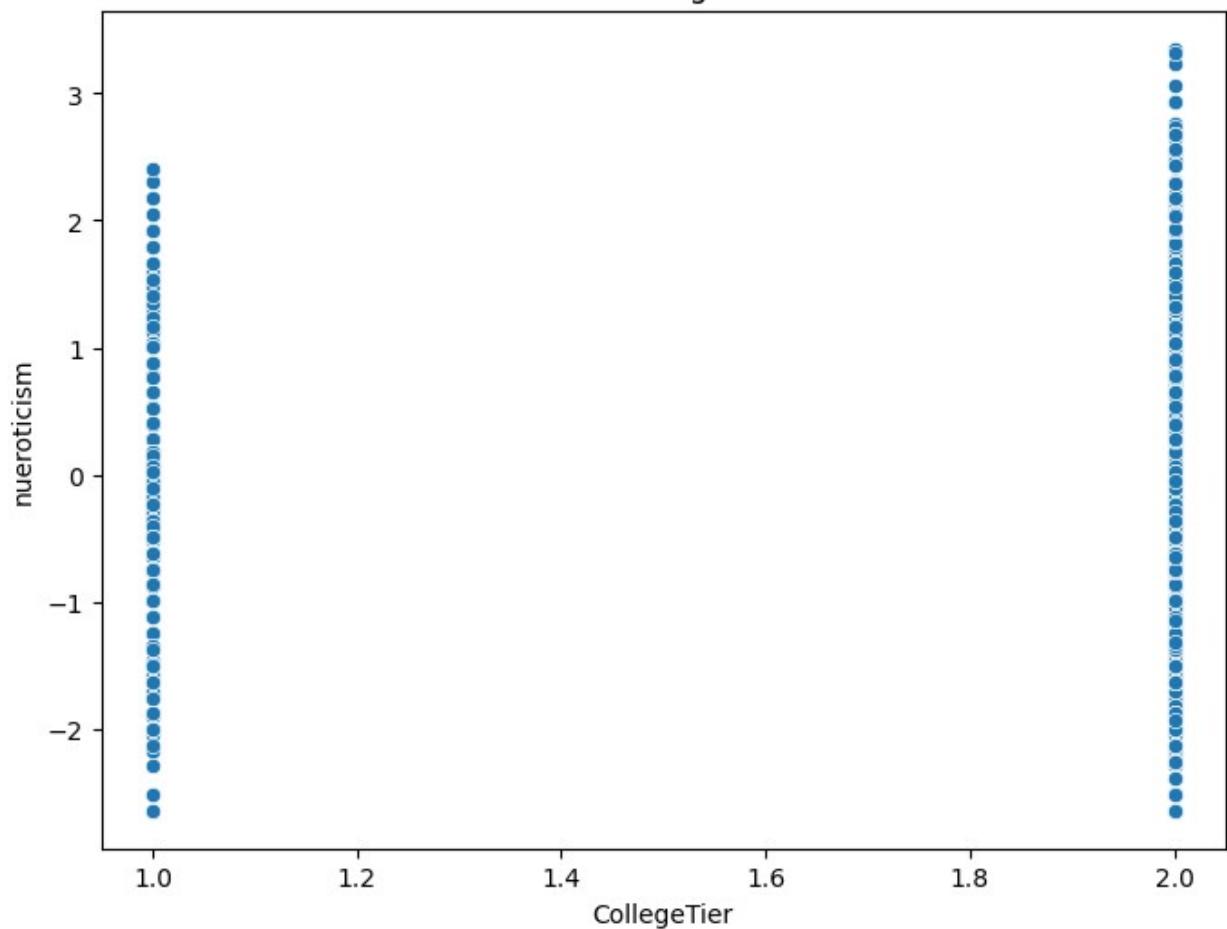
Scatter Plot between CollegeTier and agreeableness



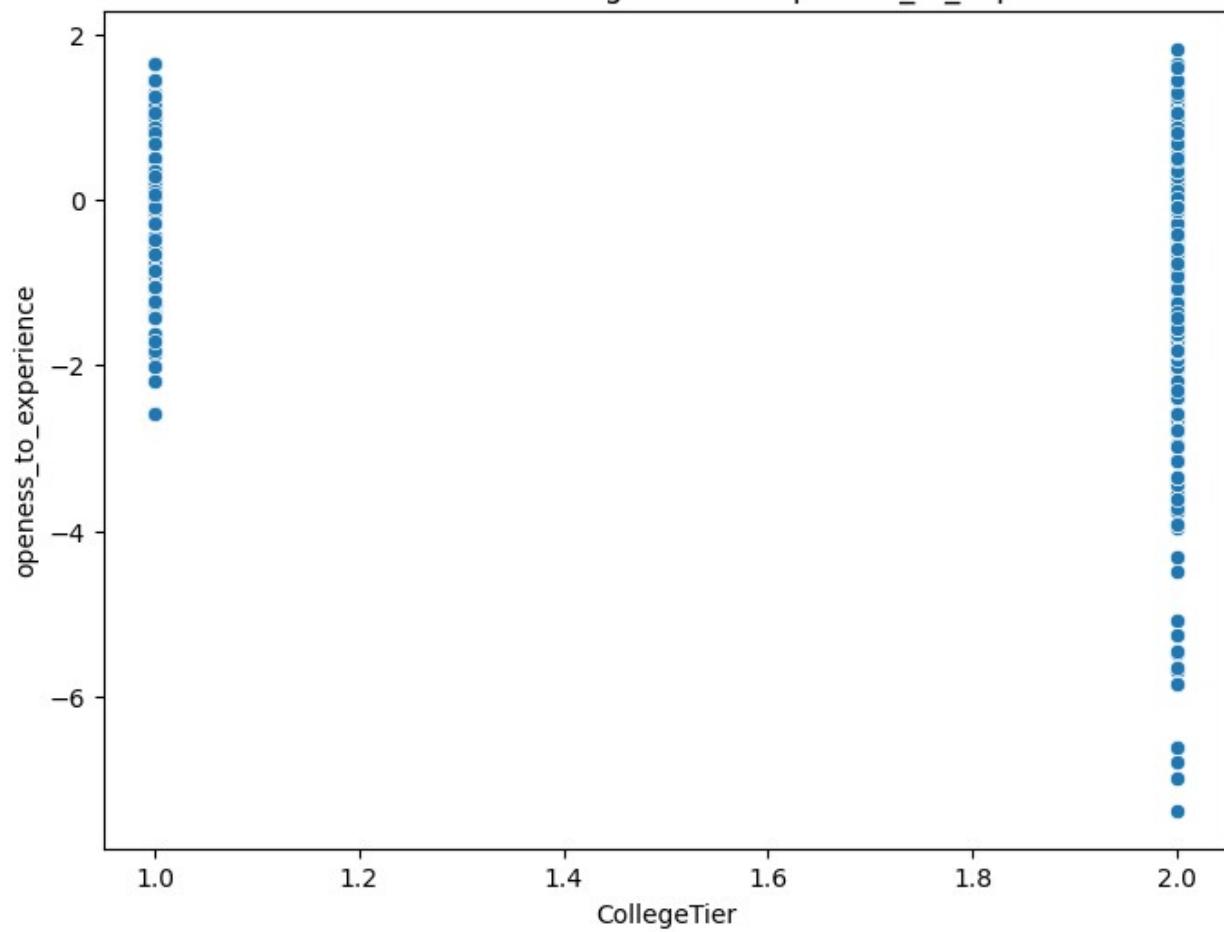
Scatter Plot between CollegeTier and extraversion



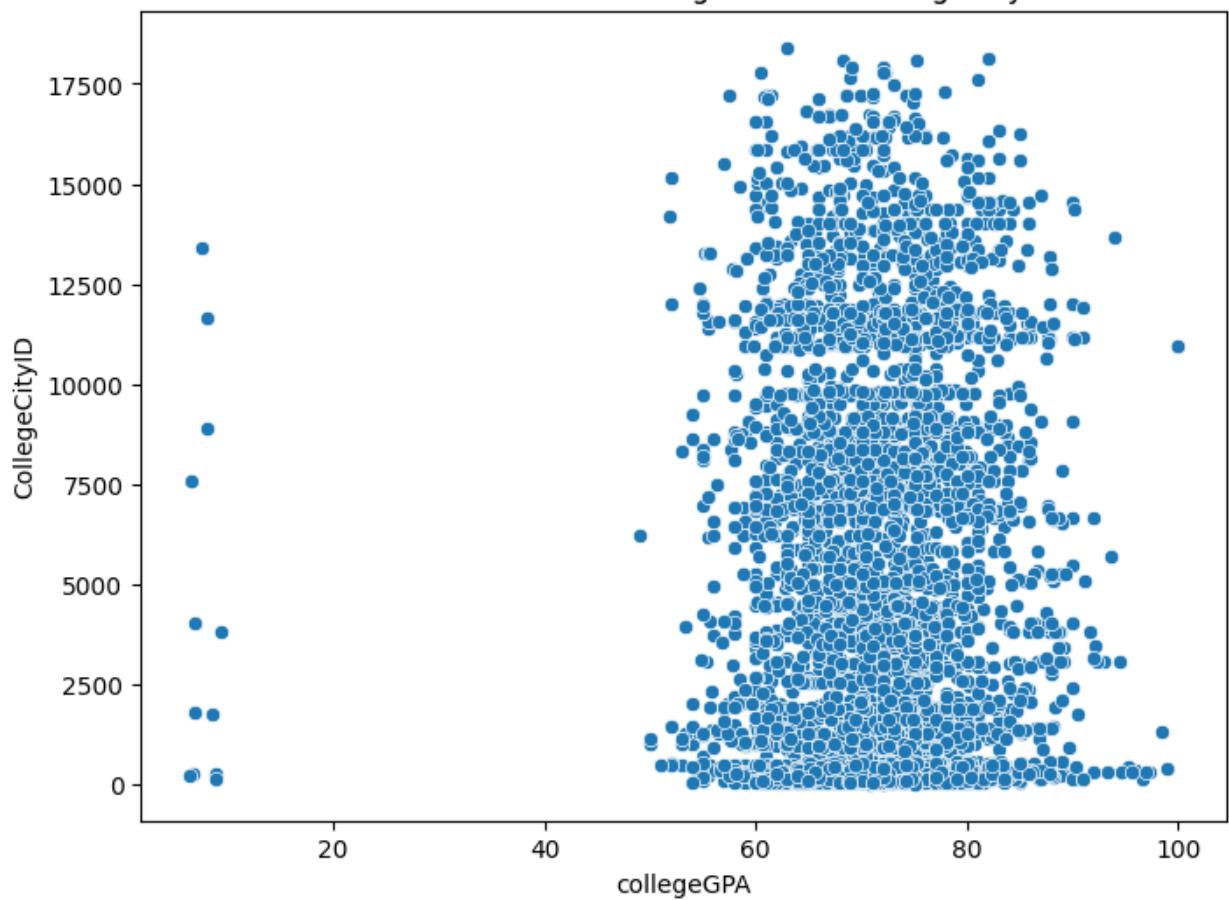
Scatter Plot between CollegeTier and nueroticism



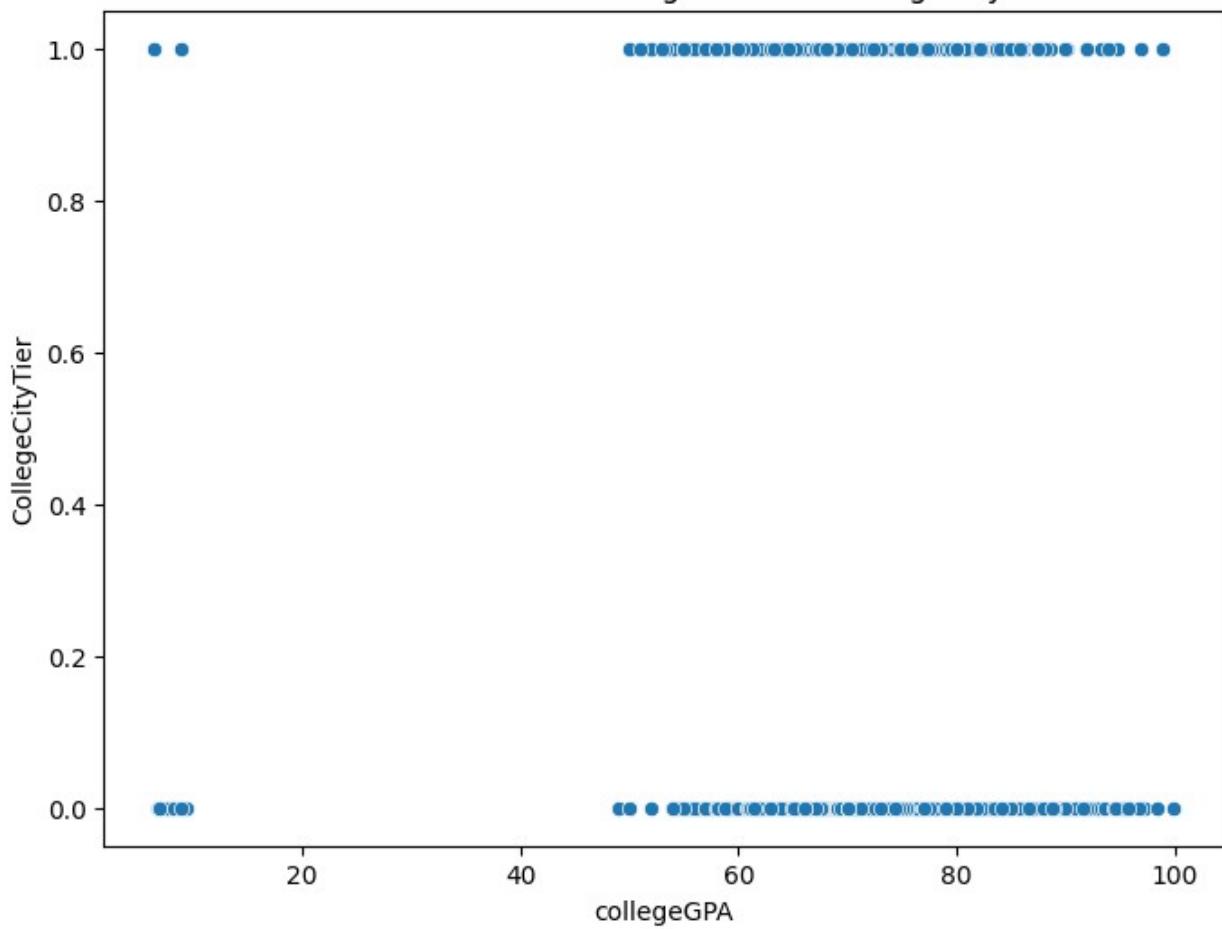
Scatter Plot between CollegeTier and openness_to_experience



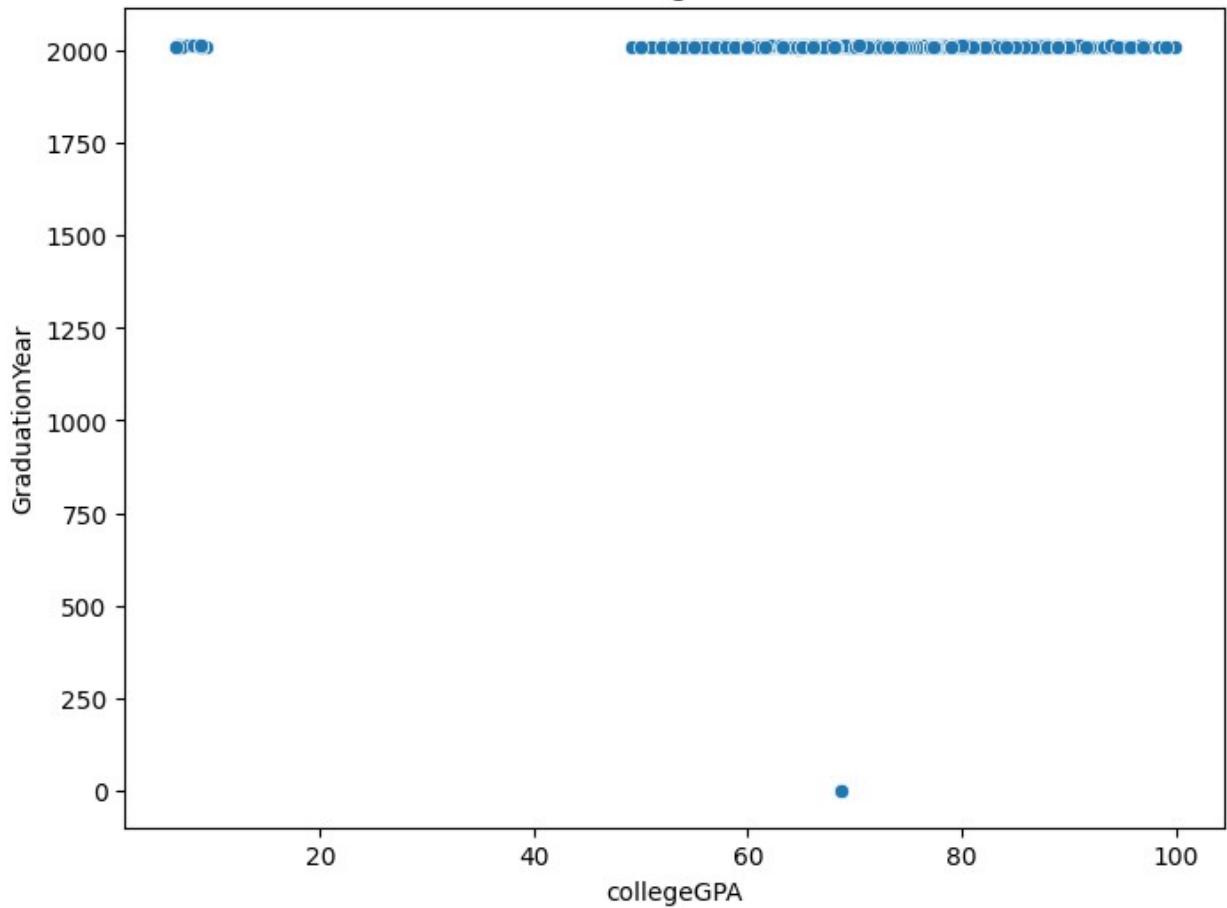
Scatter Plot between collegeGPA and CollegeCityID



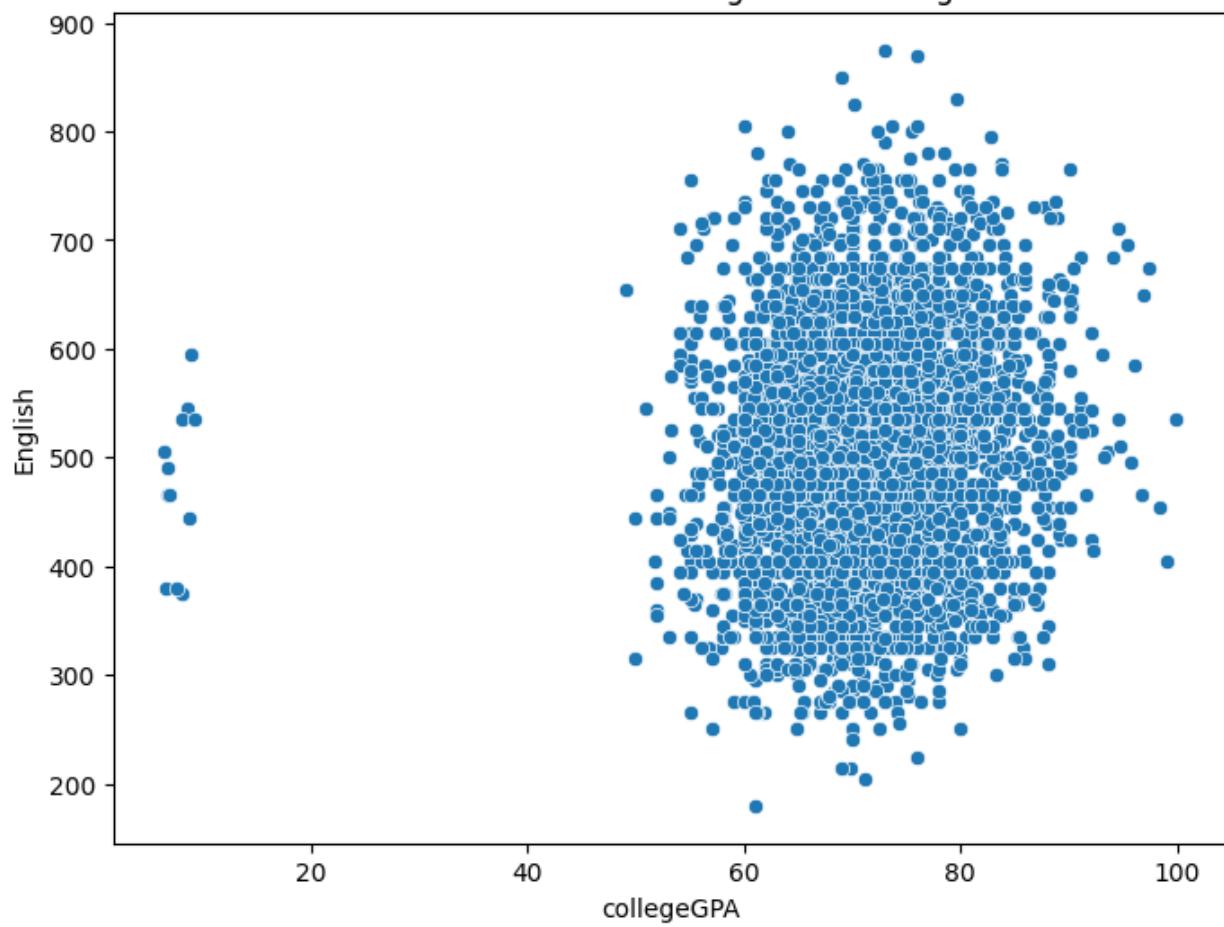
Scatter Plot between collegeGPA and CollegeCityTier



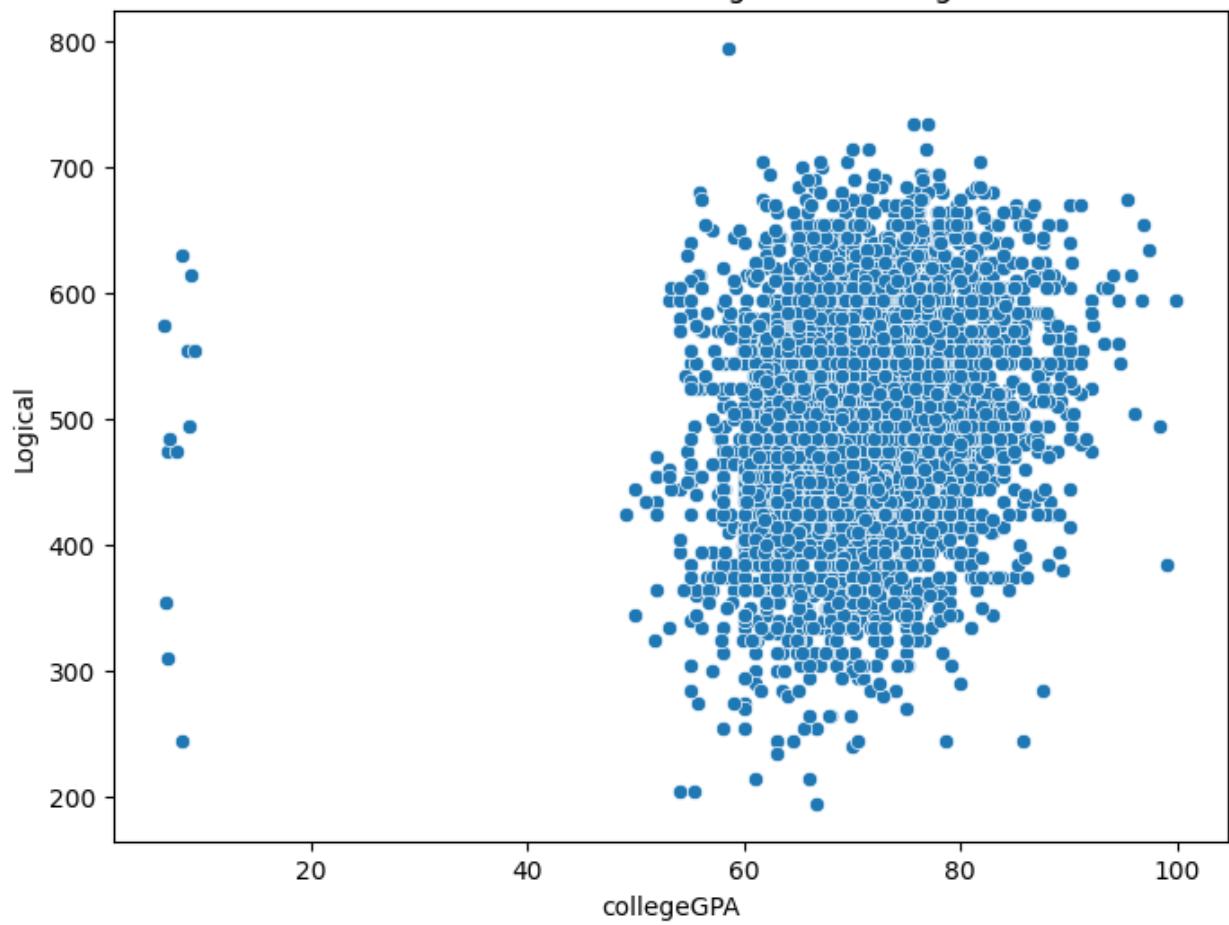
Scatter Plot between collegeGPA and GraduationYear



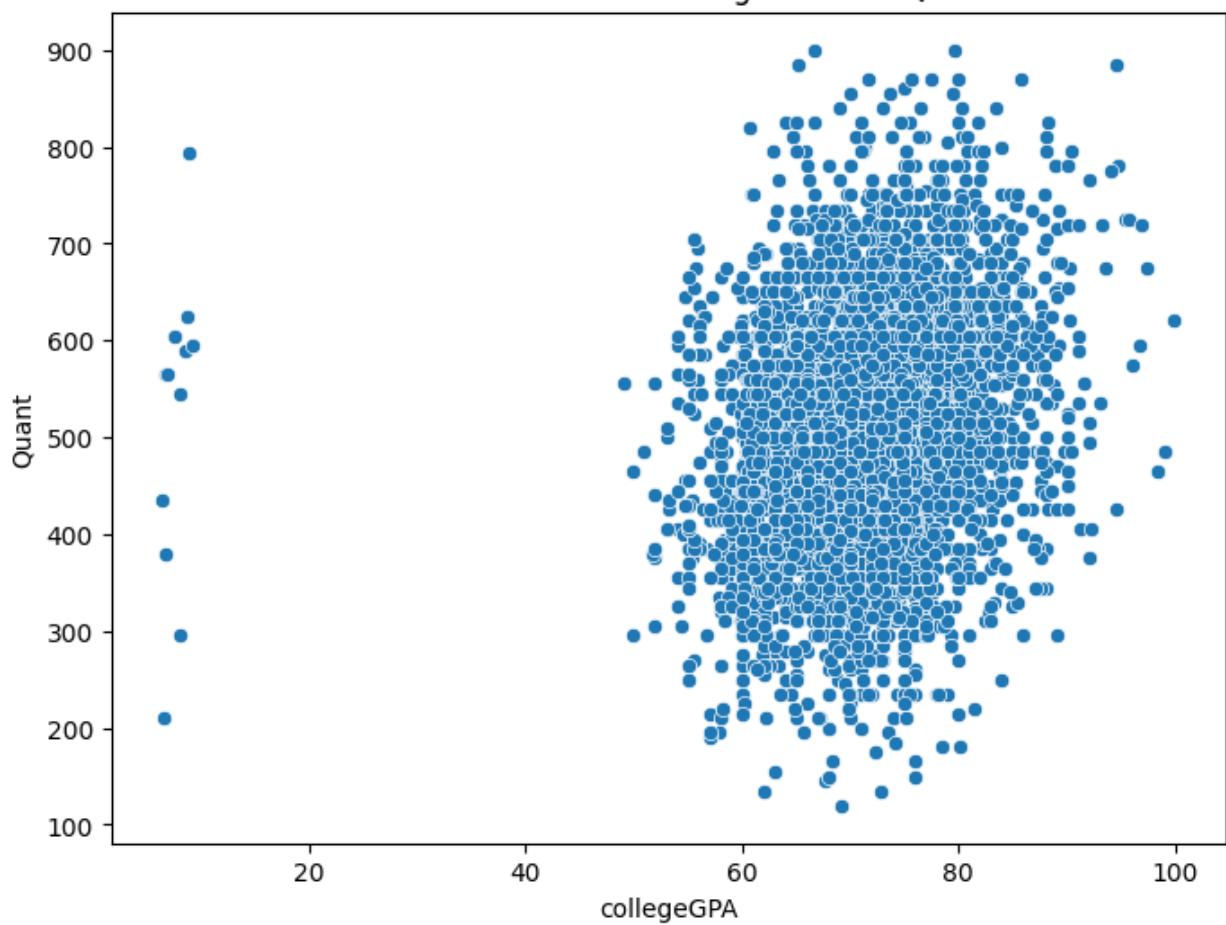
Scatter Plot between collegeGPA and English



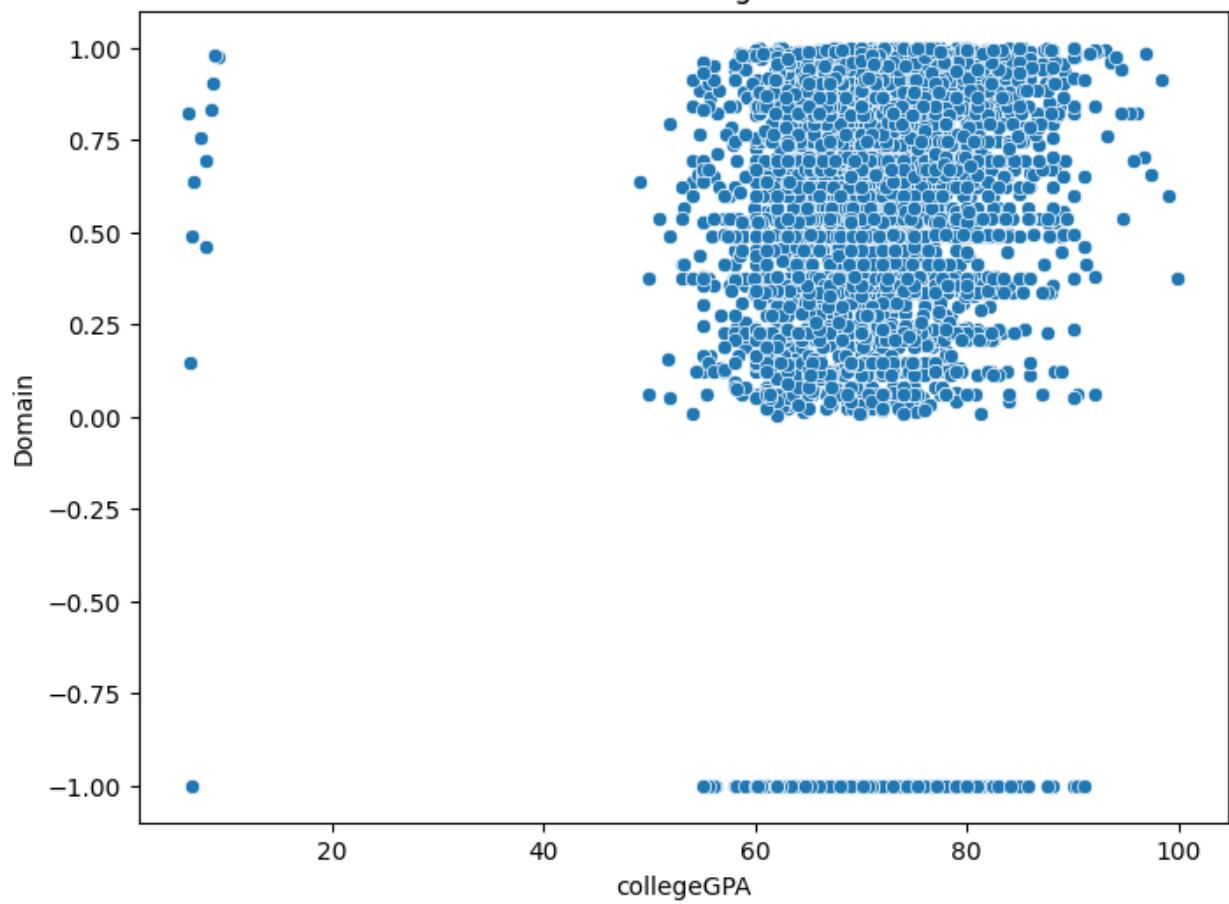
Scatter Plot between collegeGPA and Logical



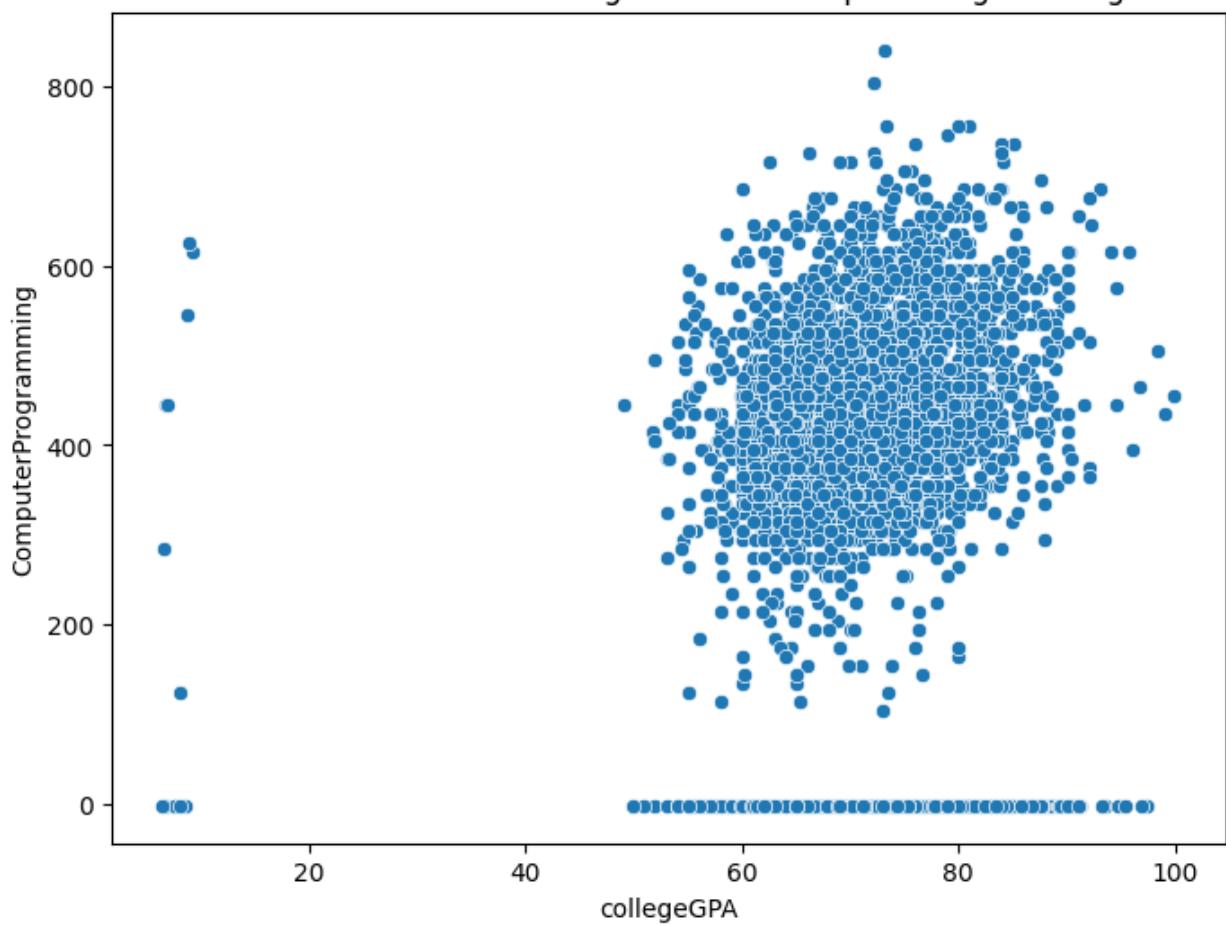
Scatter Plot between collegeGPA and Quant



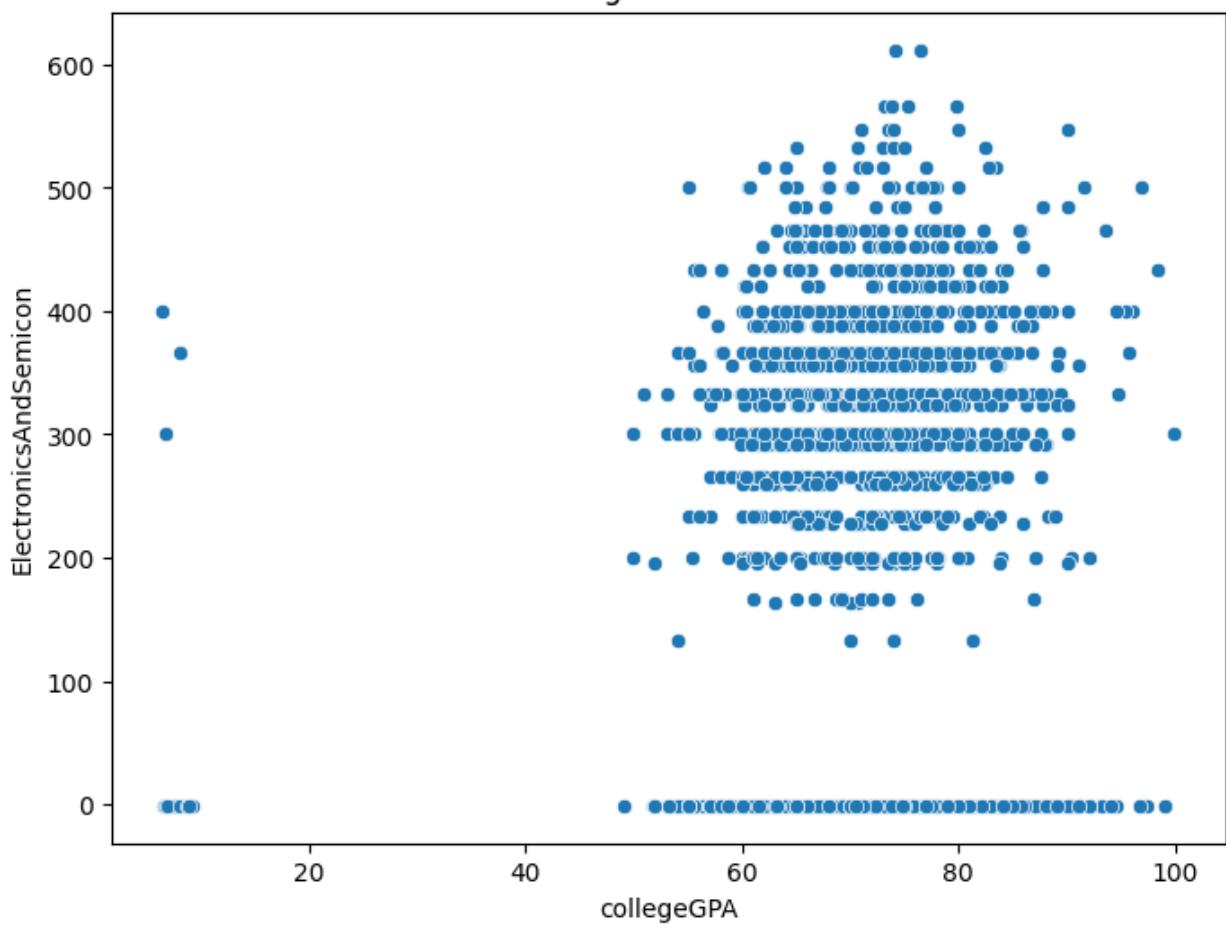
Scatter Plot between collegeGPA and Domain



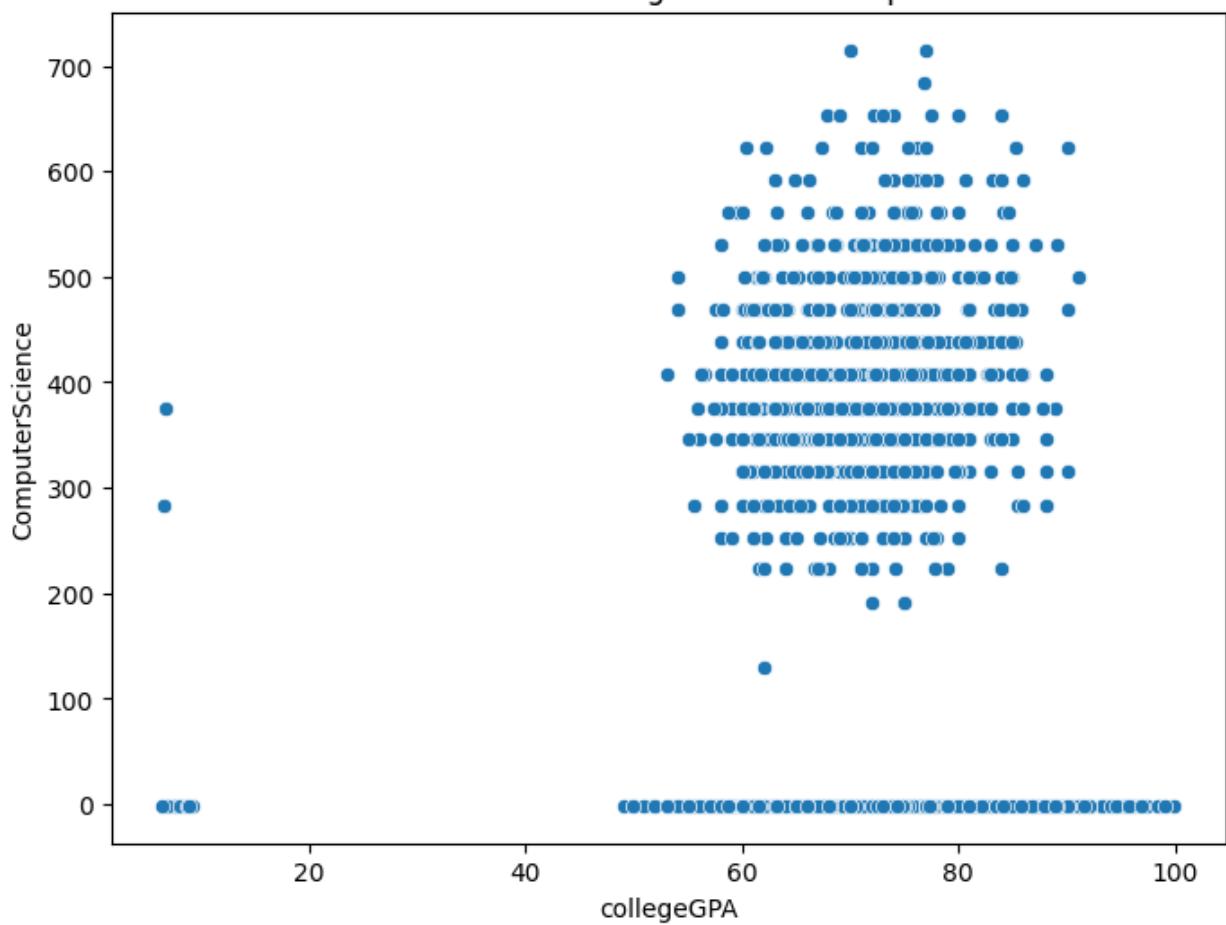
Scatter Plot between collegeGPA and ComputerProgramming



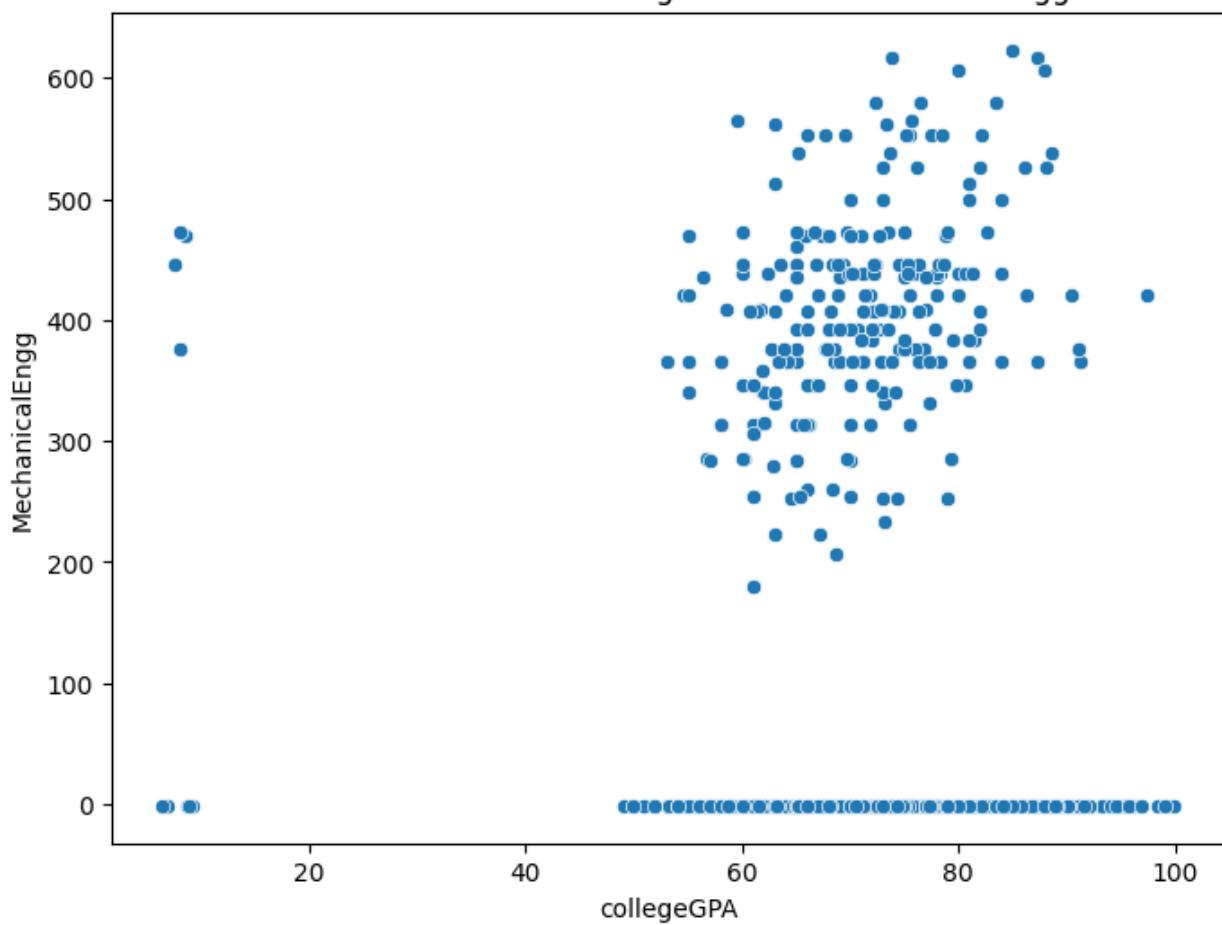
Scatter Plot between collegeGPA and ElectronicsAndSemicon



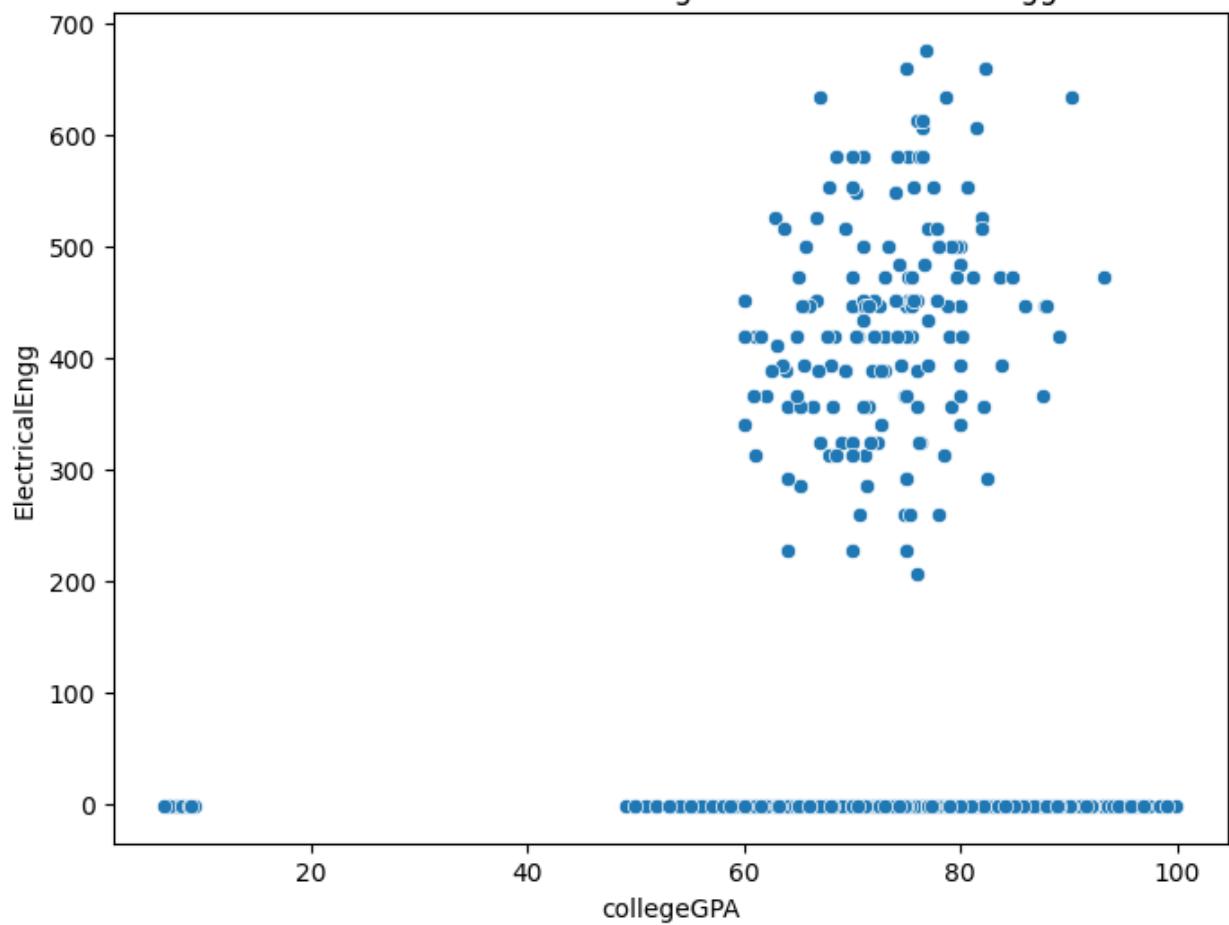
Scatter Plot between collegeGPA and ComputerScience



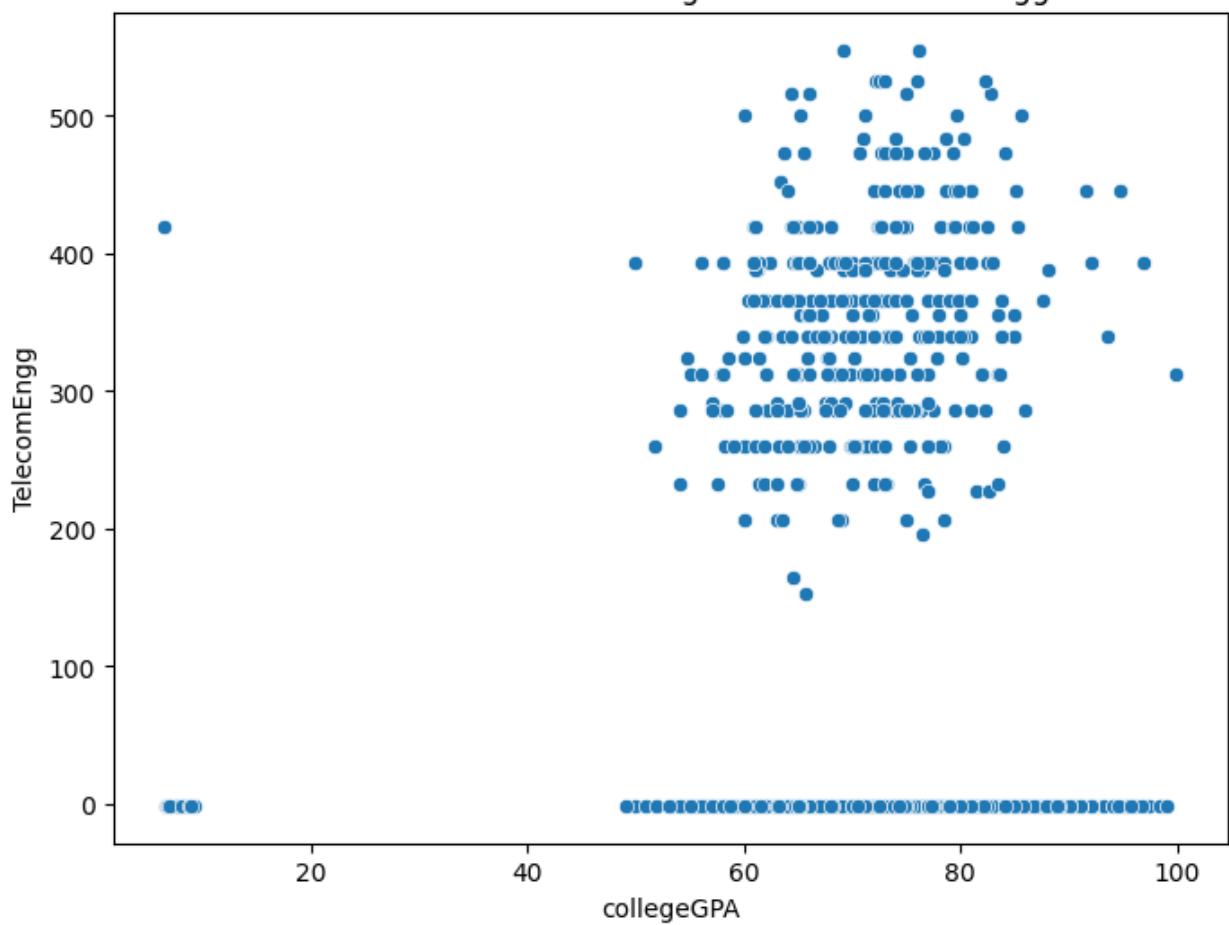
Scatter Plot between collegeGPA and MechanicalEngg



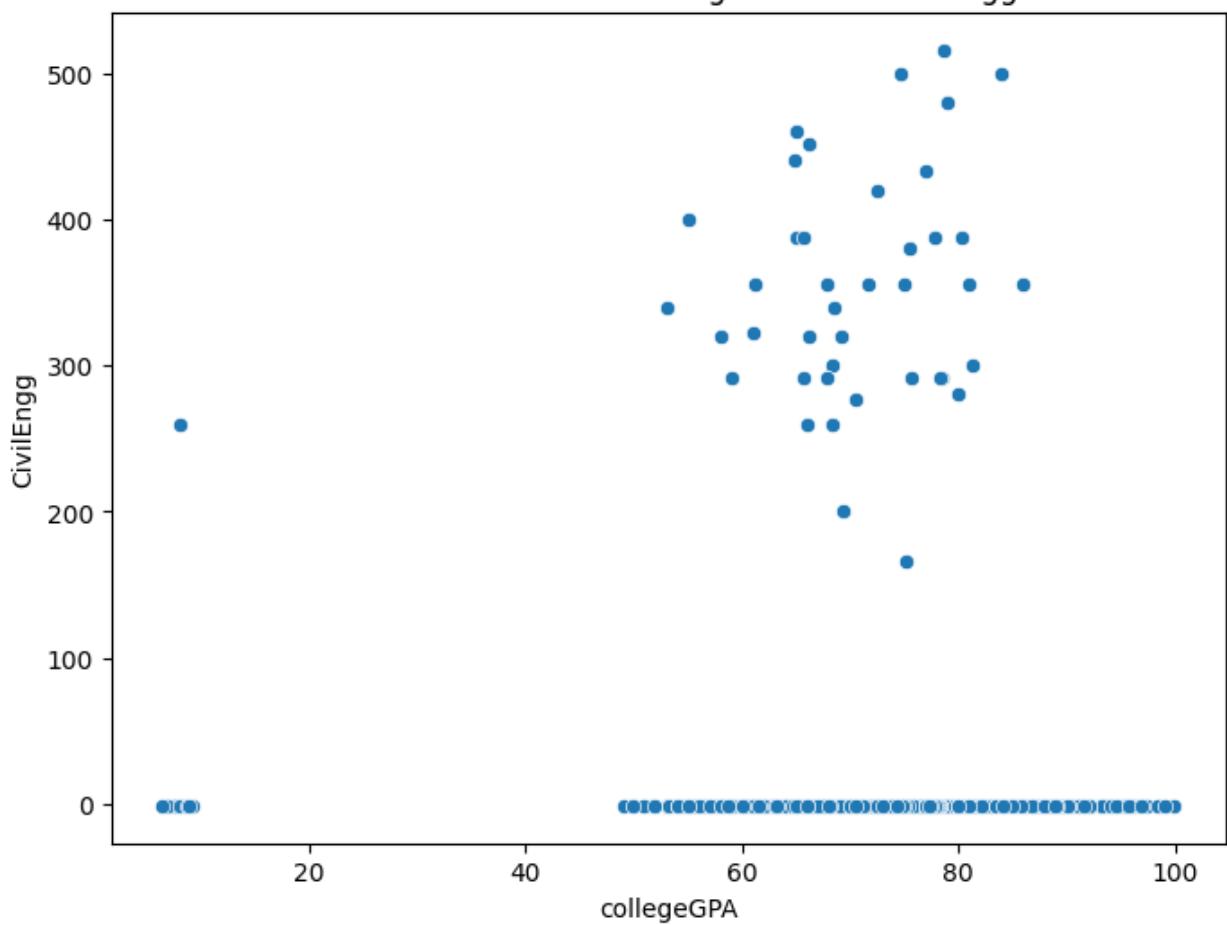
Scatter Plot between collegeGPA and ElectricalEngg



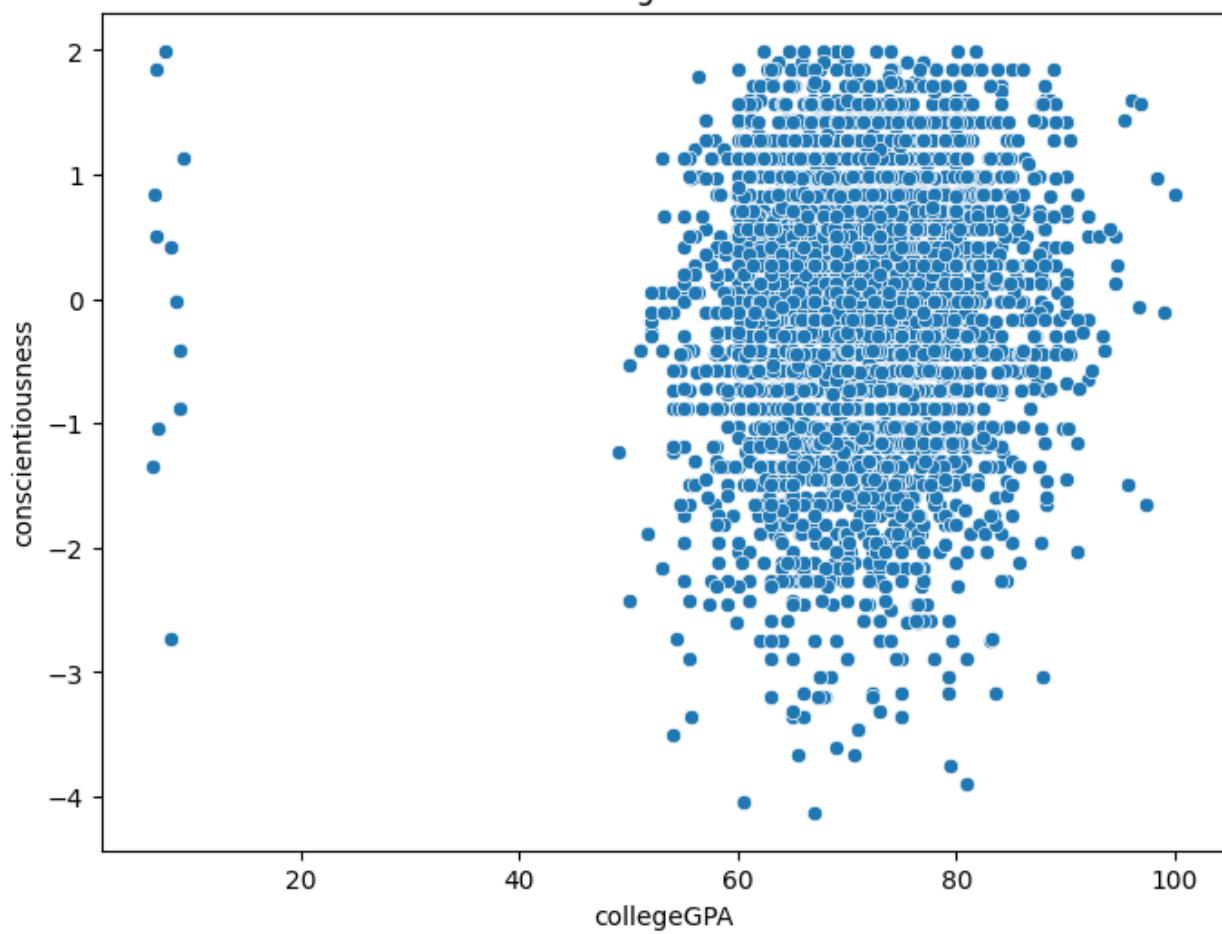
Scatter Plot between collegeGPA and TelecomEngg



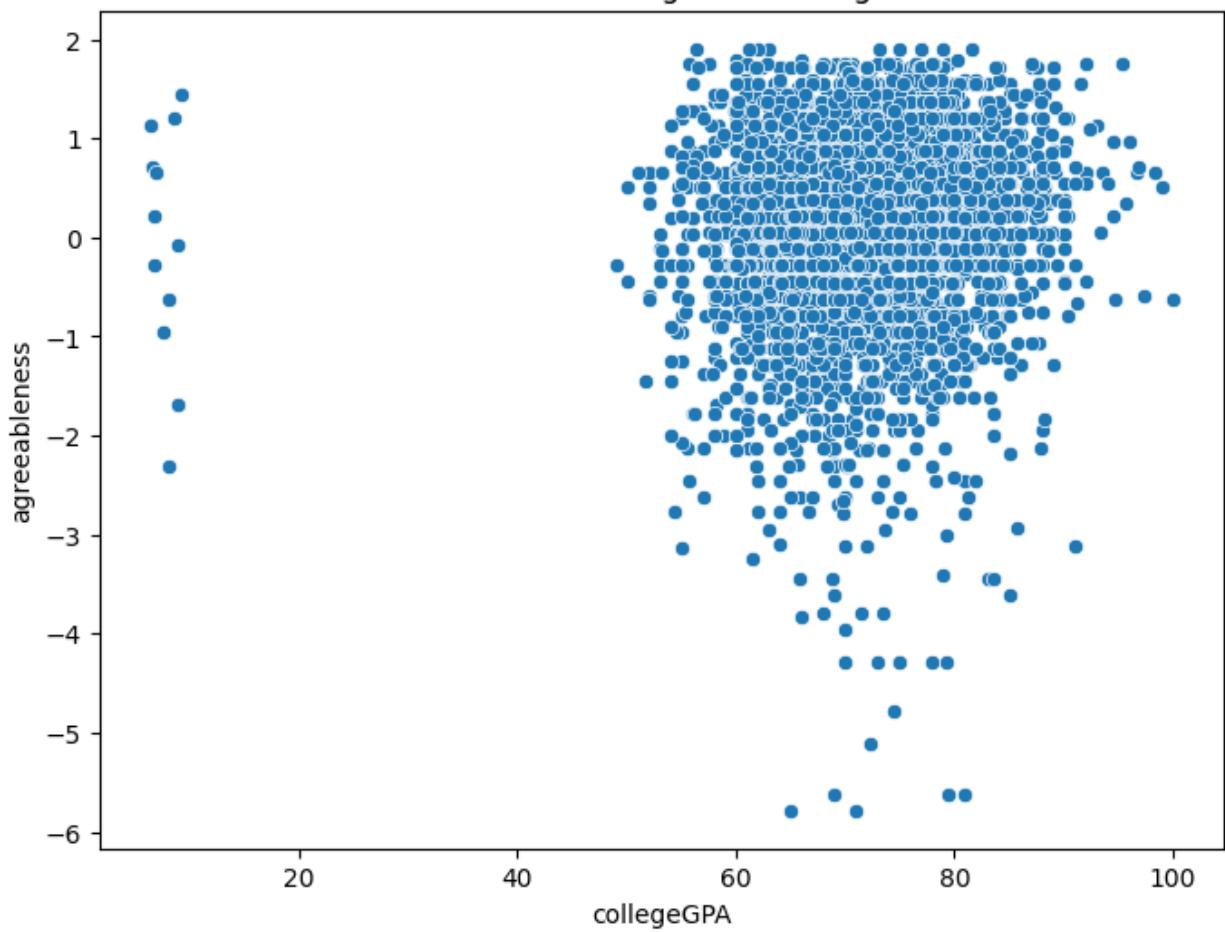
Scatter Plot between collegeGPA and CivilEngg



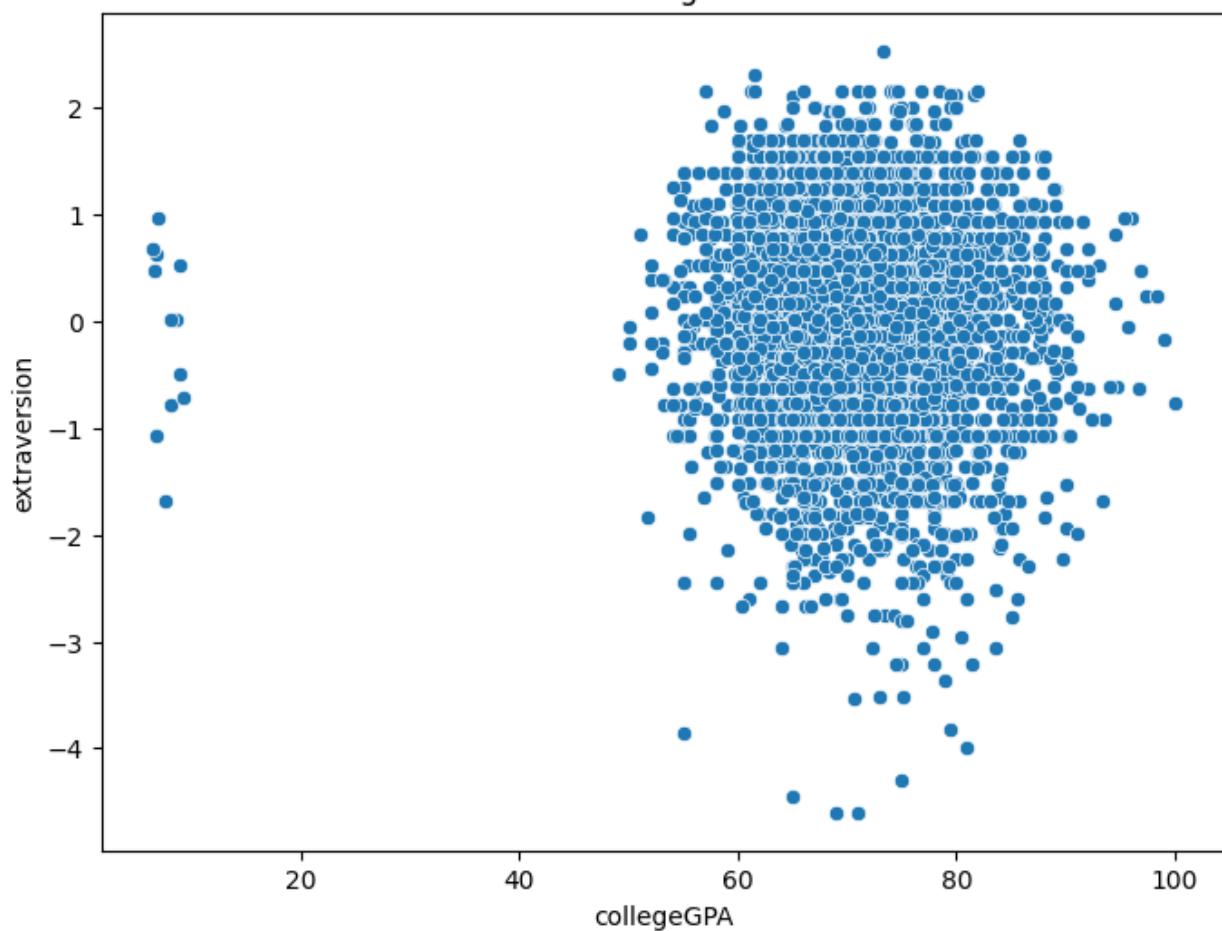
Scatter Plot between collegeGPA and conscientiousness



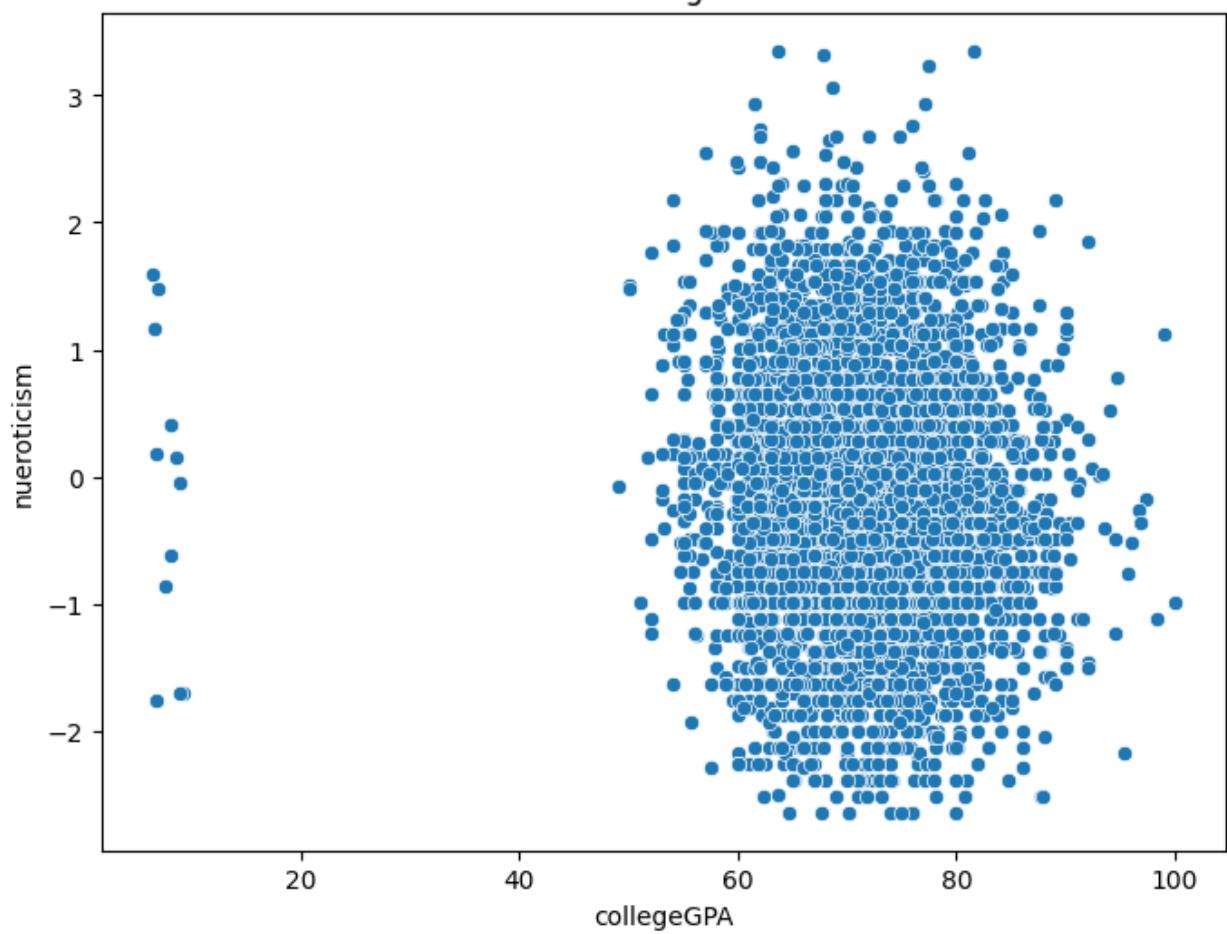
Scatter Plot between collegeGPA and agreeableness



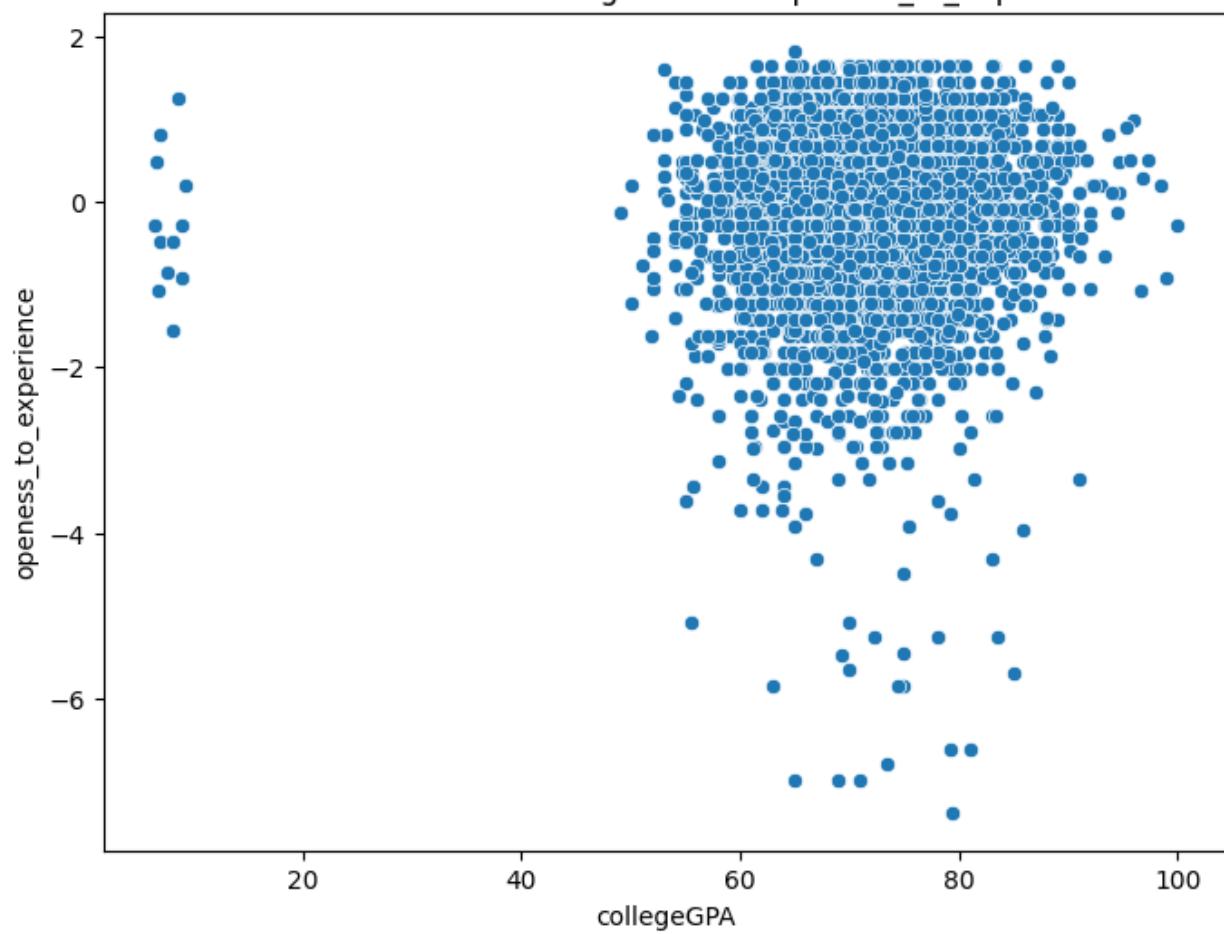
Scatter Plot between collegeGPA and extraversion



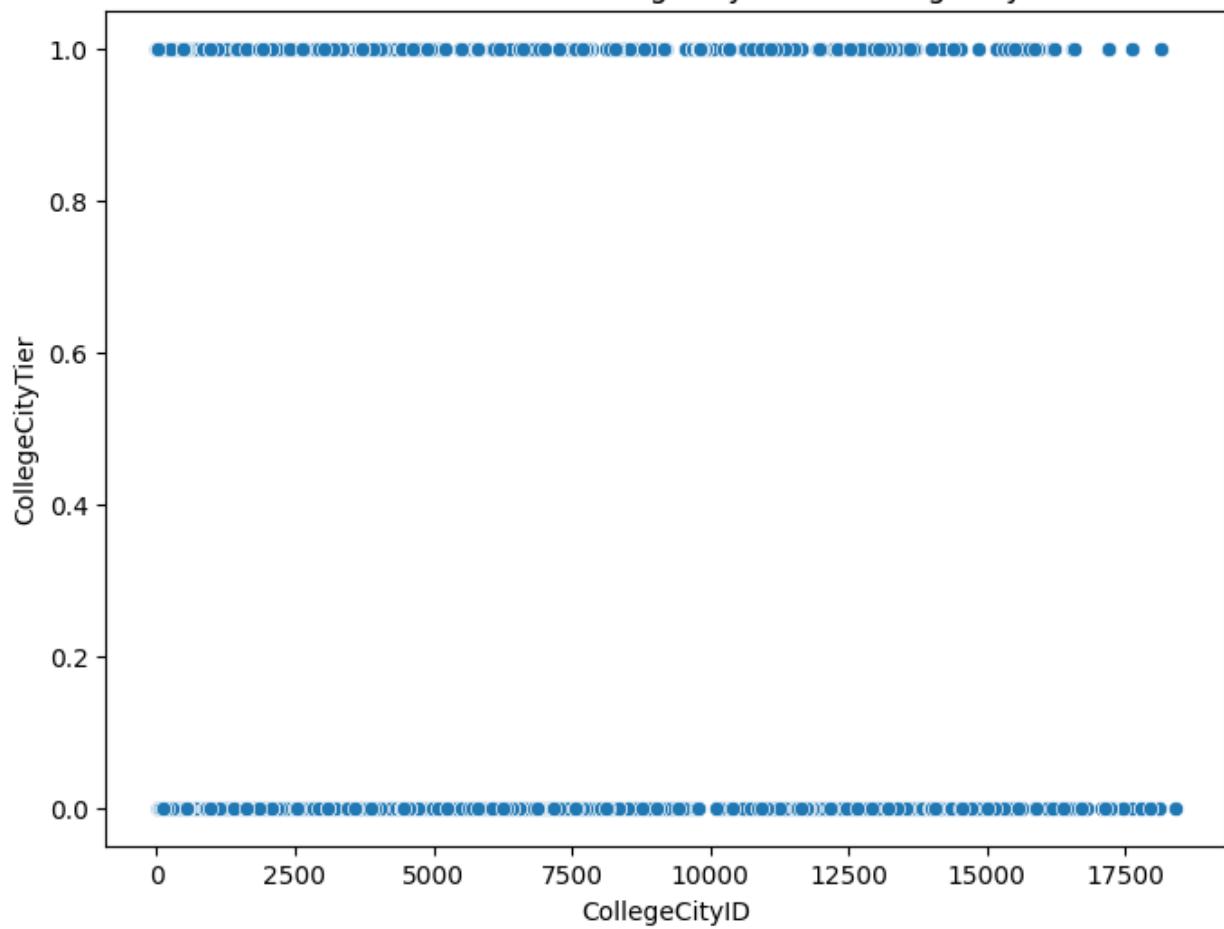
Scatter Plot between collegeGPA and nueroticism



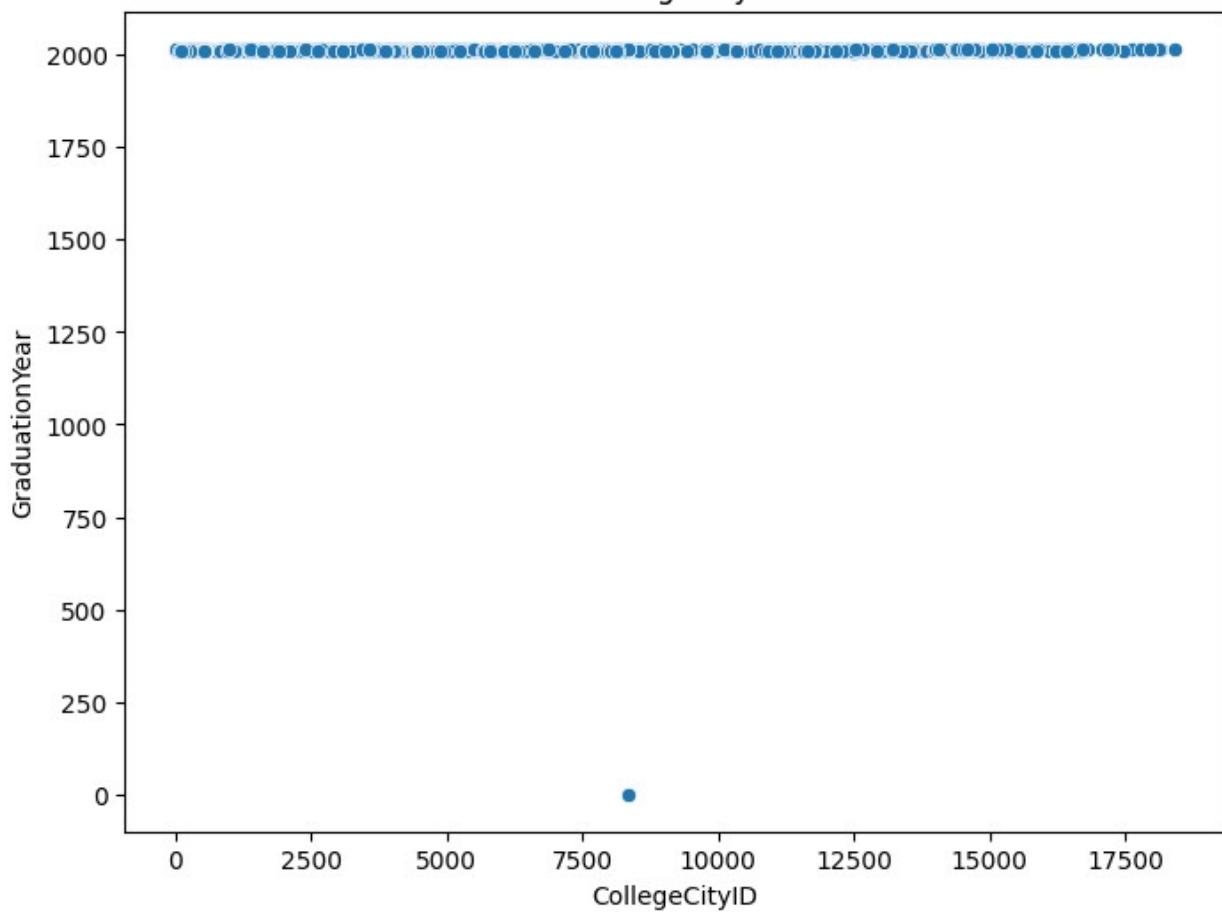
Scatter Plot between collegeGPA and openness_to_experience



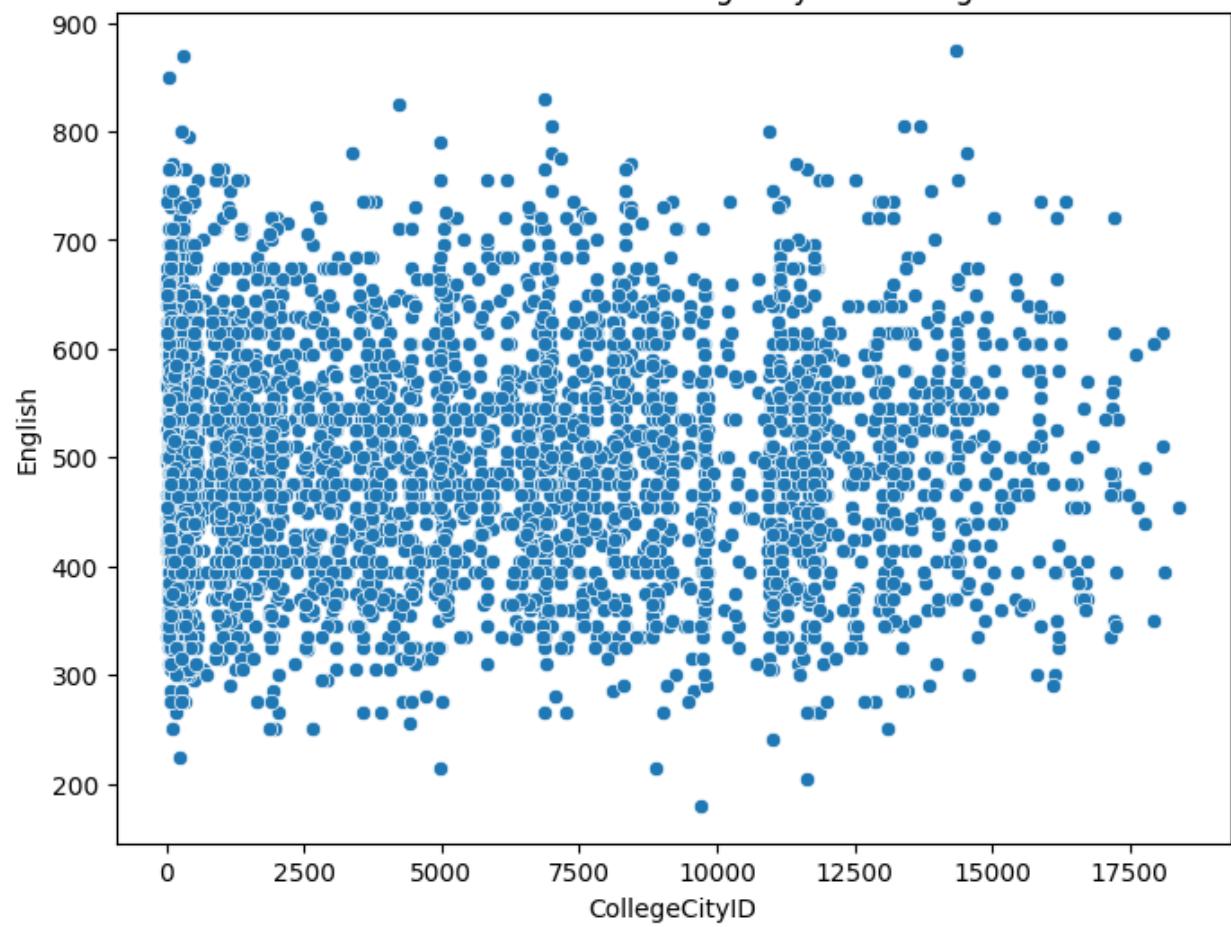
Scatter Plot between CollegeCityID and CollegeCityTier



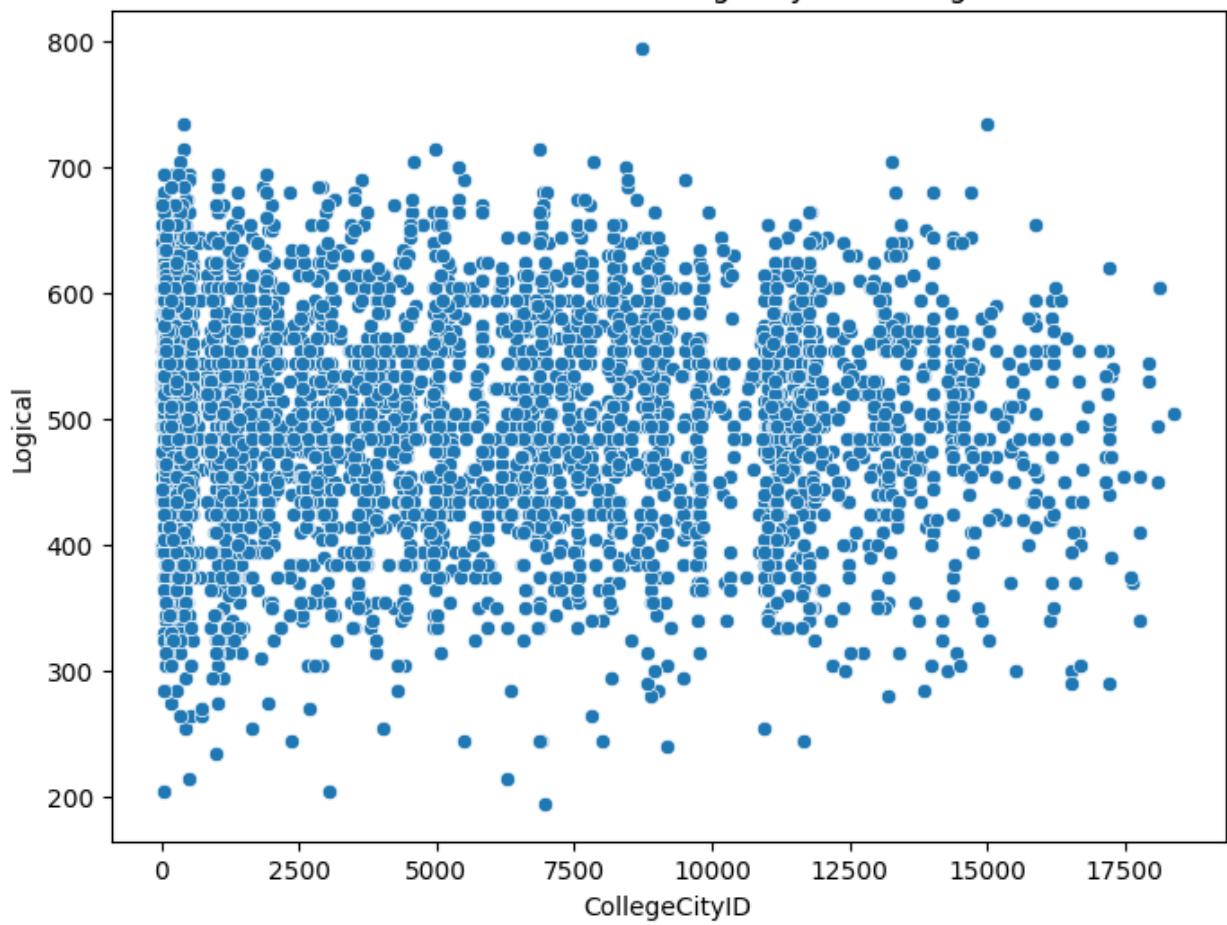
Scatter Plot between CollegeCityID and GraduationYear



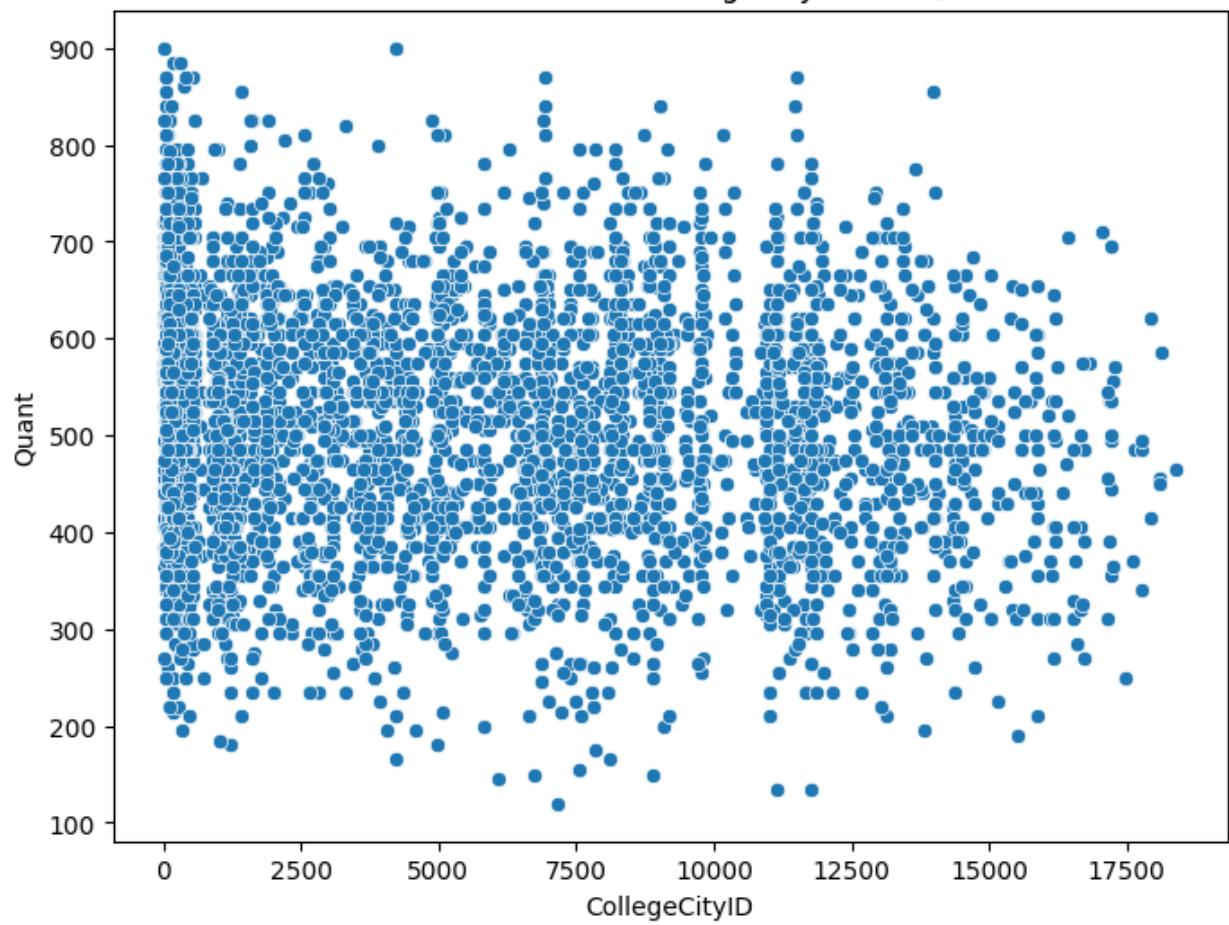
Scatter Plot between CollegeCityID and English



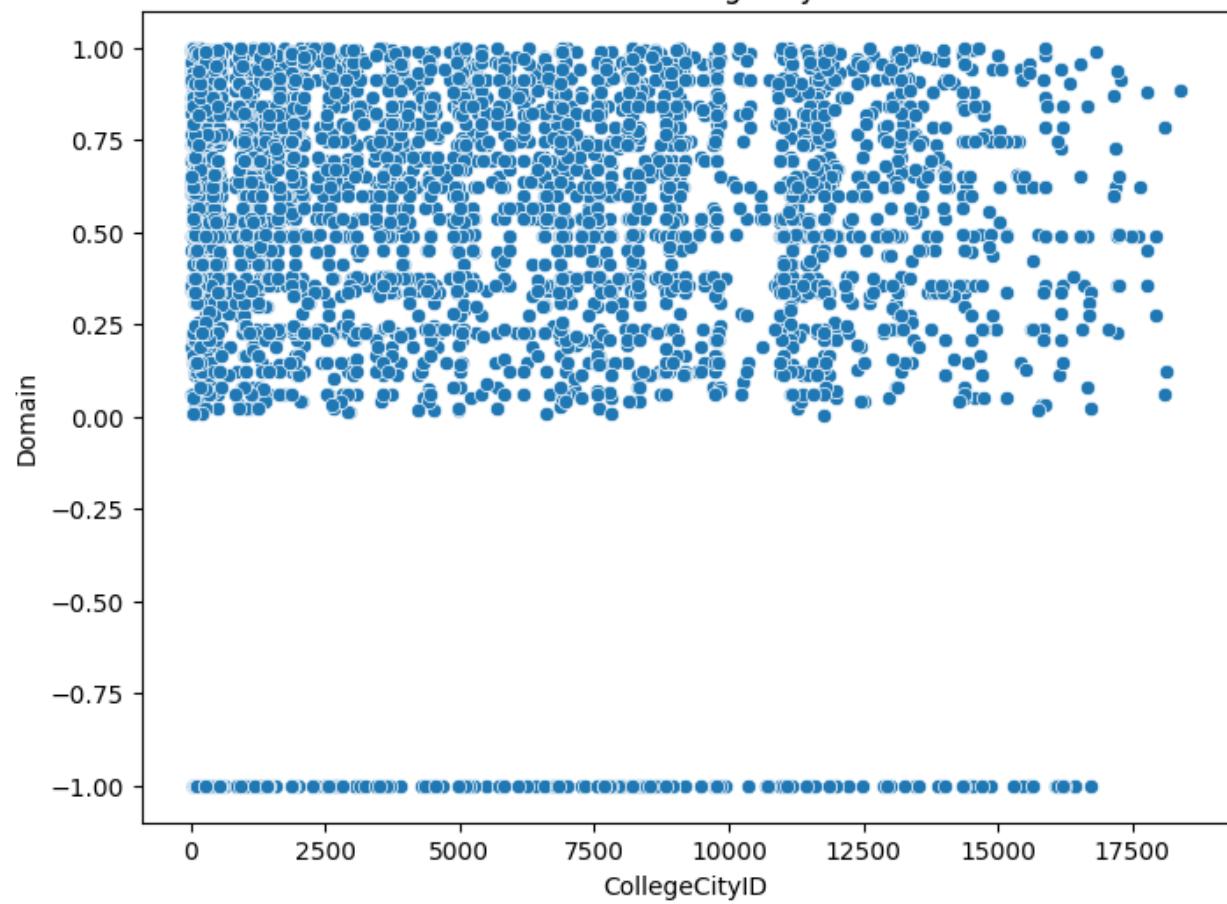
Scatter Plot between CollegeCityID and Logical



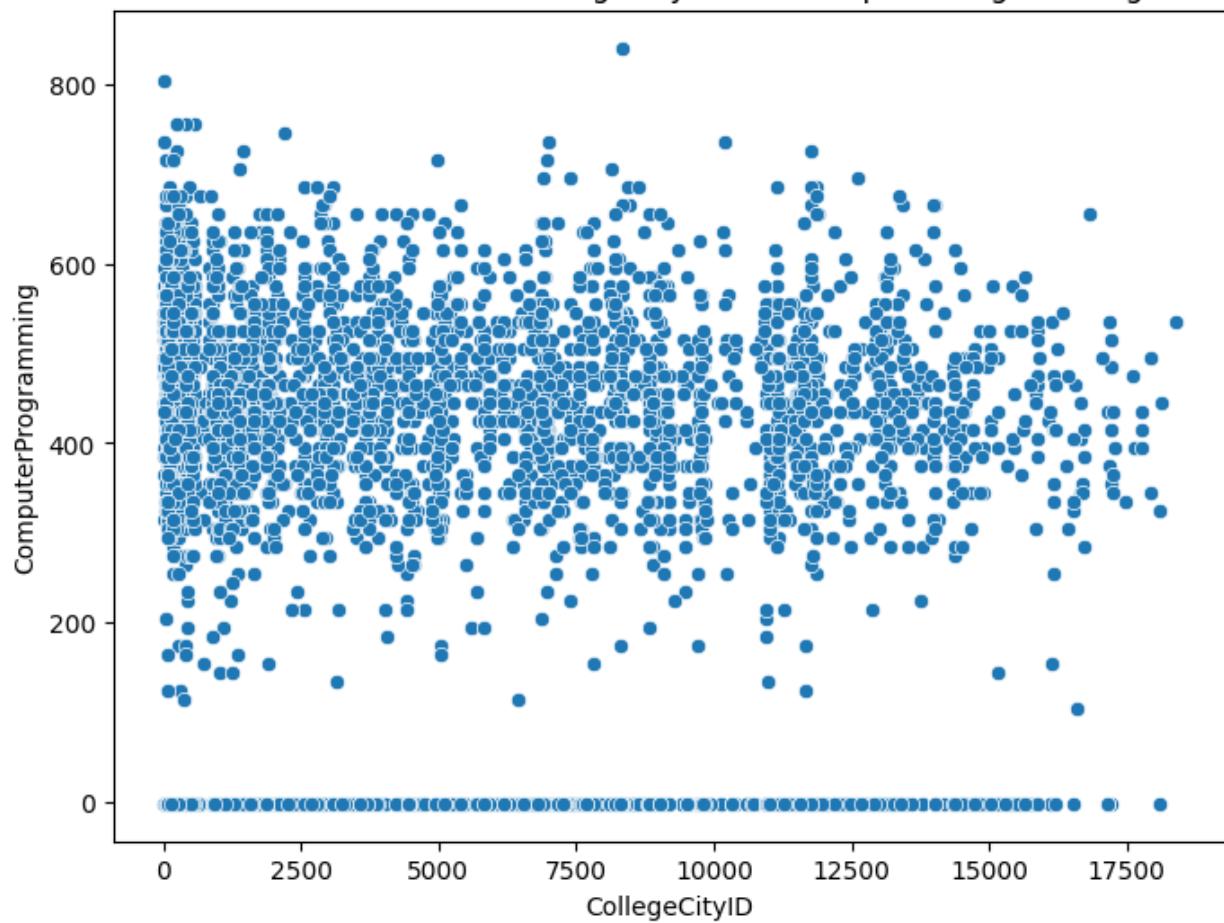
Scatter Plot between CollegeCityID and Quant



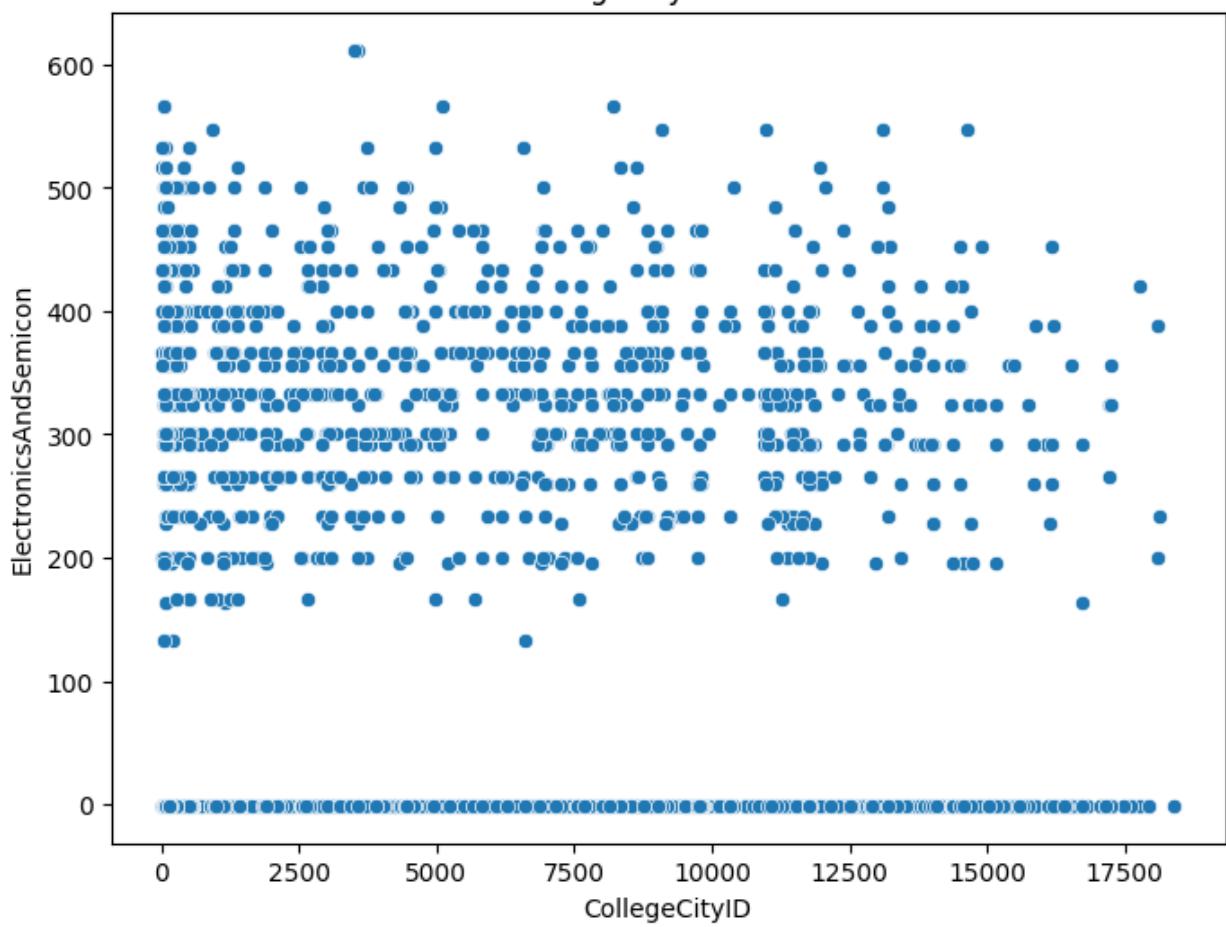
Scatter Plot between CollegeCityID and Domain



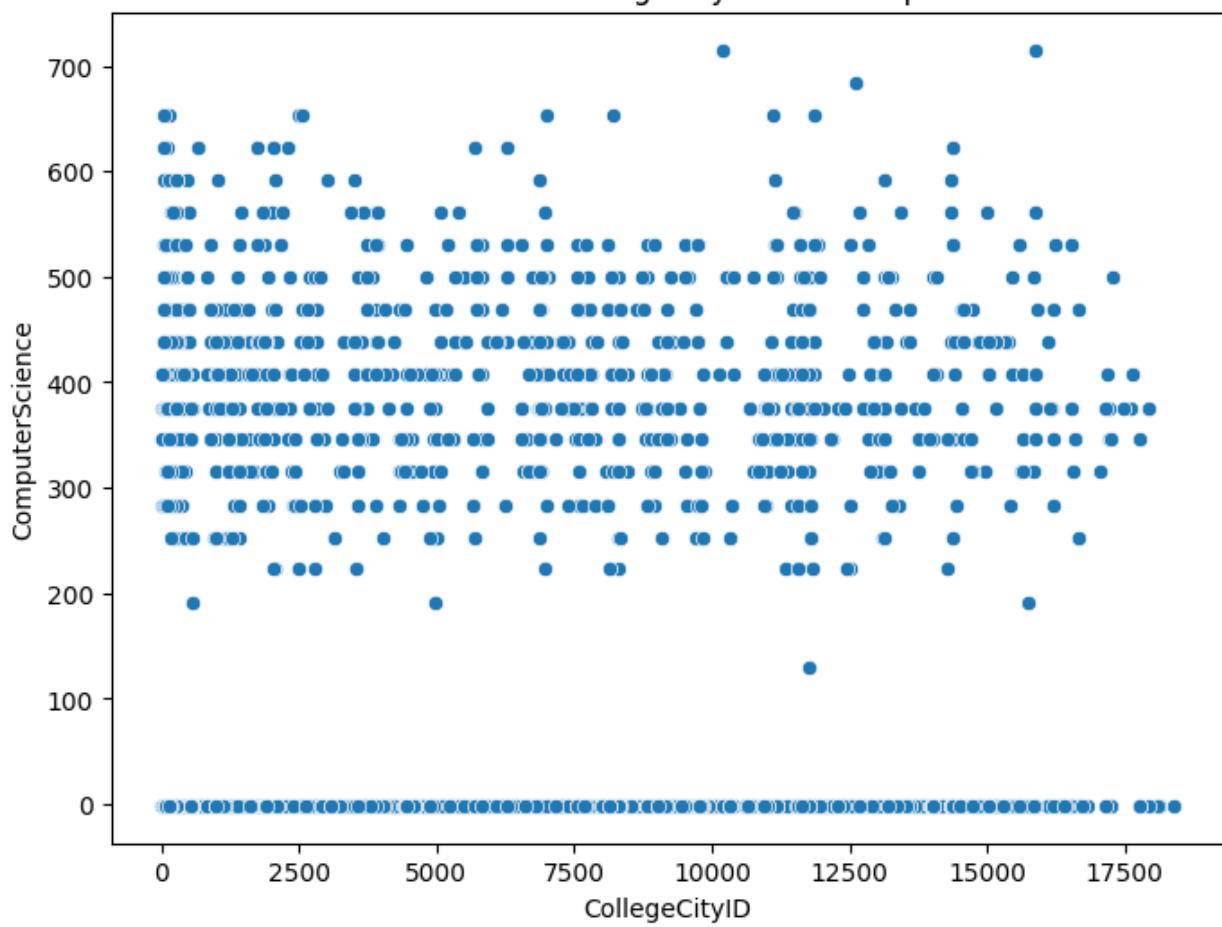
Scatter Plot between CollegeCityID and ComputerProgramming



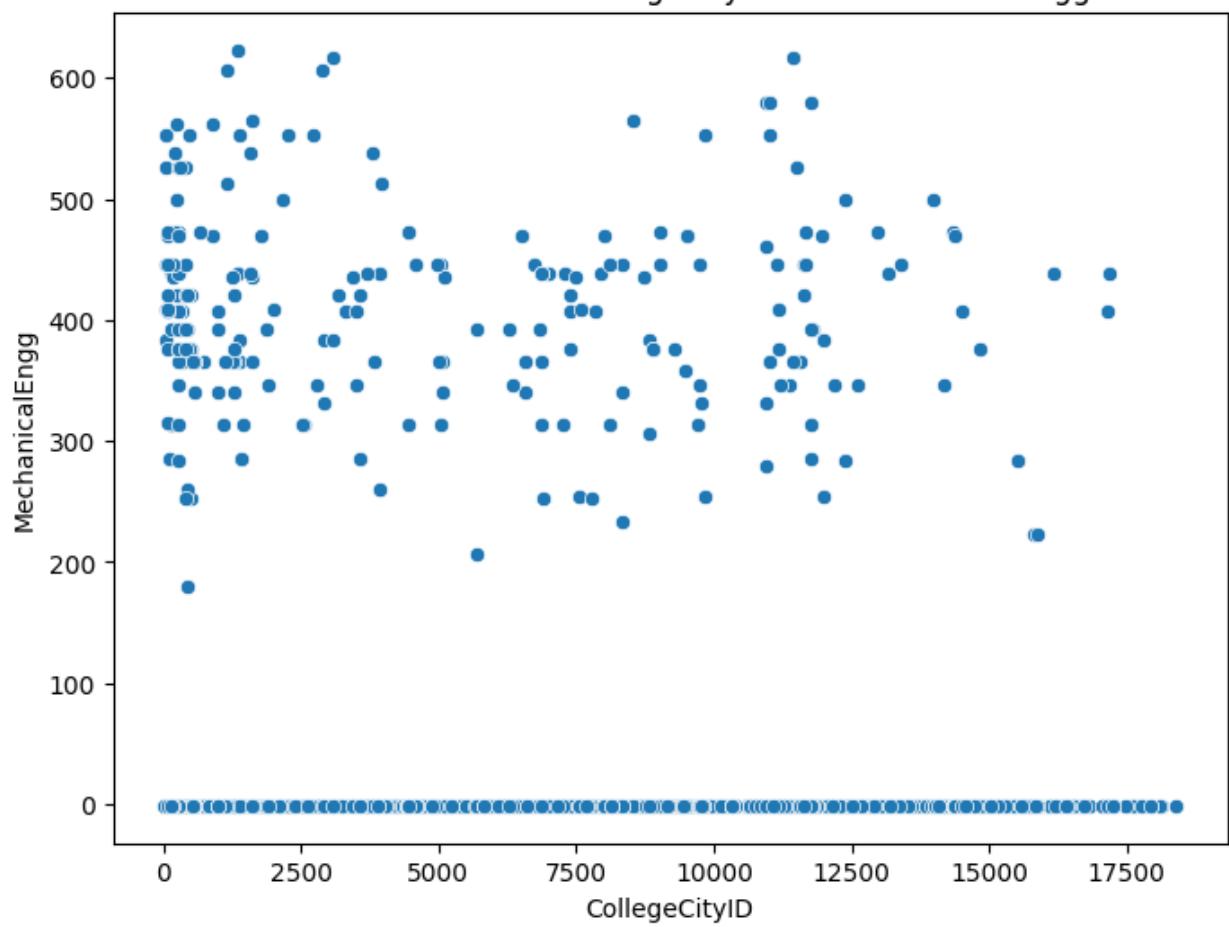
Scatter Plot between CollegeCityID and ElectronicsAndSemicon



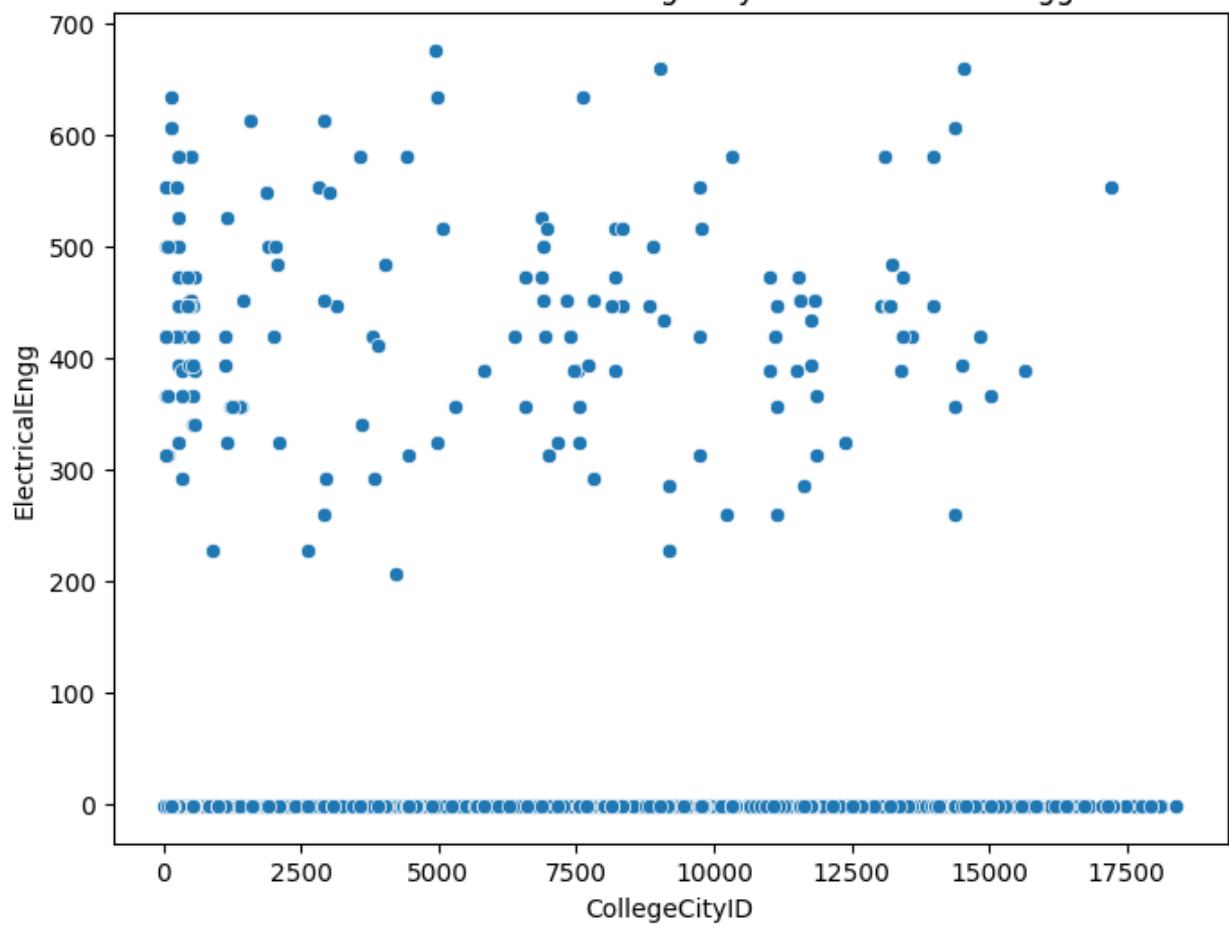
Scatter Plot between CollegeCityID and ComputerScience



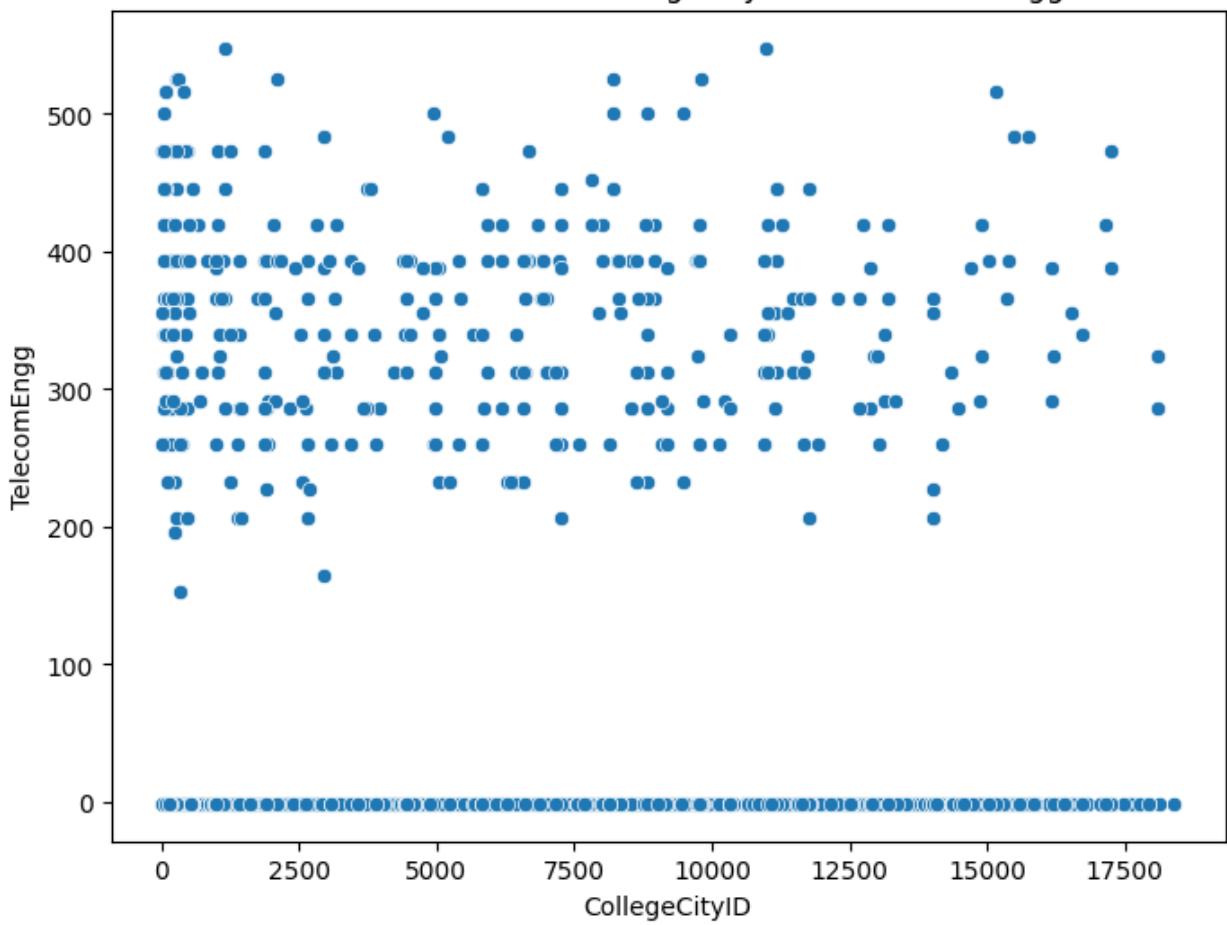
Scatter Plot between CollegeCityID and MechanicalEngg



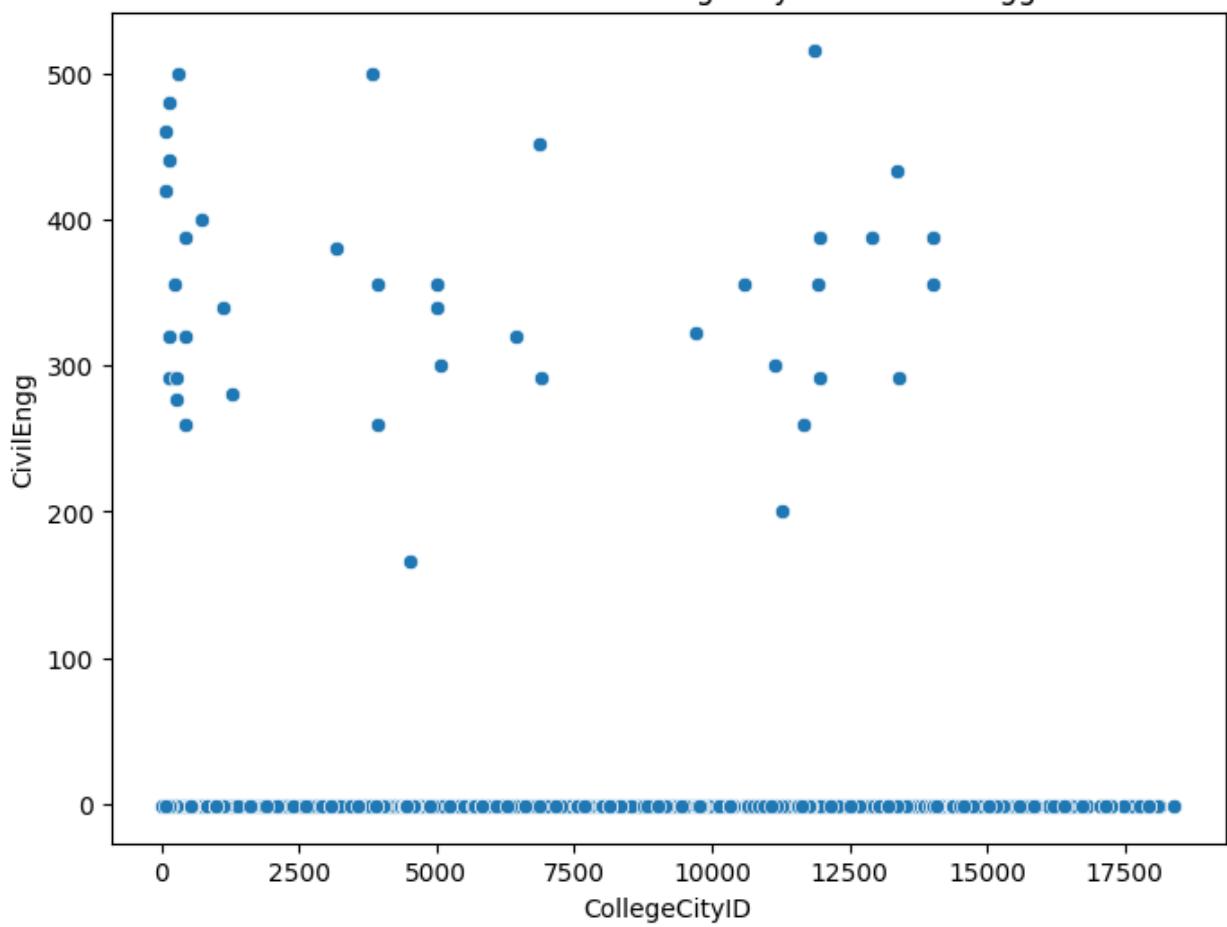
Scatter Plot between CollegeCityID and ElectricalEngg



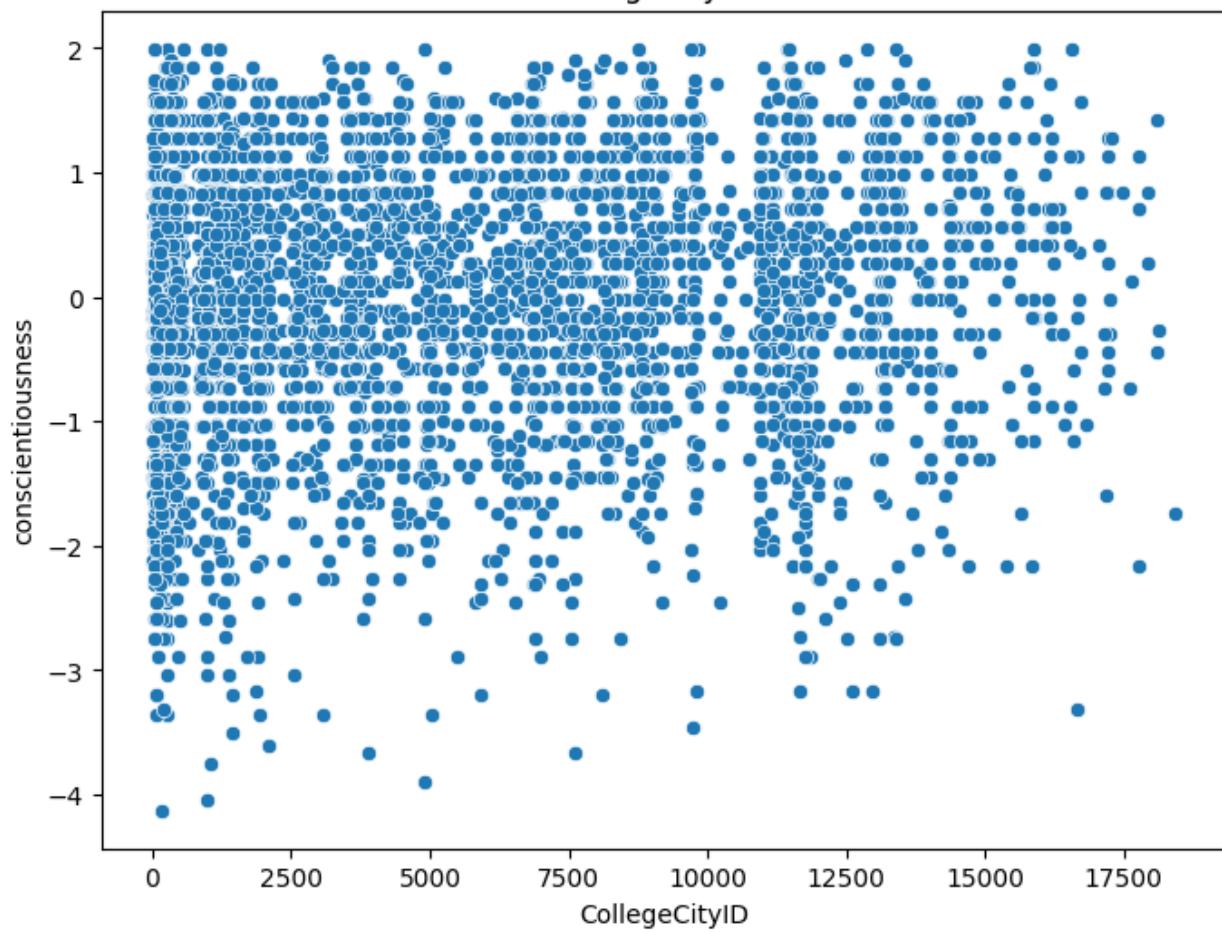
Scatter Plot between CollegeCityID and TelecomEngg



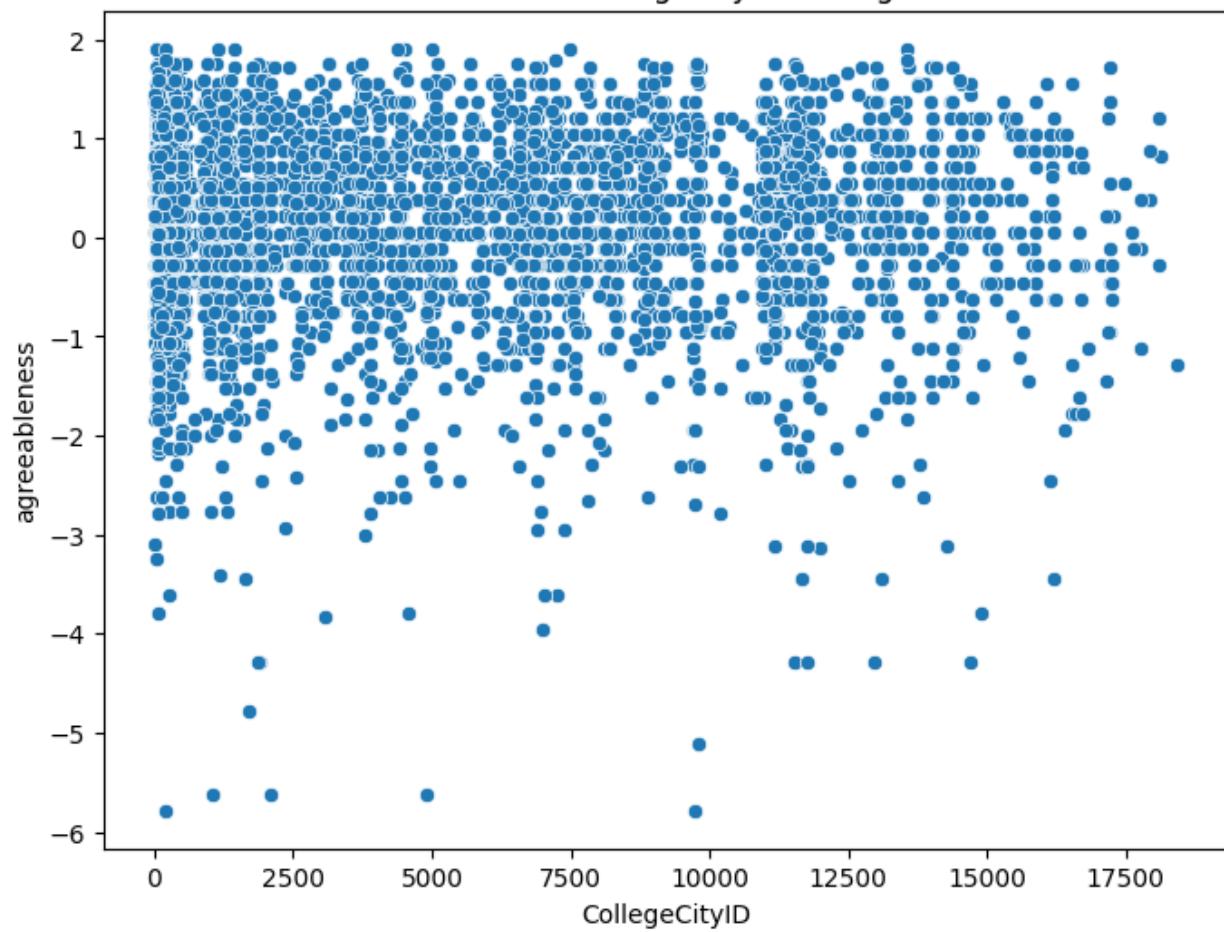
Scatter Plot between CollegeCityID and CivilEngg



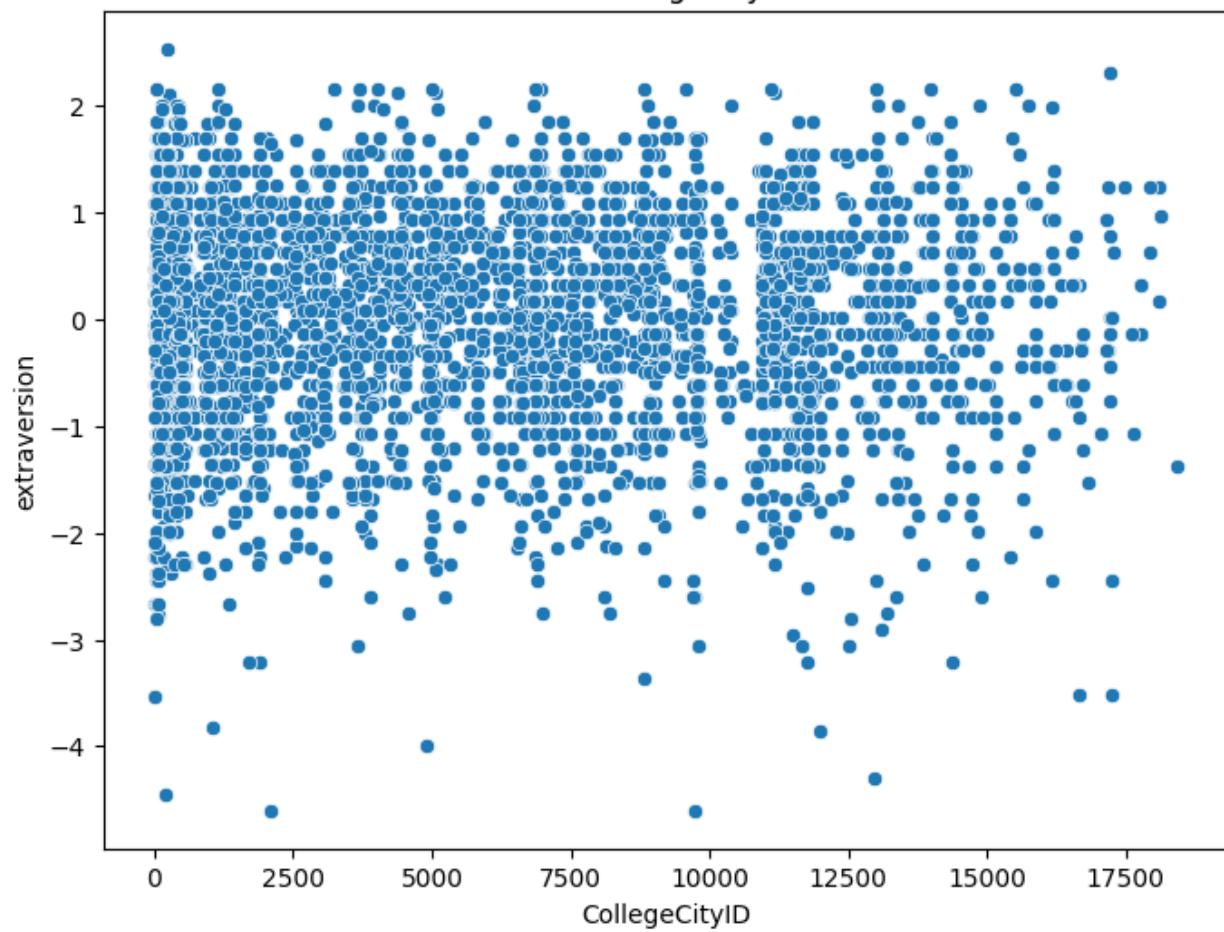
Scatter Plot between CollegeCityID and conscientiousness



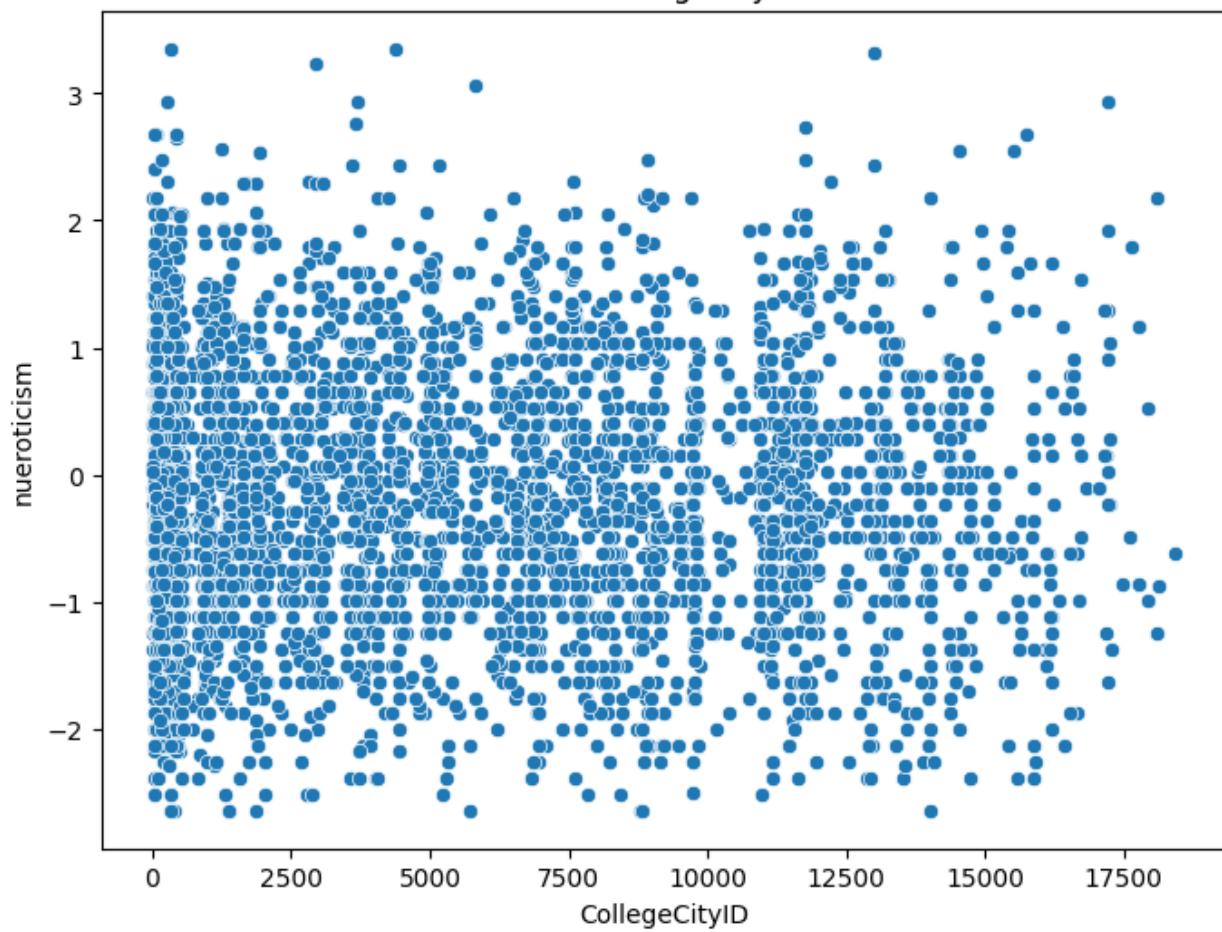
Scatter Plot between CollegeCityID and agreeableness



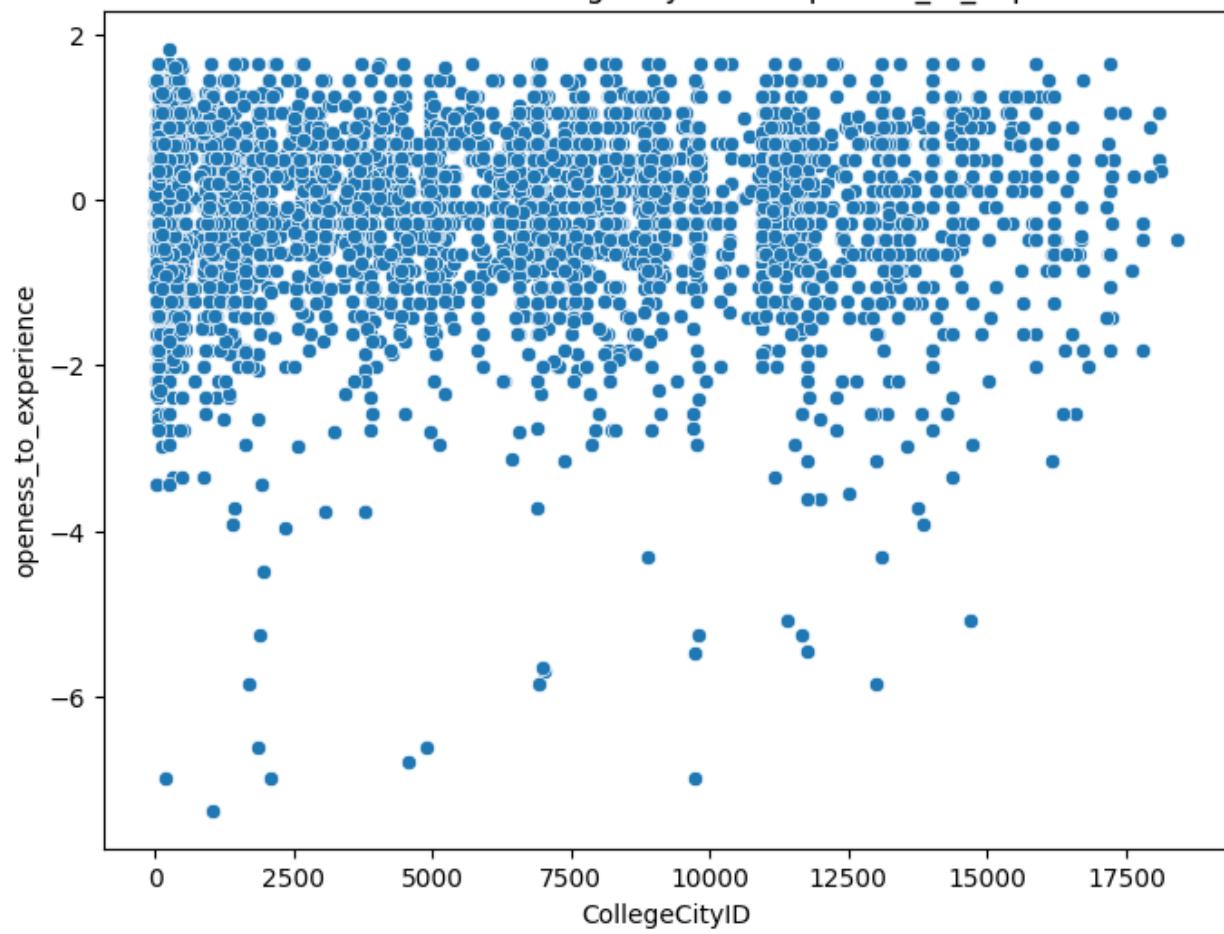
Scatter Plot between CollegeCityID and extraversion



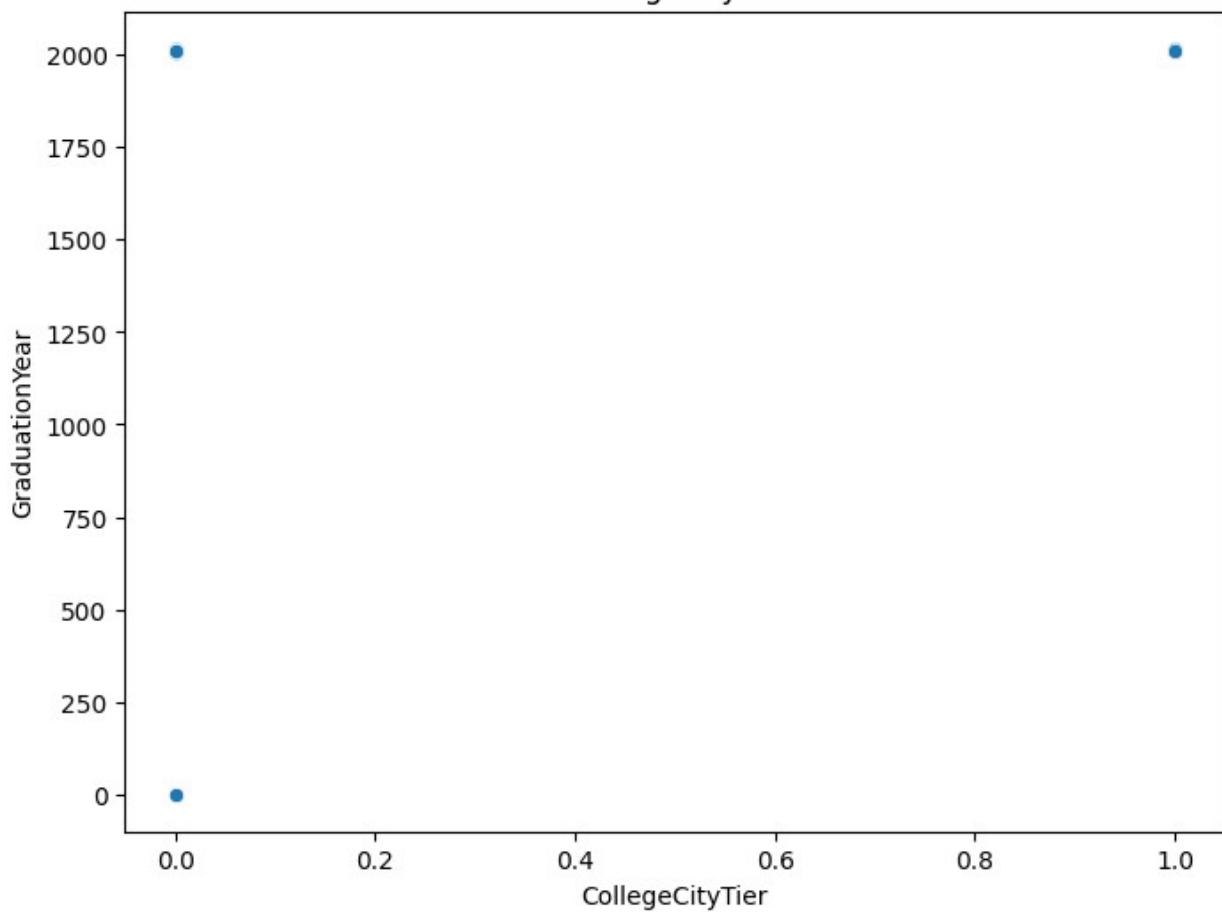
Scatter Plot between CollegeCityID and nuerotism



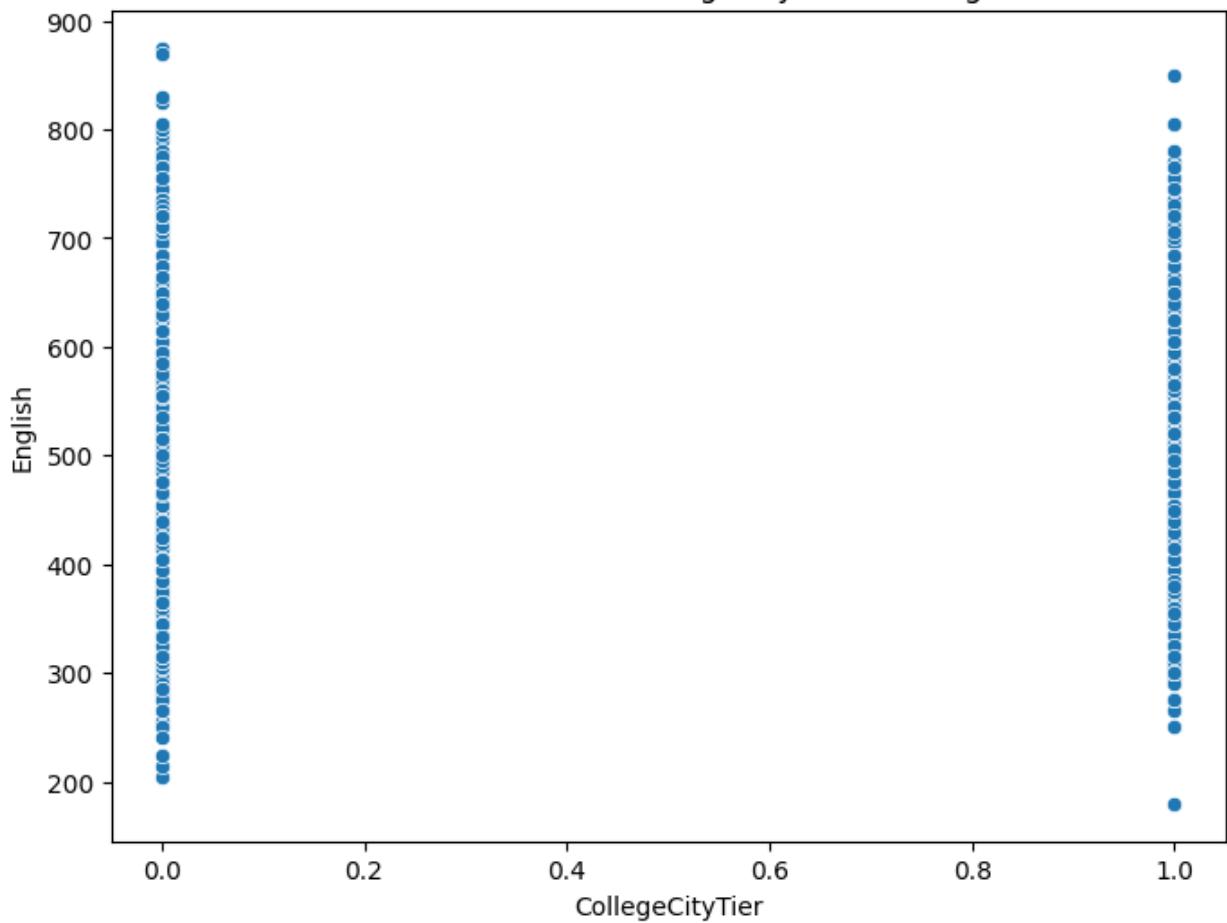
Scatter Plot between CollegeCityID and openness_to_experience



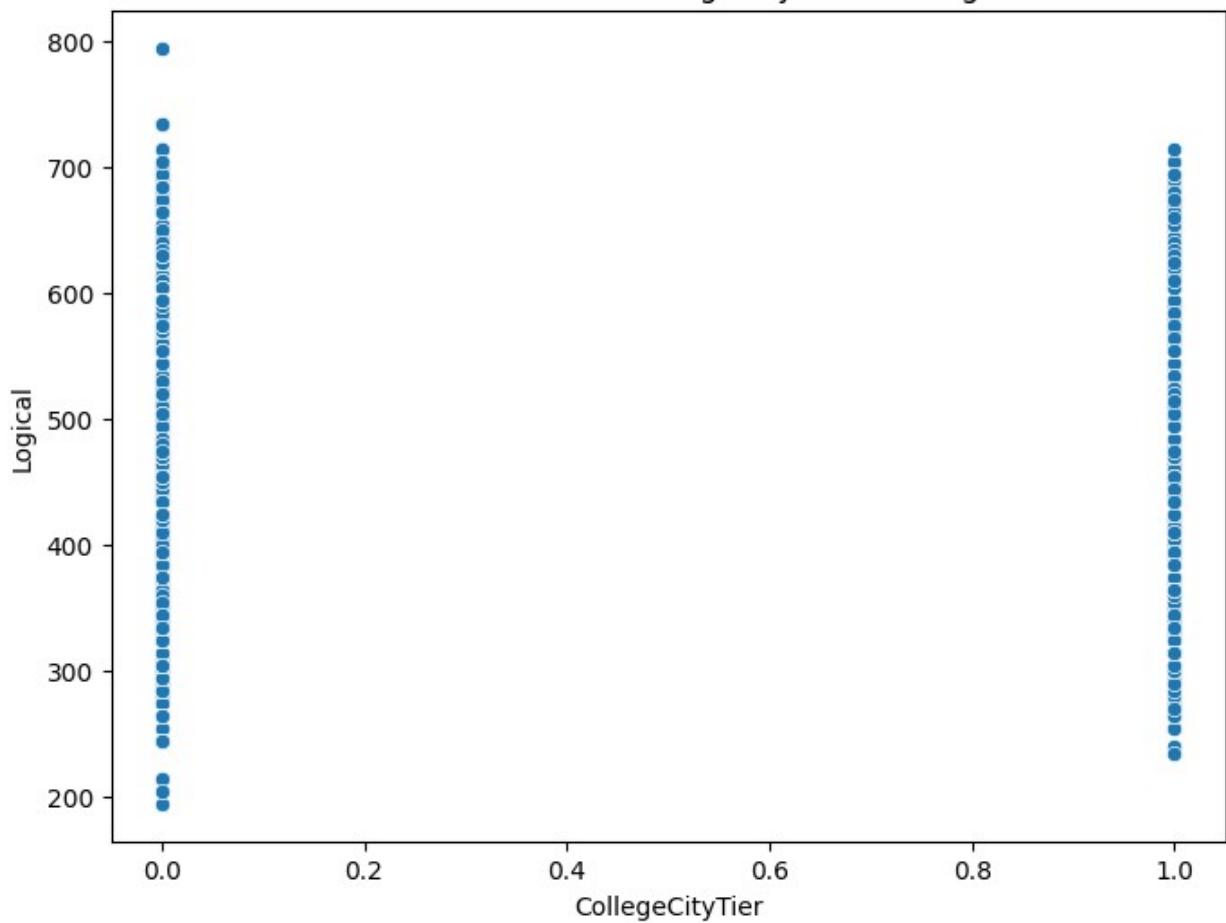
Scatter Plot between CollegeCityTier and GraduationYear



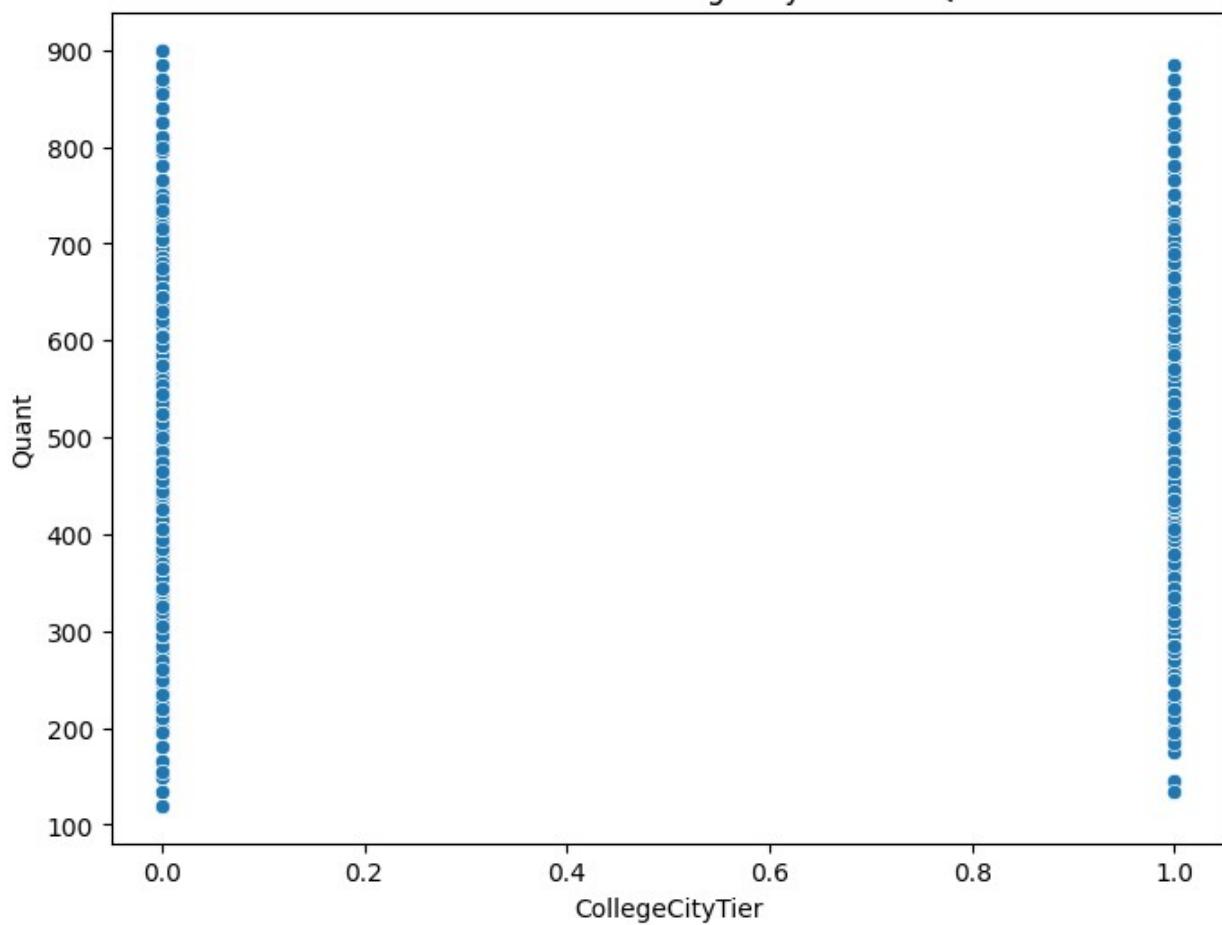
Scatter Plot between CollegeCityTier and English



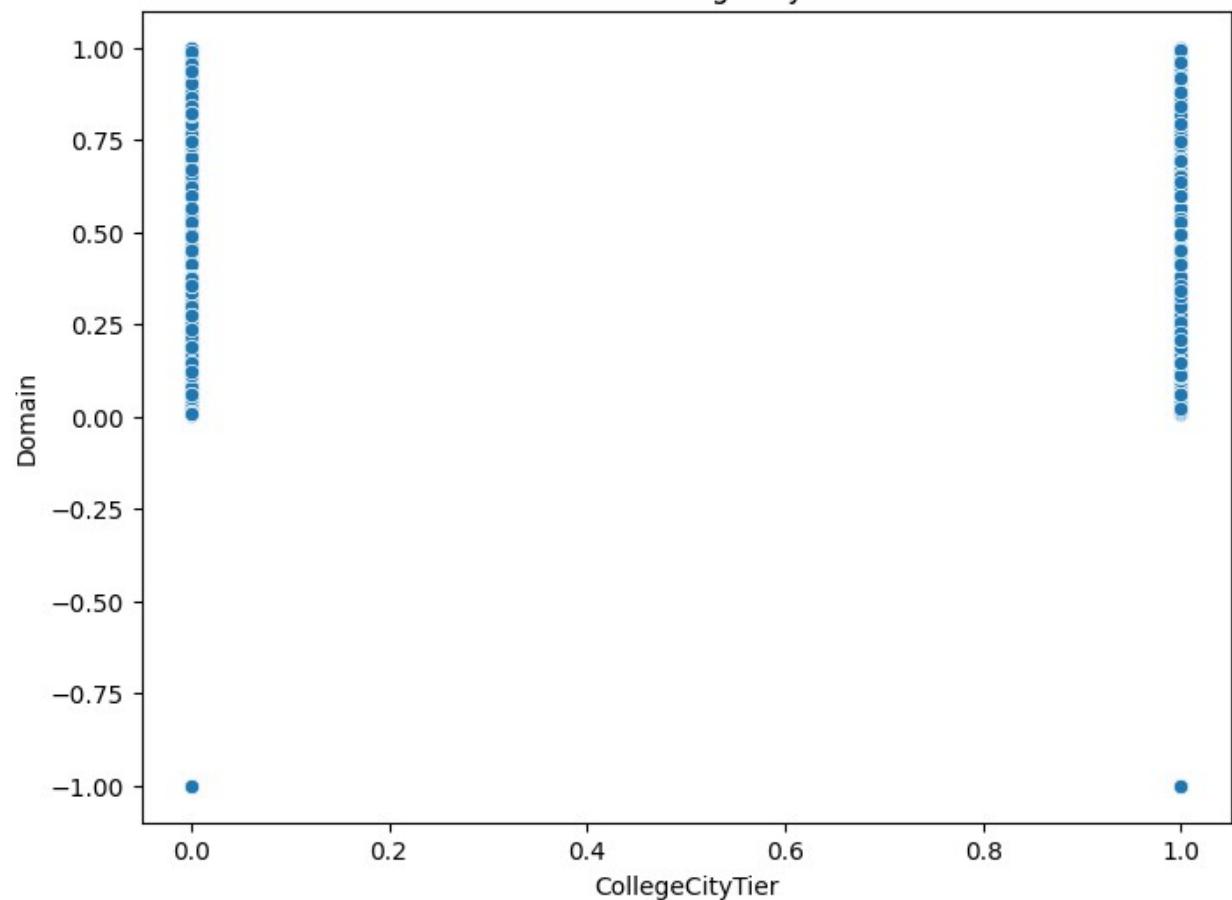
Scatter Plot between CollegeCityTier and Logical



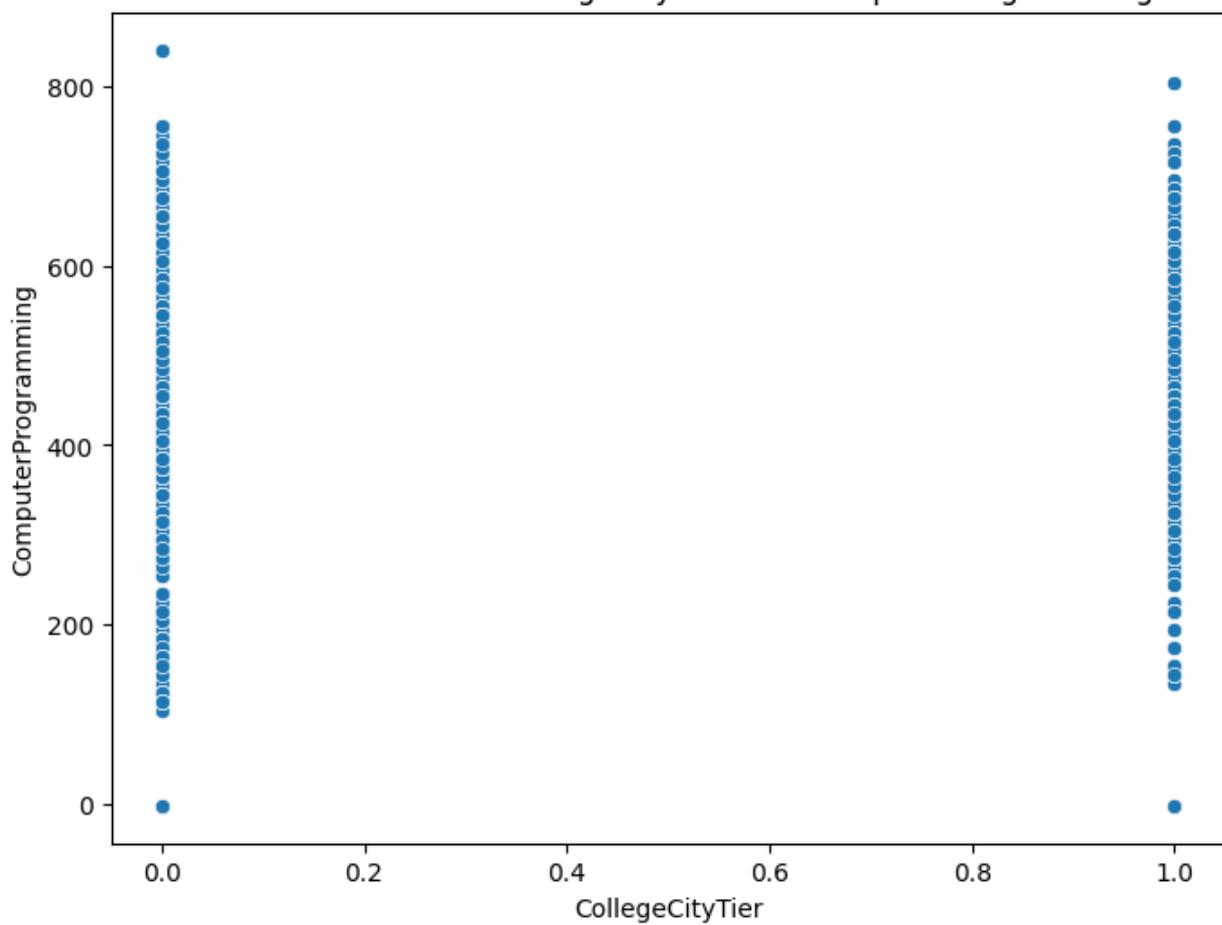
Scatter Plot between CollegeCityTier and Quant



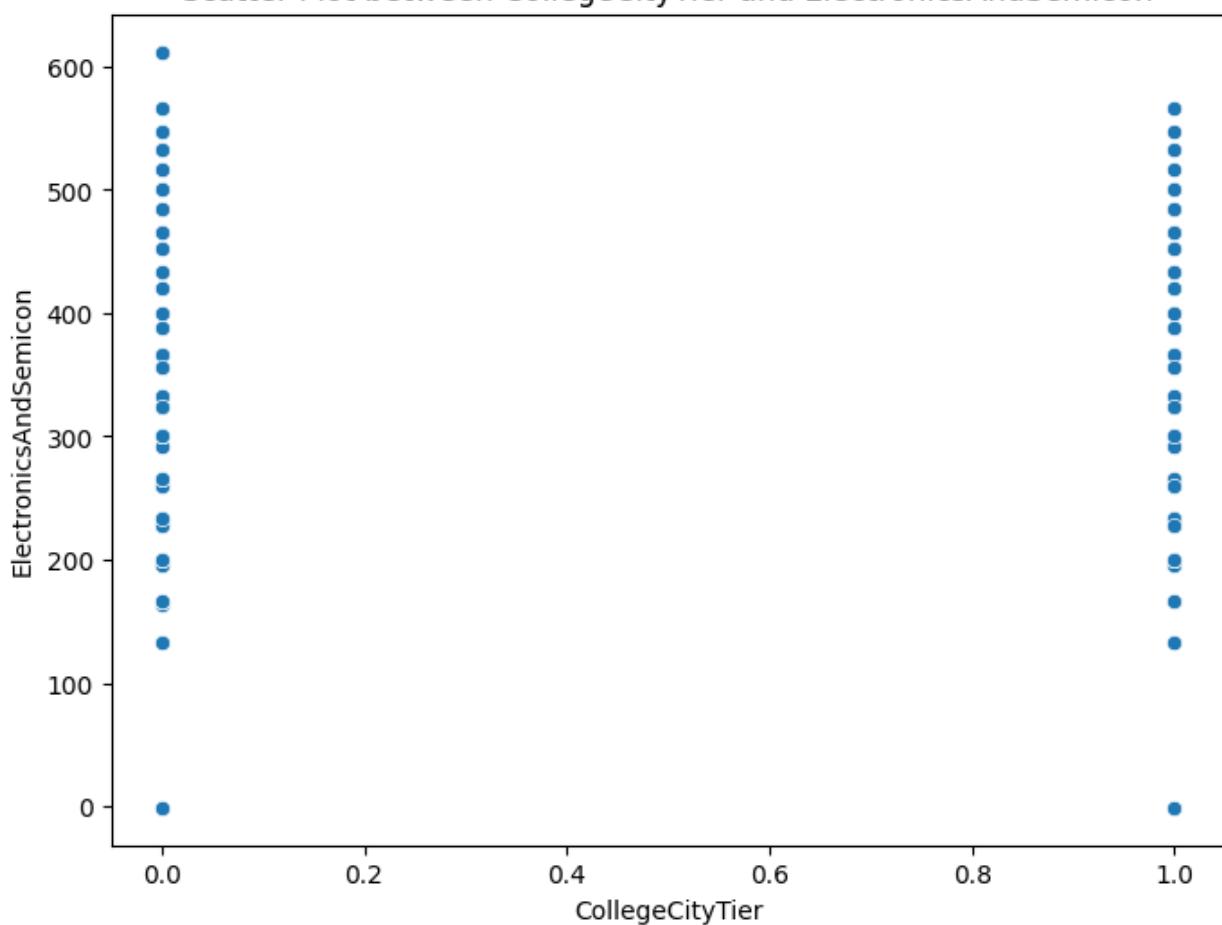
Scatter Plot between CollegeCityTier and Domain



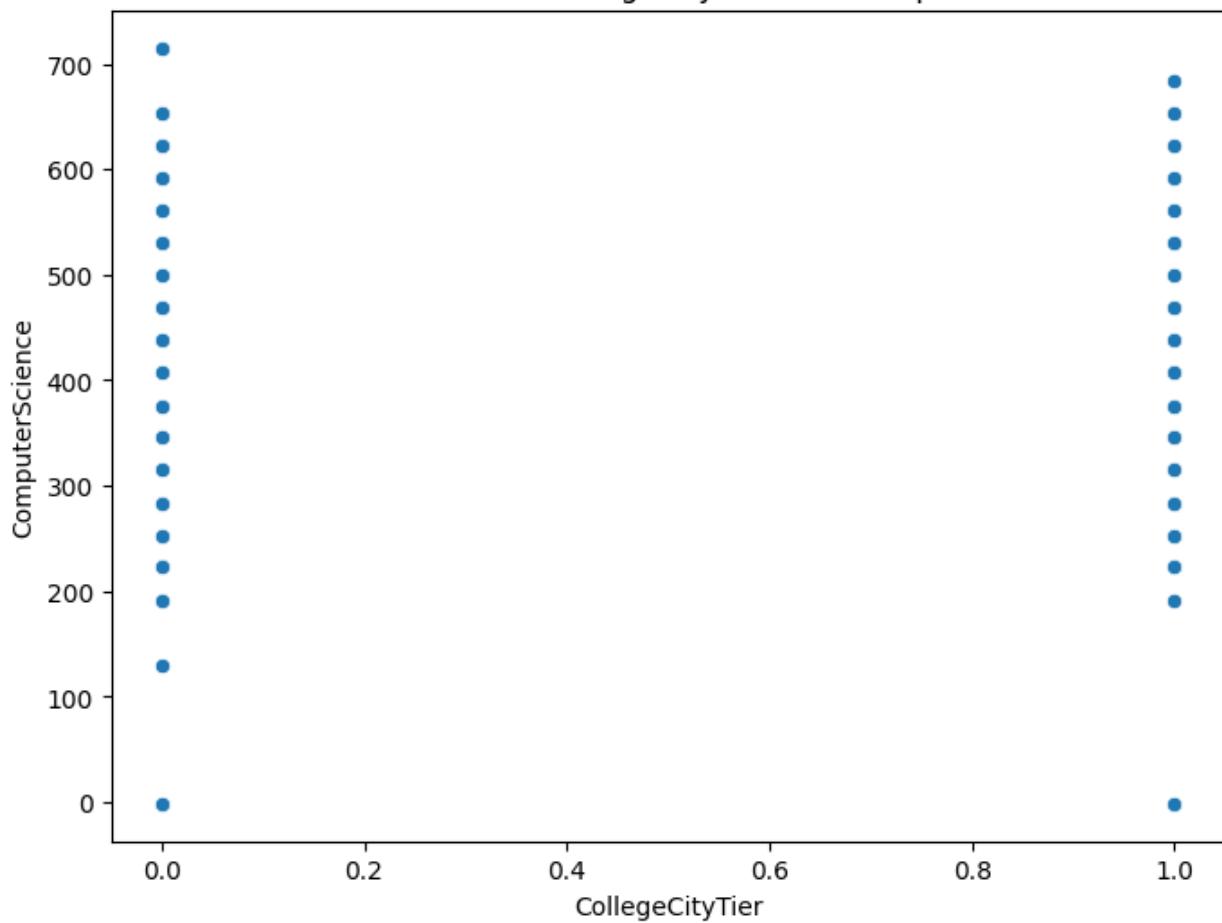
Scatter Plot between CollegeCityTier and ComputerProgramming



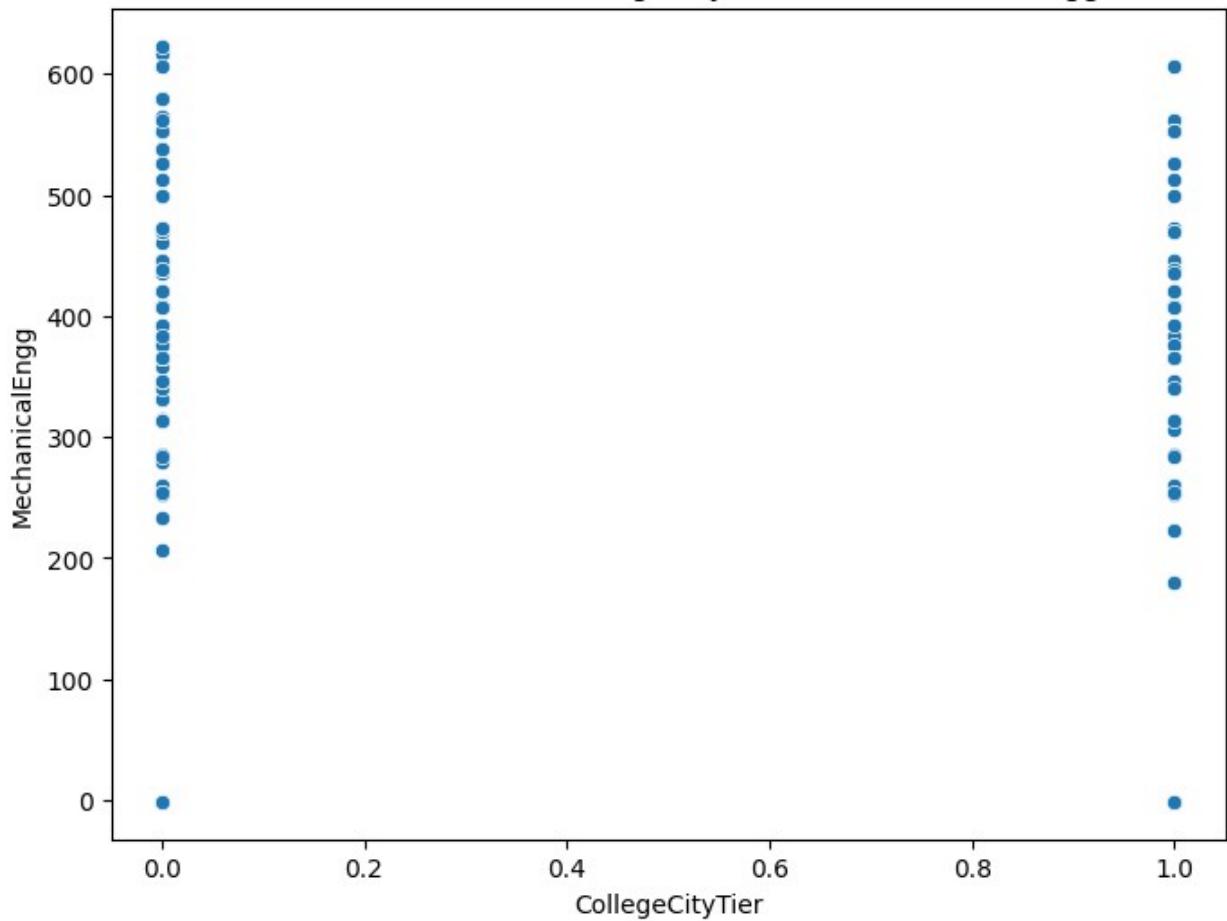
Scatter Plot between CollegeCityTier and ElectronicsAndSemicon



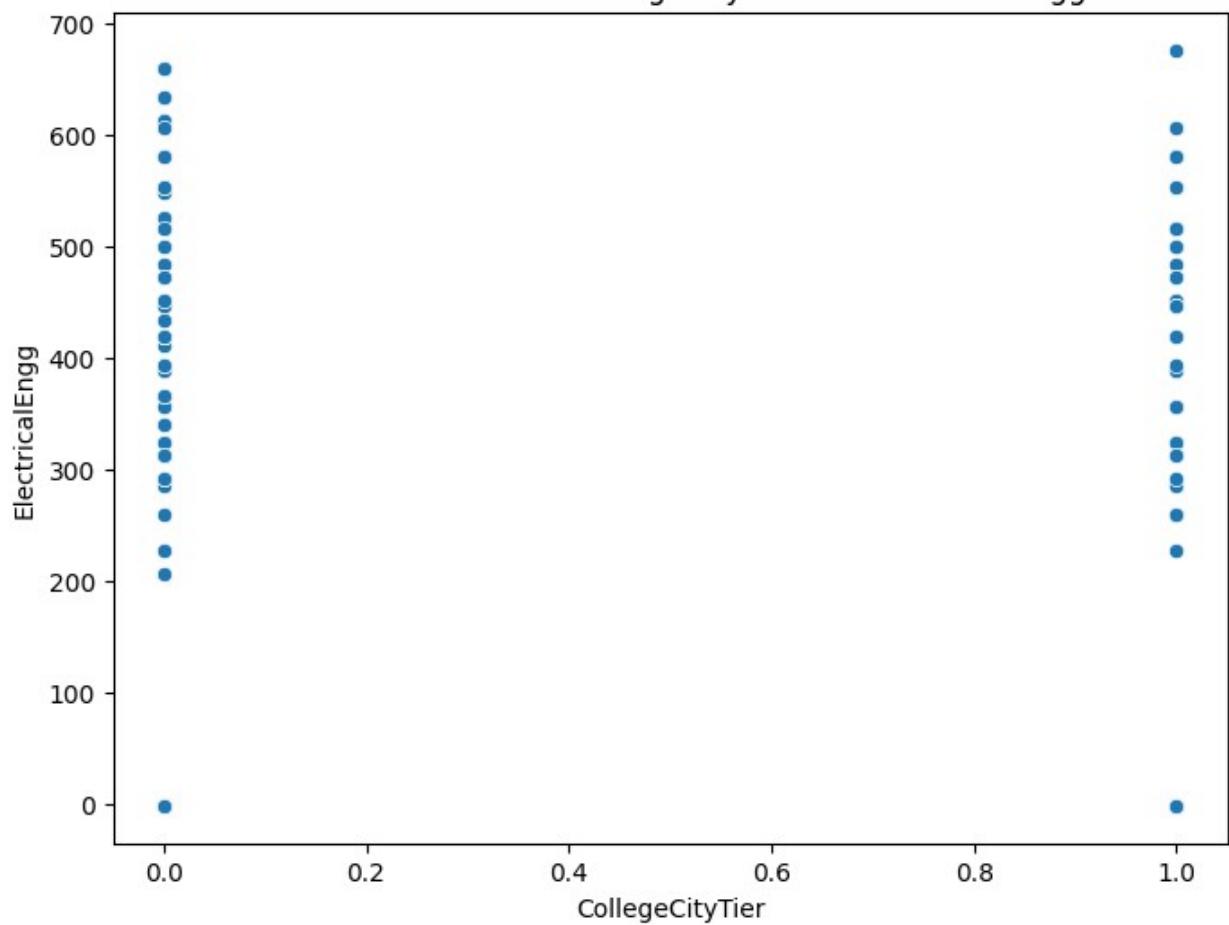
Scatter Plot between CollegeCityTier and ComputerScience



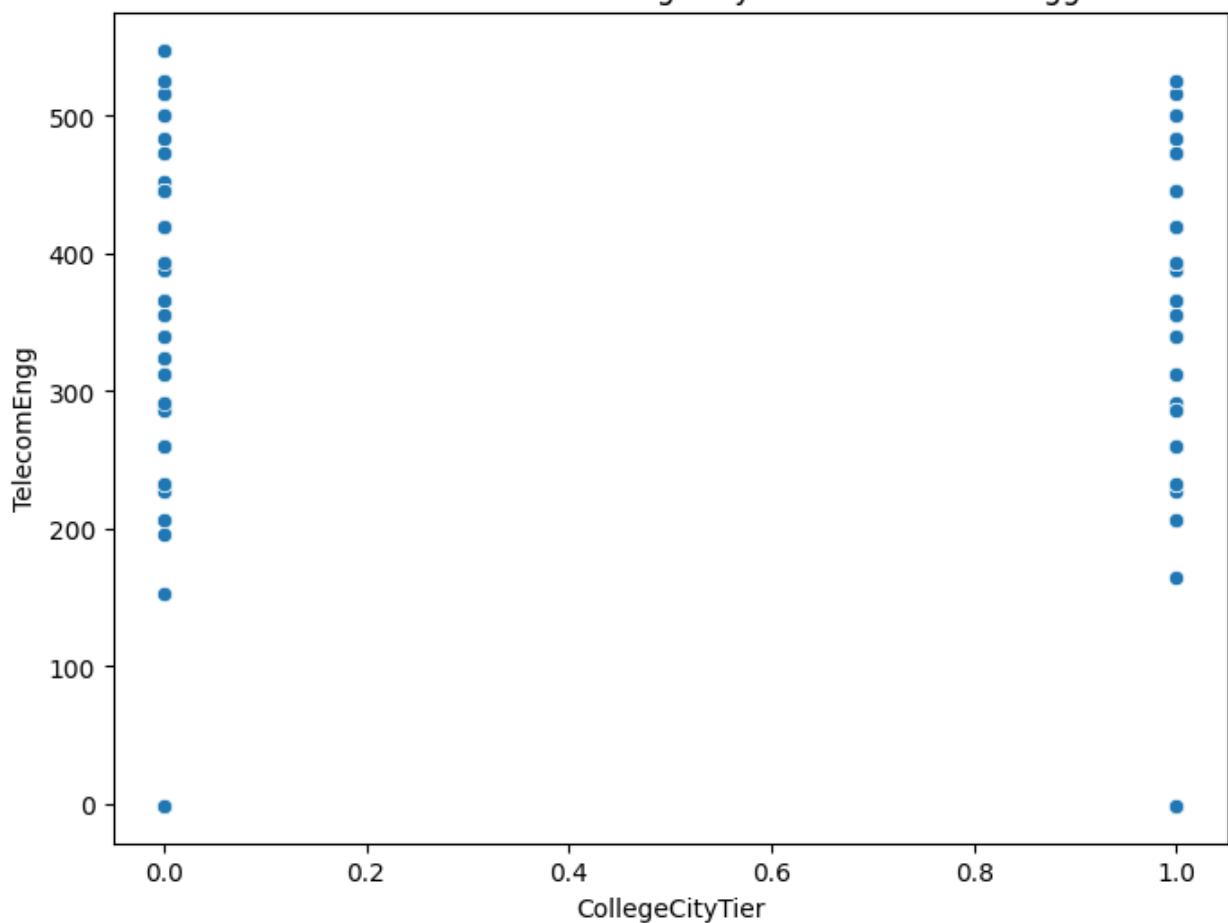
Scatter Plot between CollegeCityTier and MechanicalEngg



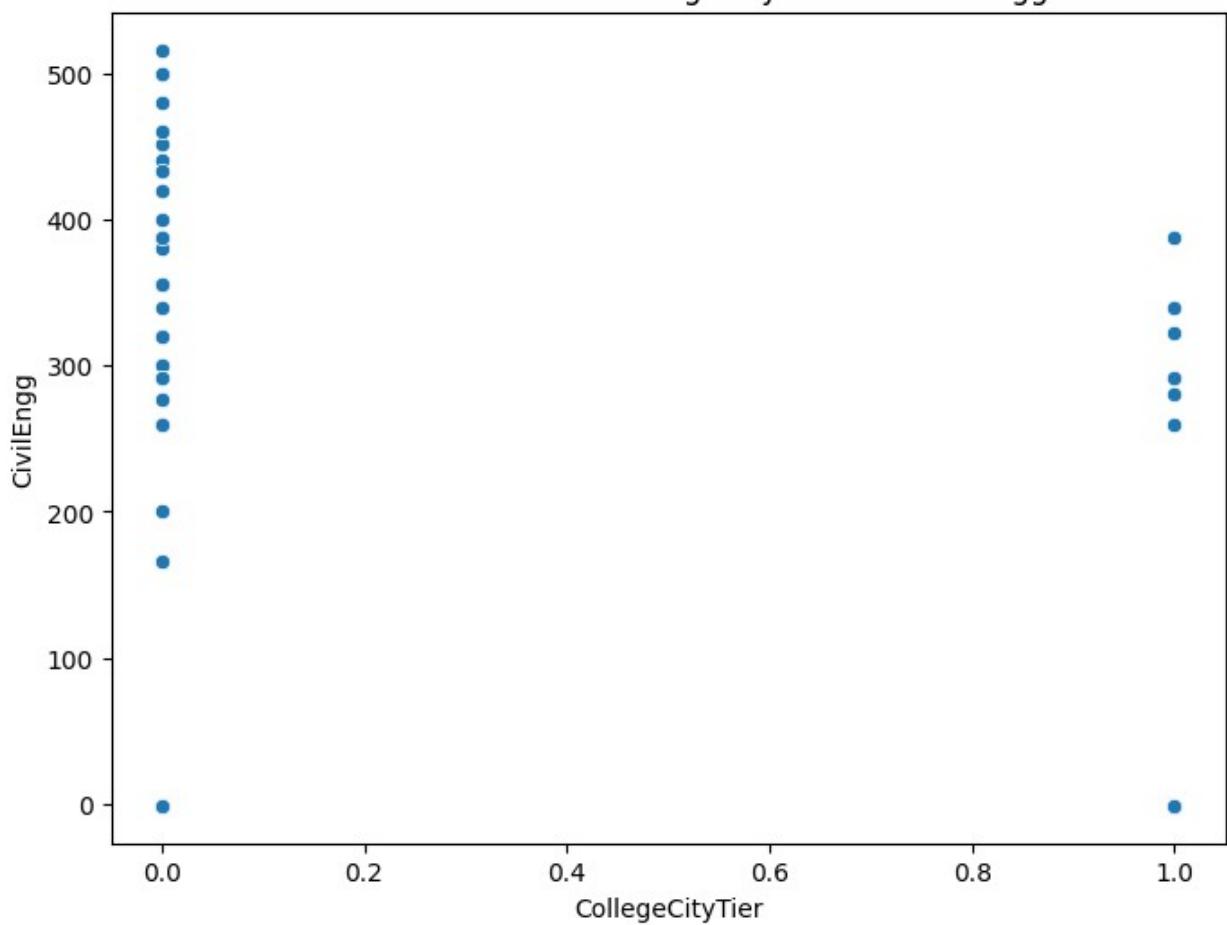
Scatter Plot between CollegeCityTier and ElectricalEngg



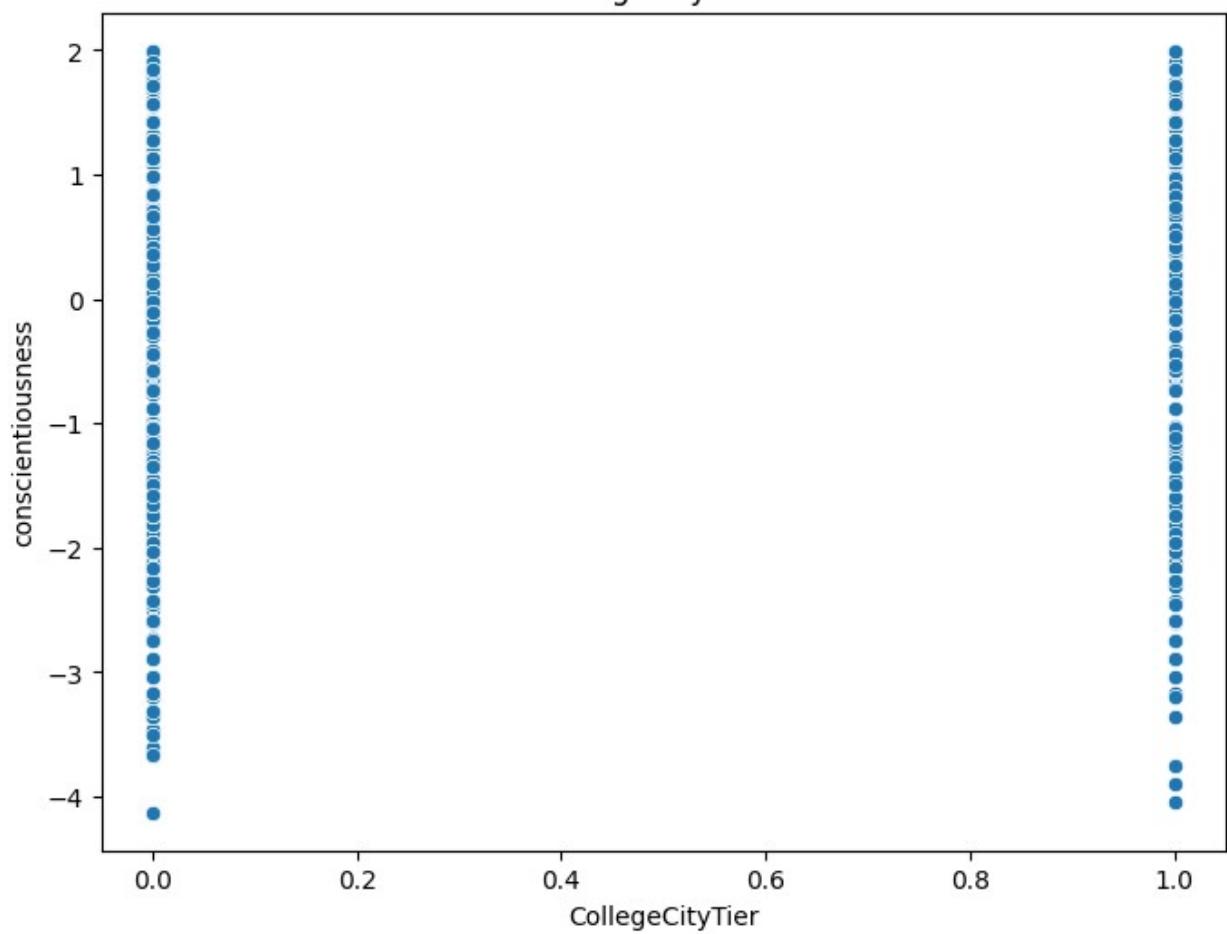
Scatter Plot between CollegeCityTier and TelecomEngg



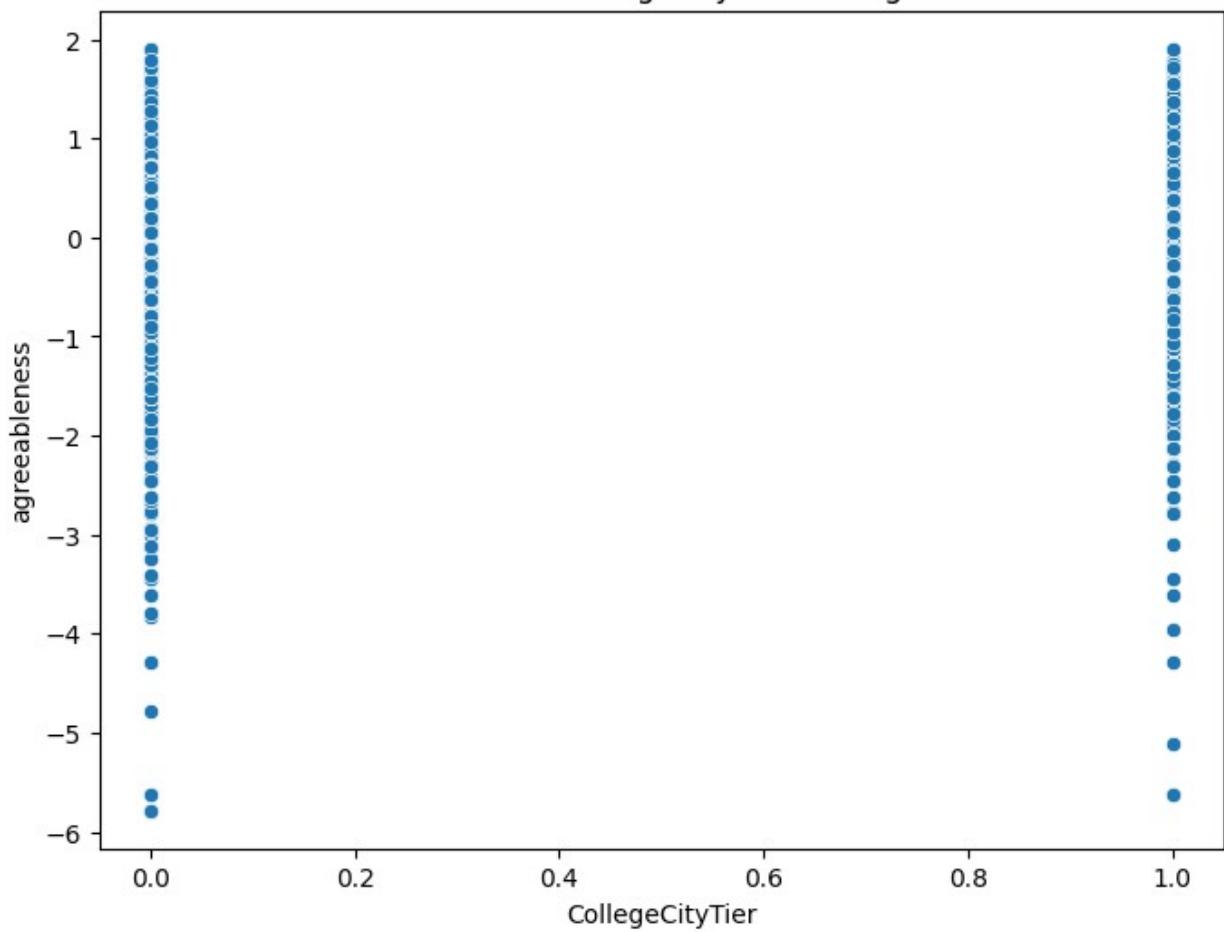
Scatter Plot between CollegeCityTier and CivilEngg



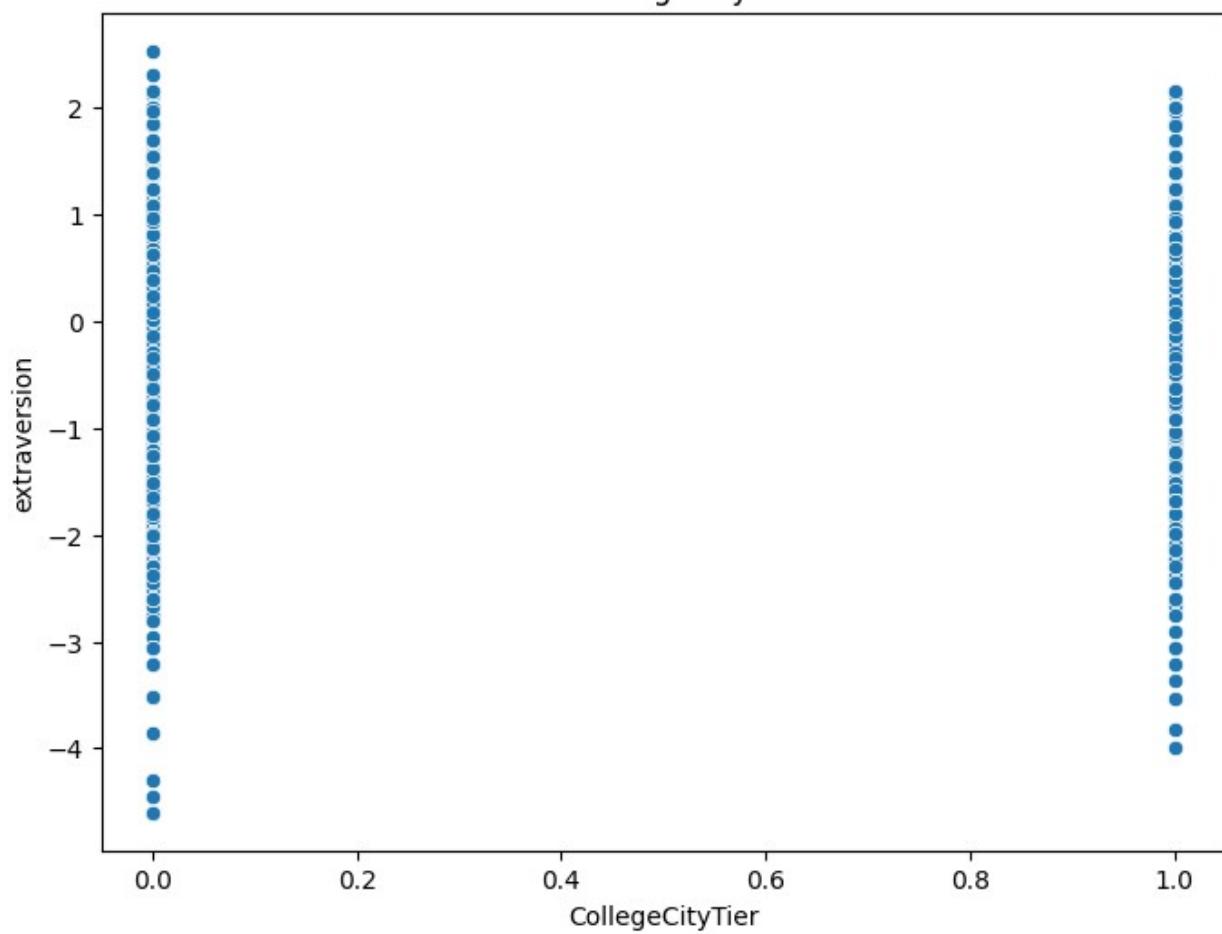
Scatter Plot between CollegeCityTier and conscientiousness



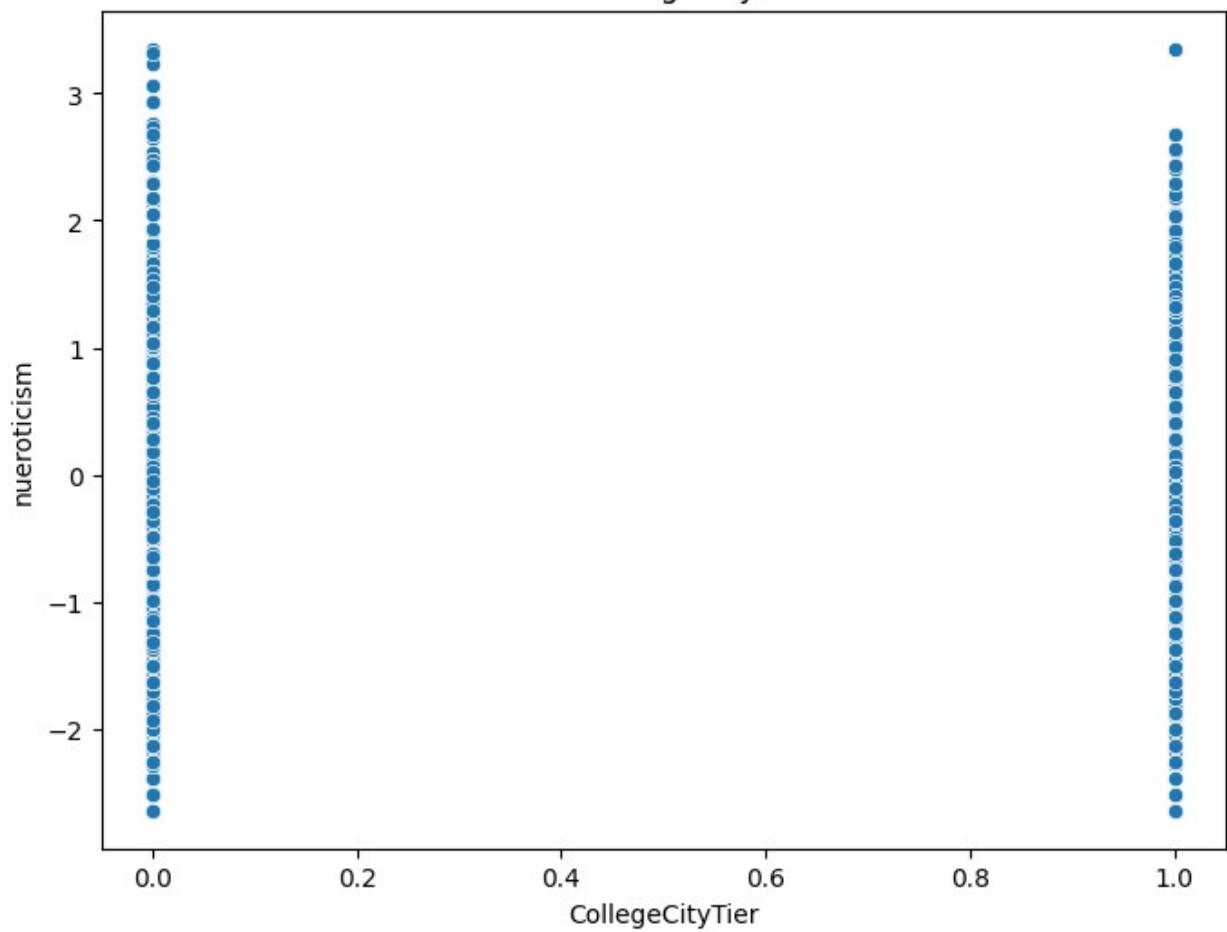
Scatter Plot between CollegeCityTier and agreeableness



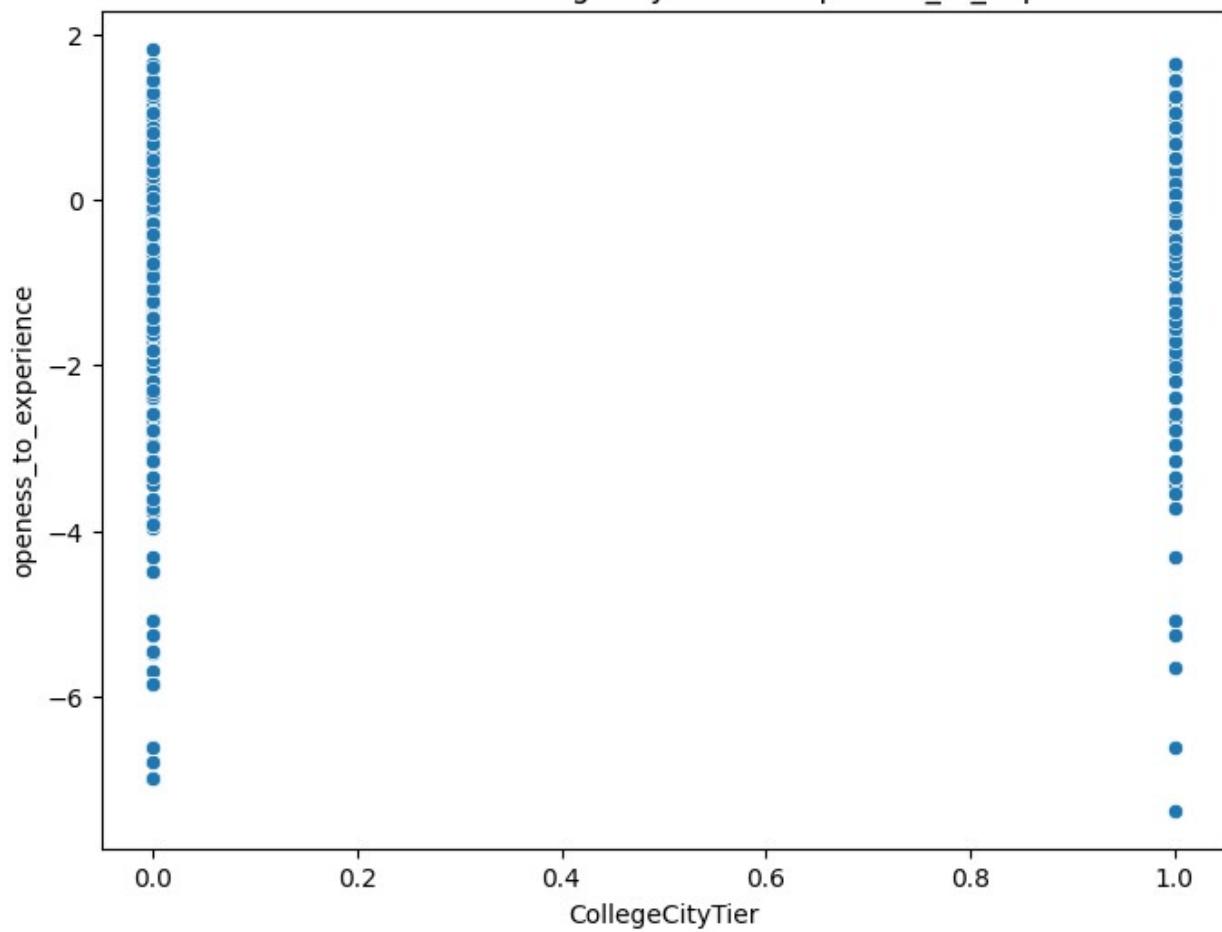
Scatter Plot between CollegeCityTier and extraversion



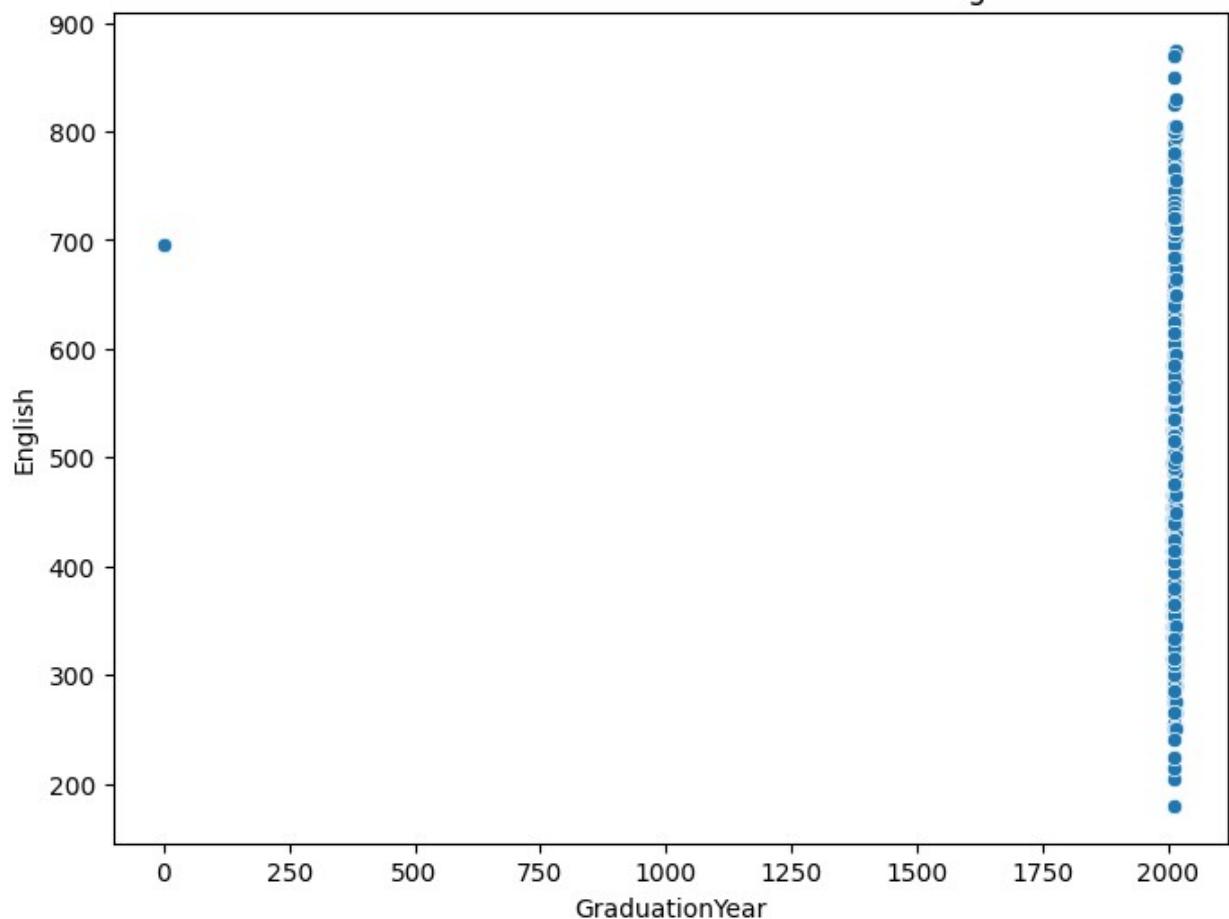
Scatter Plot between CollegeCityTier and nueroticism



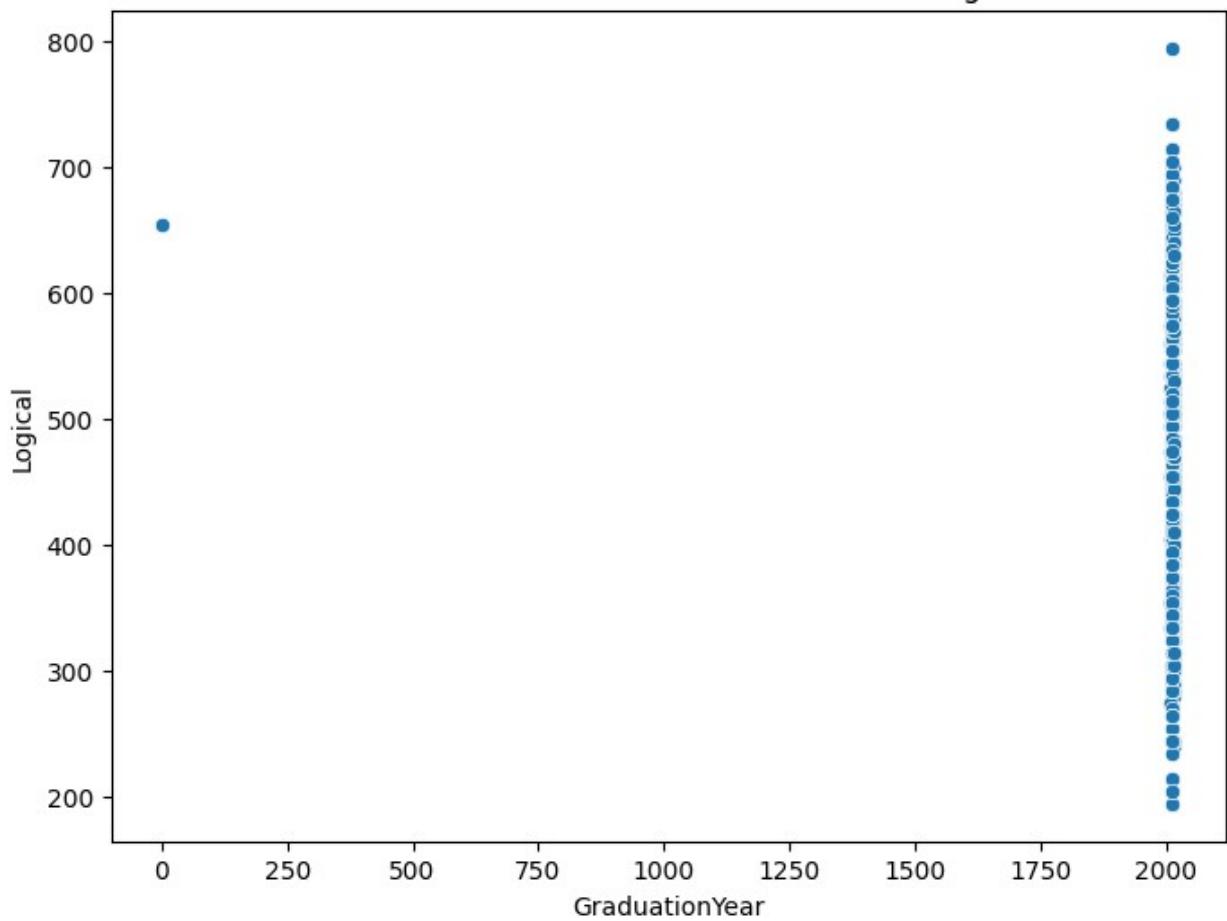
Scatter Plot between CollegeCityTier and openness_to_experience



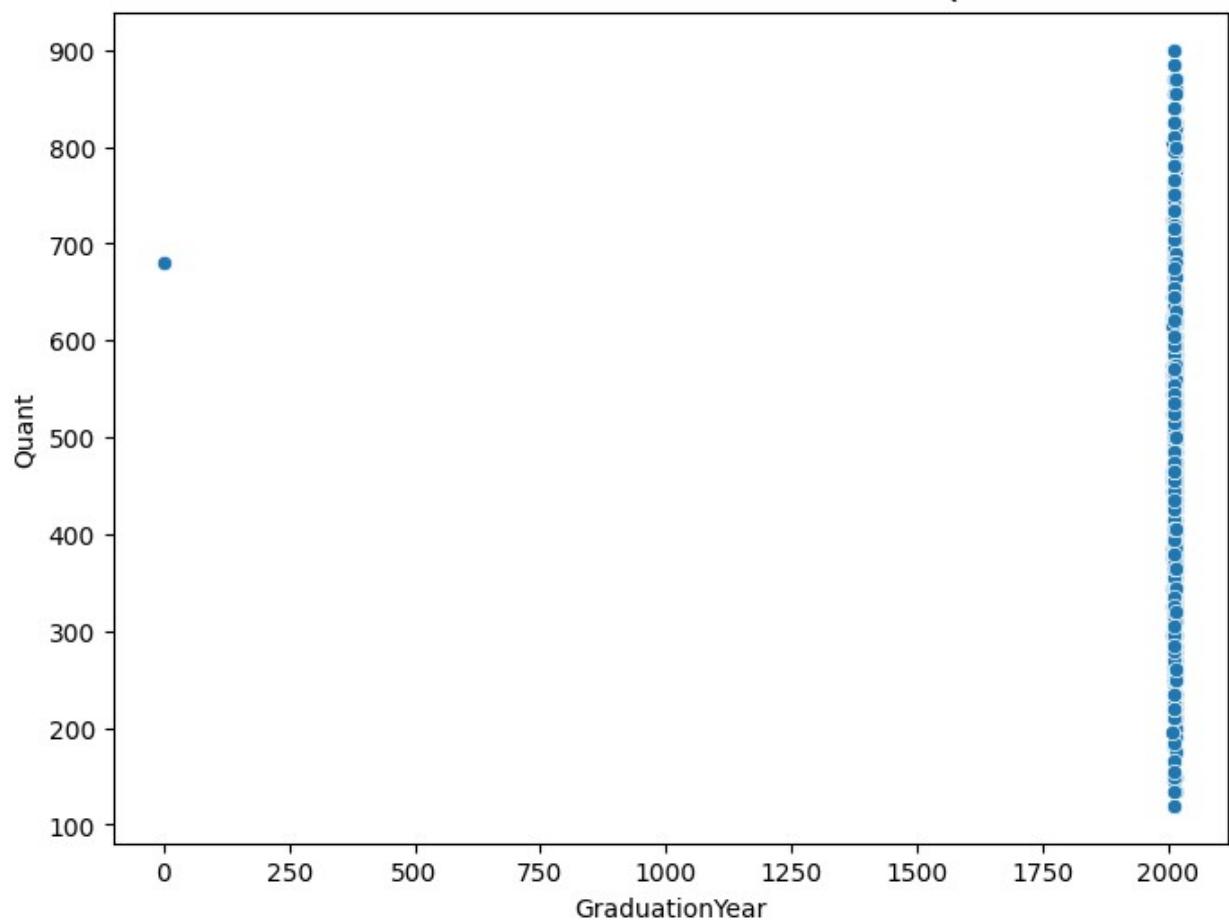
Scatter Plot between GraduationYear and English



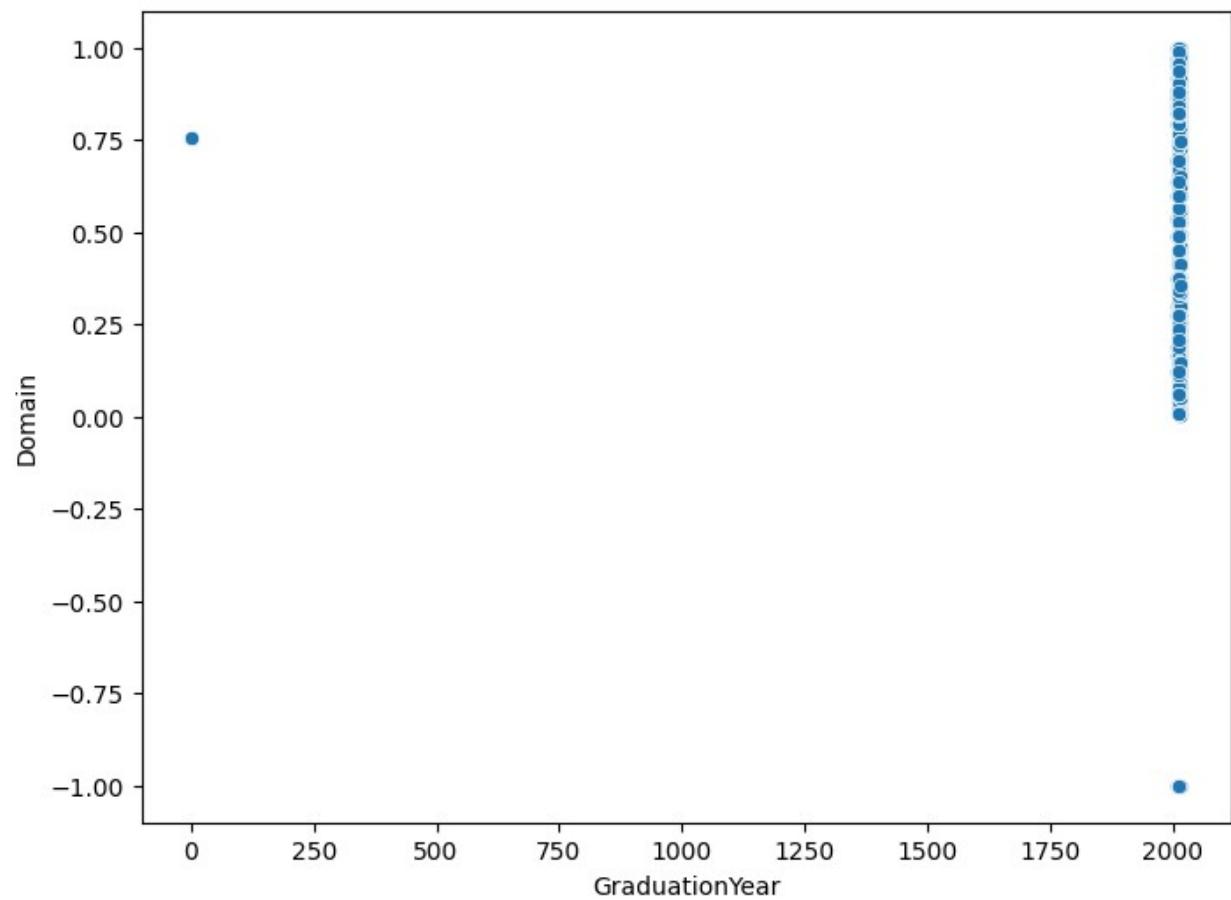
Scatter Plot between GraduationYear and Logical



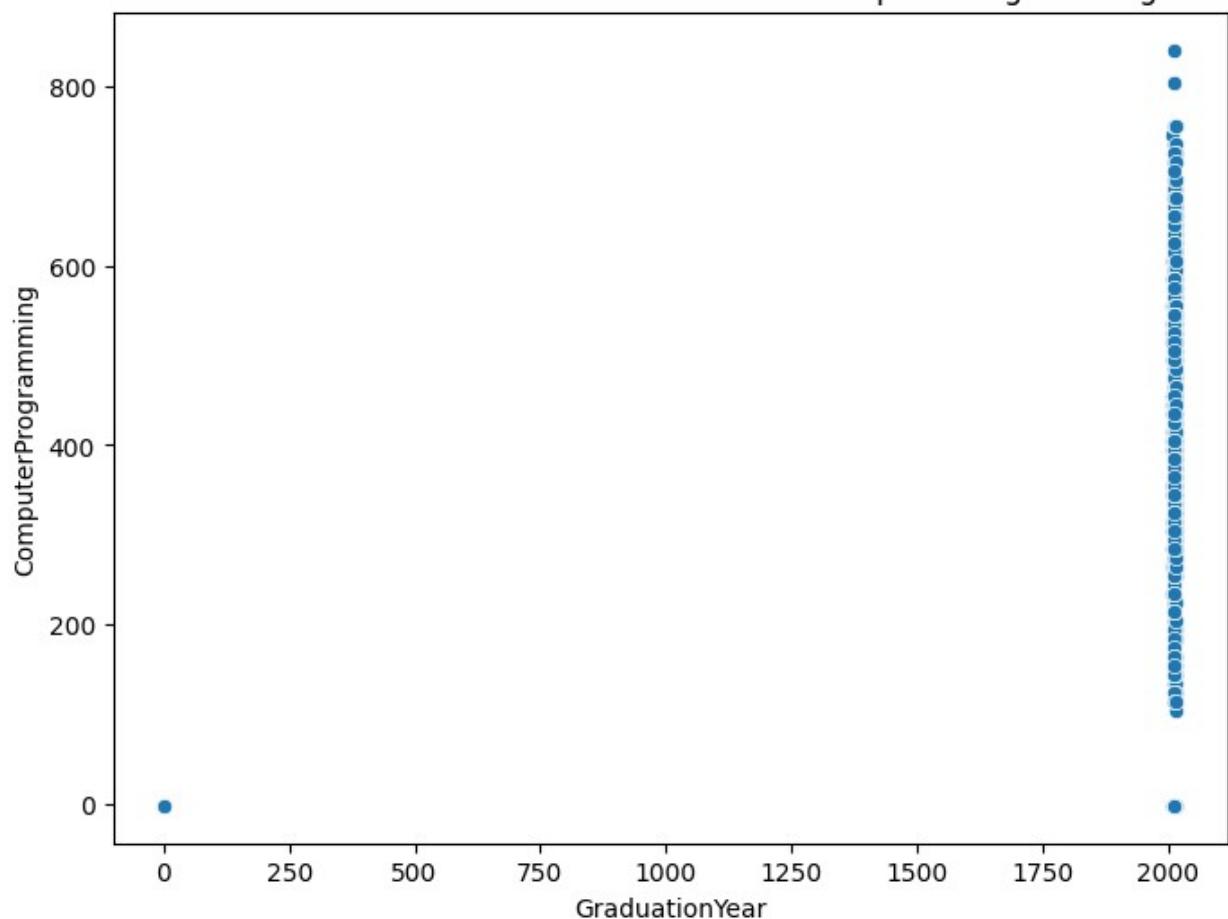
Scatter Plot between GraduationYear and Quant



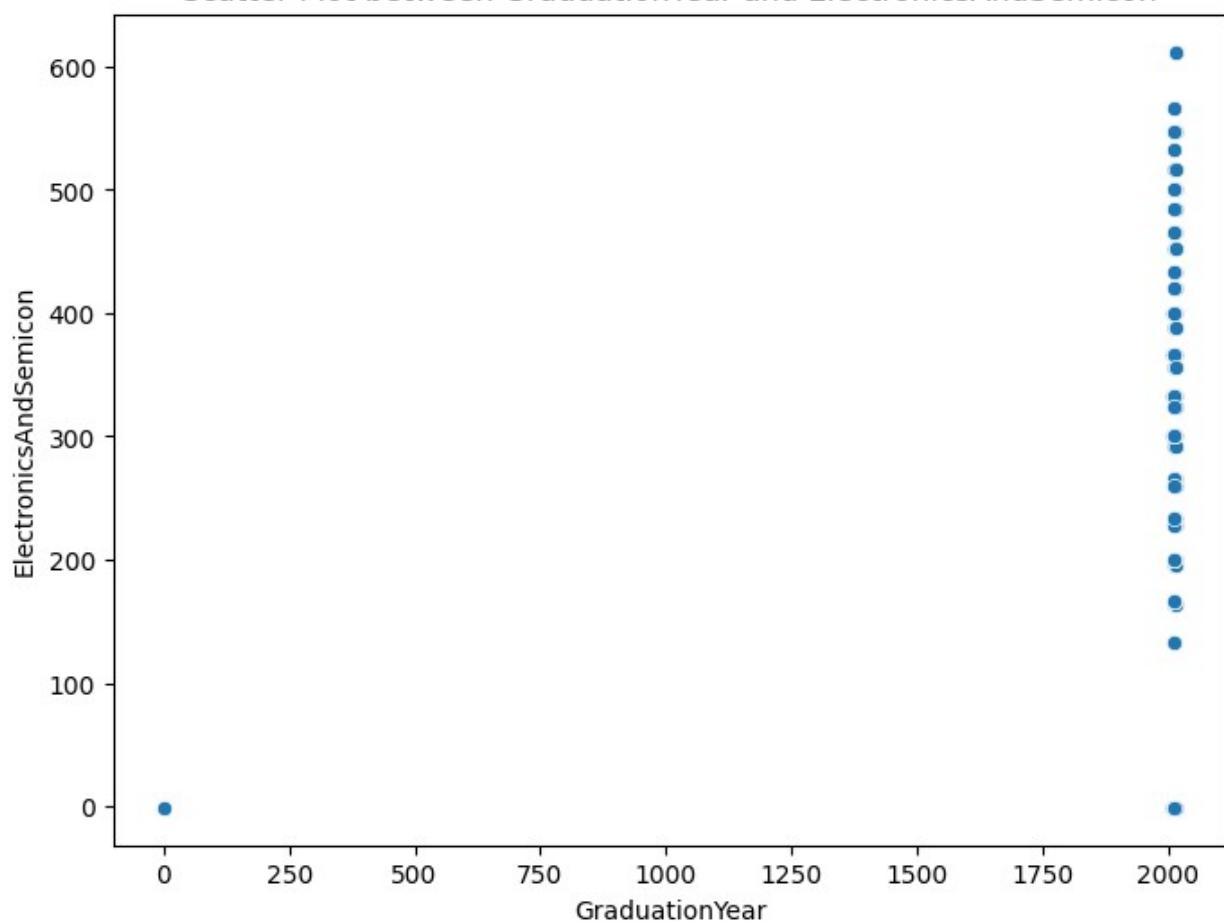
Scatter Plot between GraduationYear and Domain



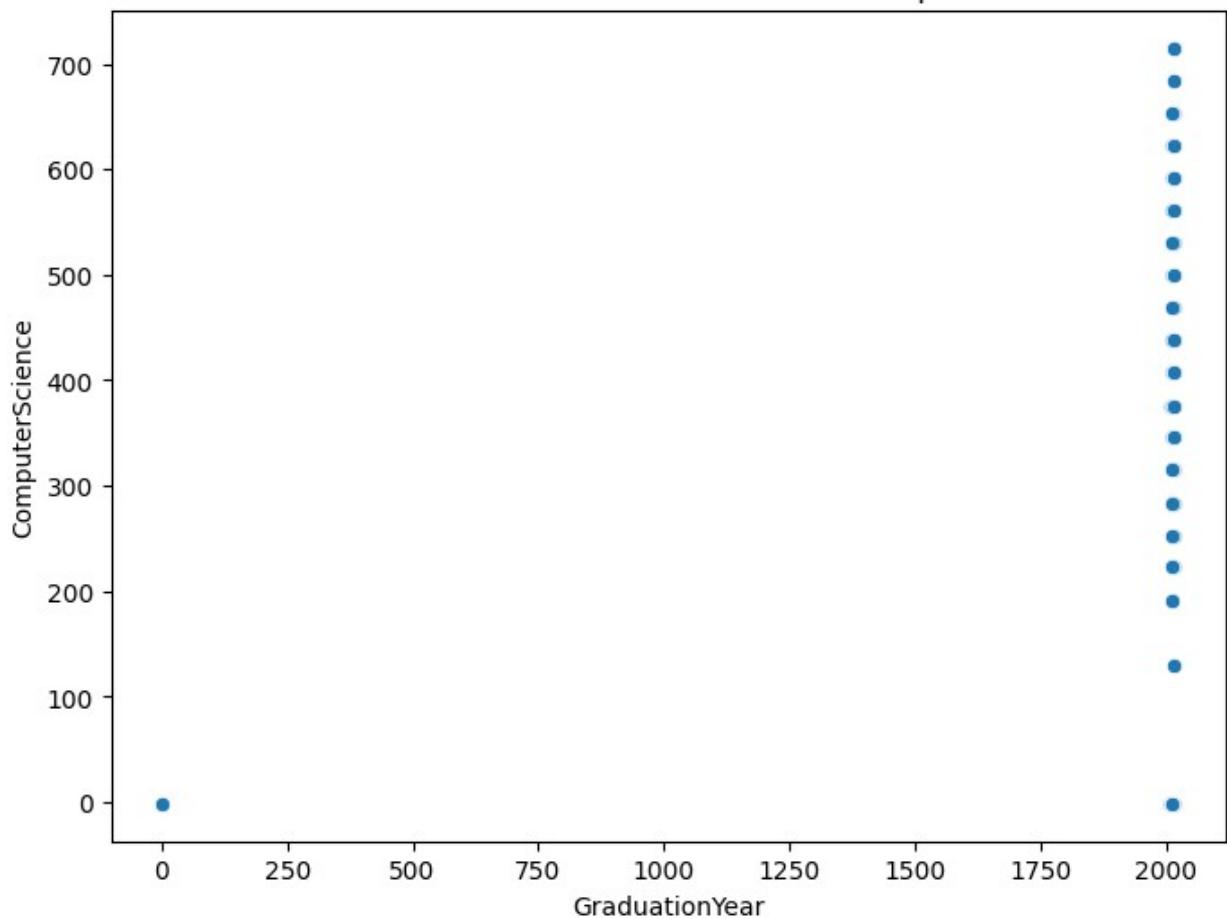
Scatter Plot between GraduationYear and ComputerProgramming



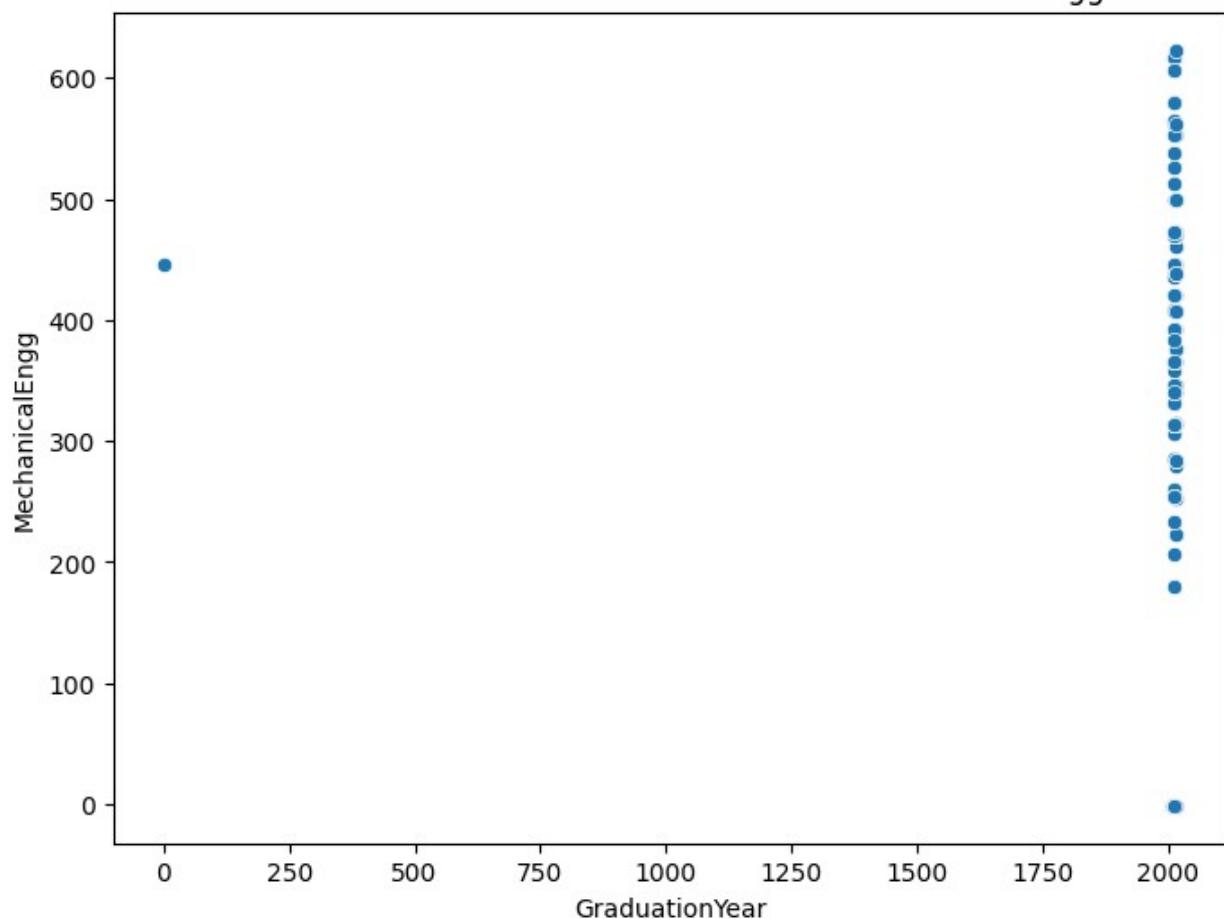
Scatter Plot between GraduationYear and ElectronicsAndSemicon



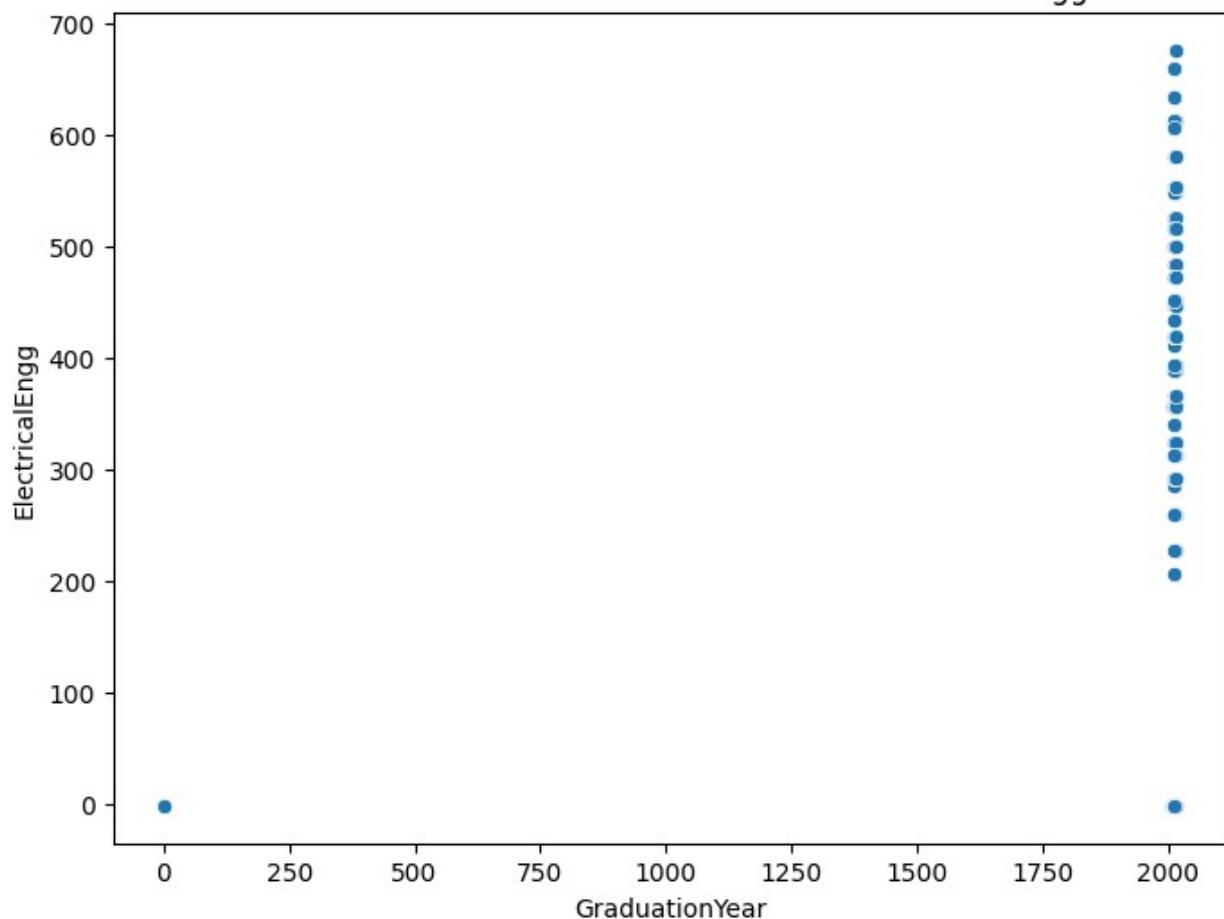
Scatter Plot between GraduationYear and ComputerScience



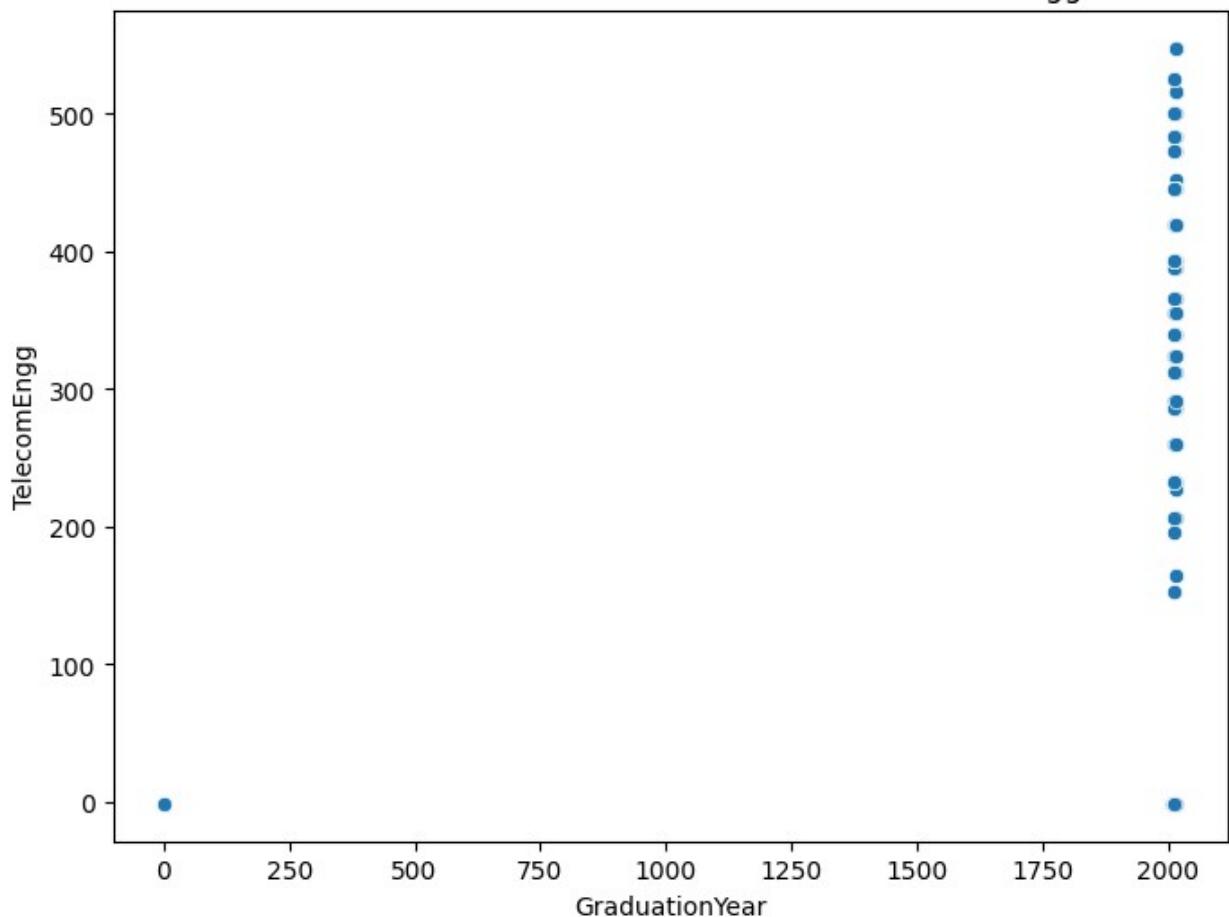
Scatter Plot between GraduationYear and MechanicalEngg



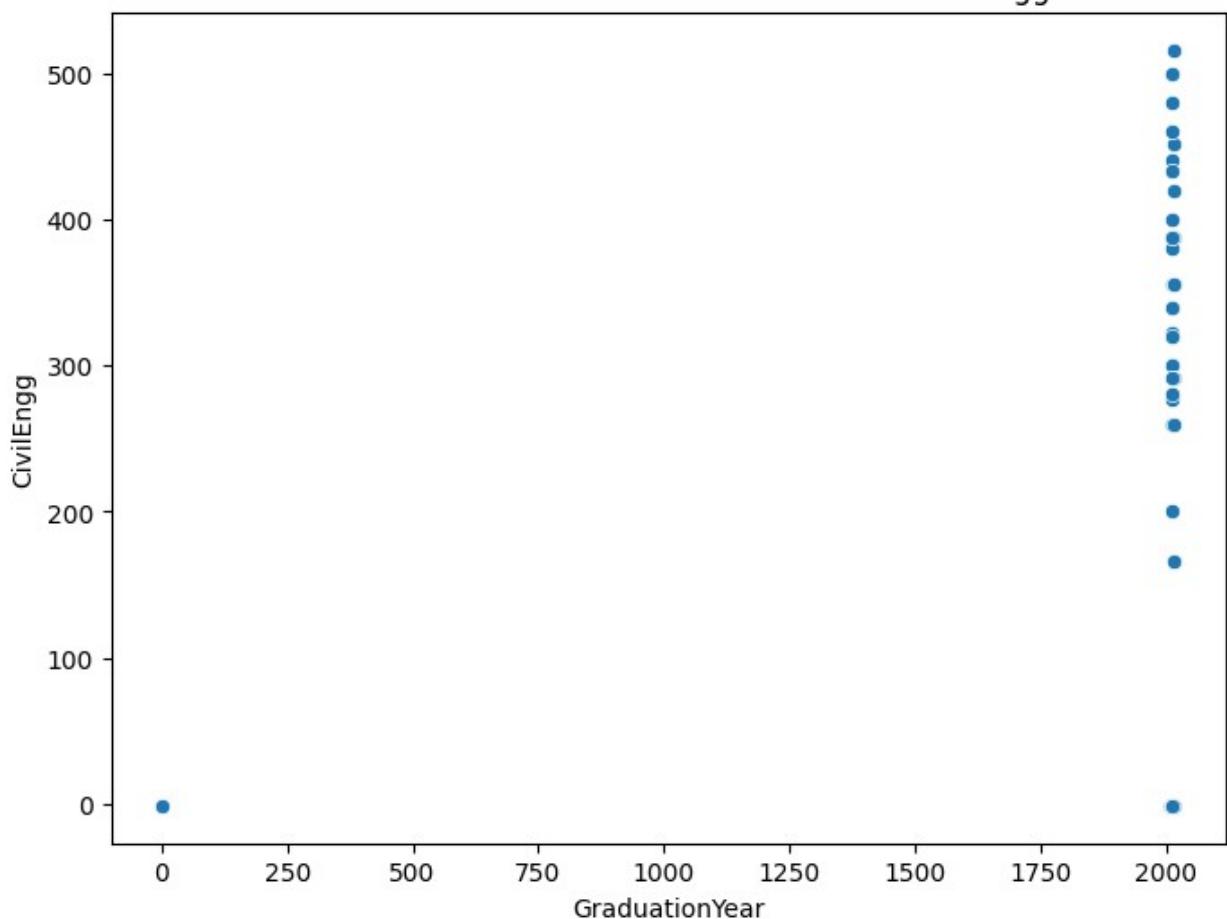
Scatter Plot between GraduationYear and ElectricalEngg



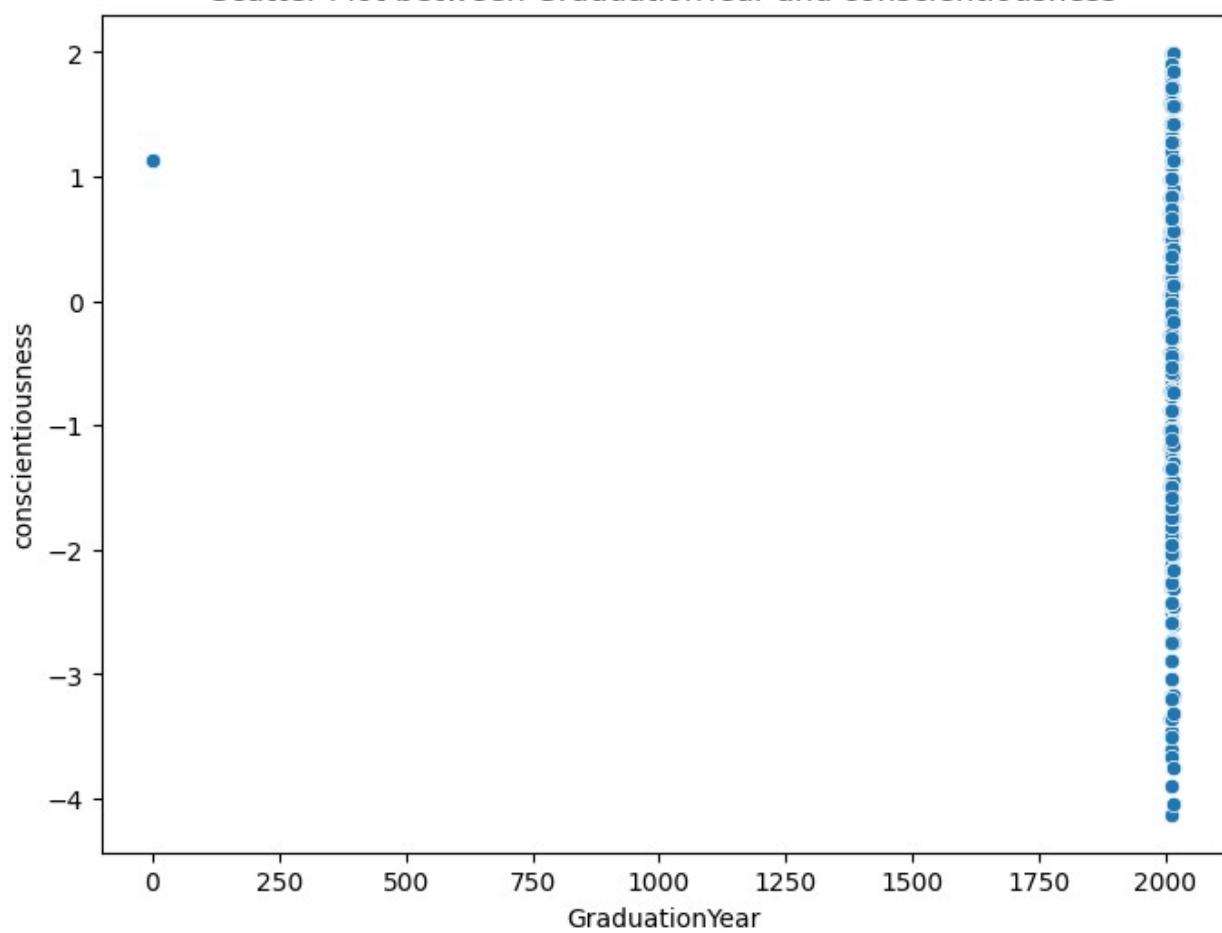
Scatter Plot between GraduationYear and TelecomEngg



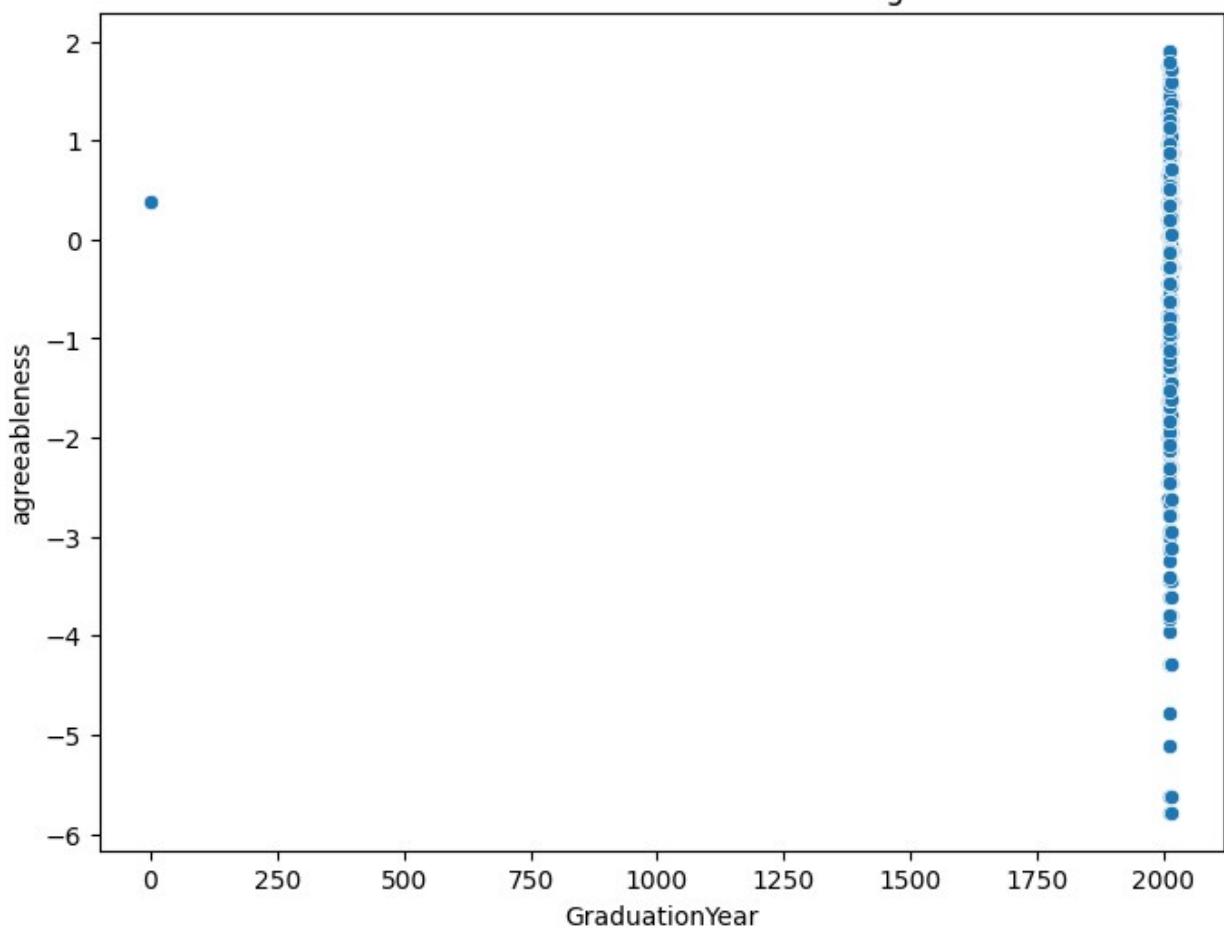
Scatter Plot between GraduationYear and CivilEngg



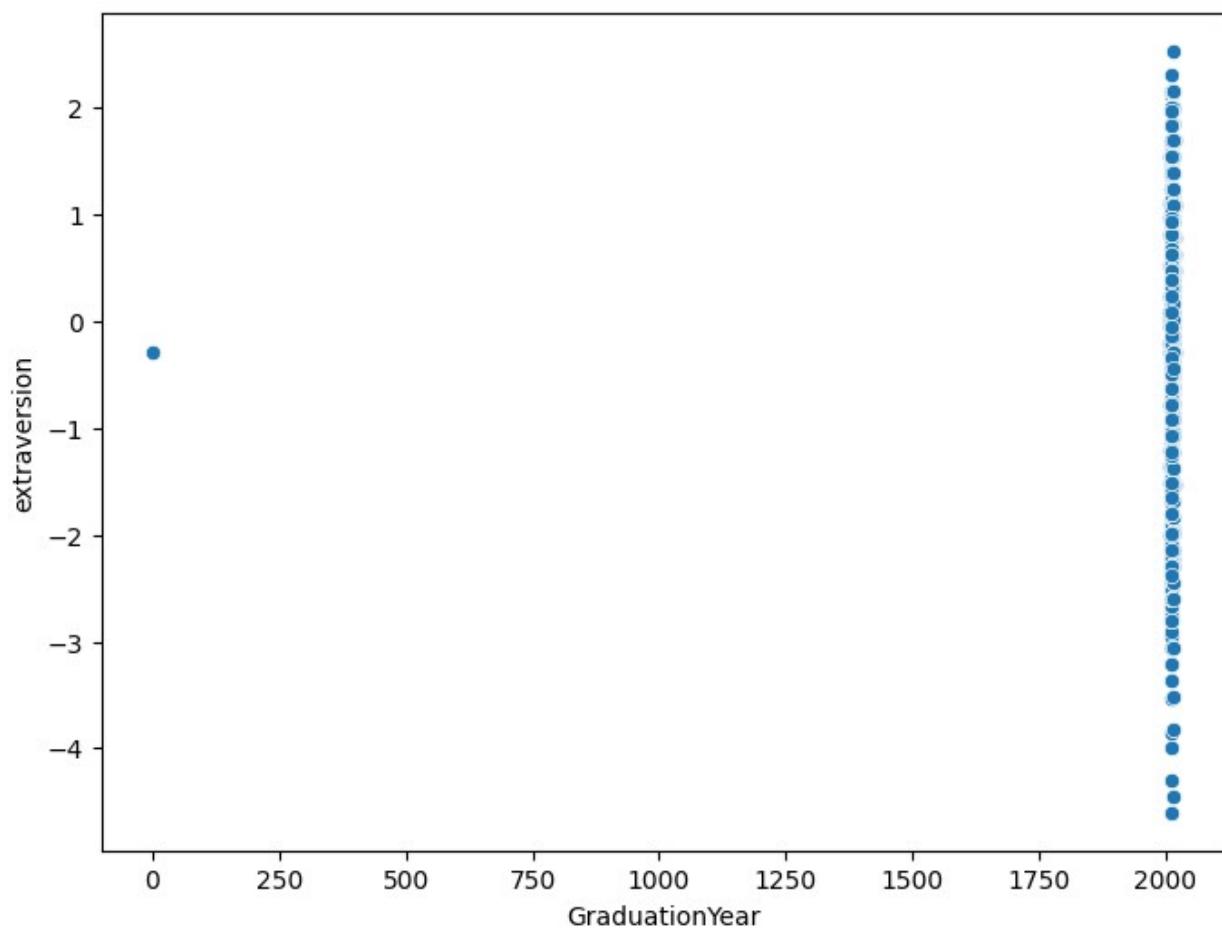
Scatter Plot between GraduationYear and conscientiousness



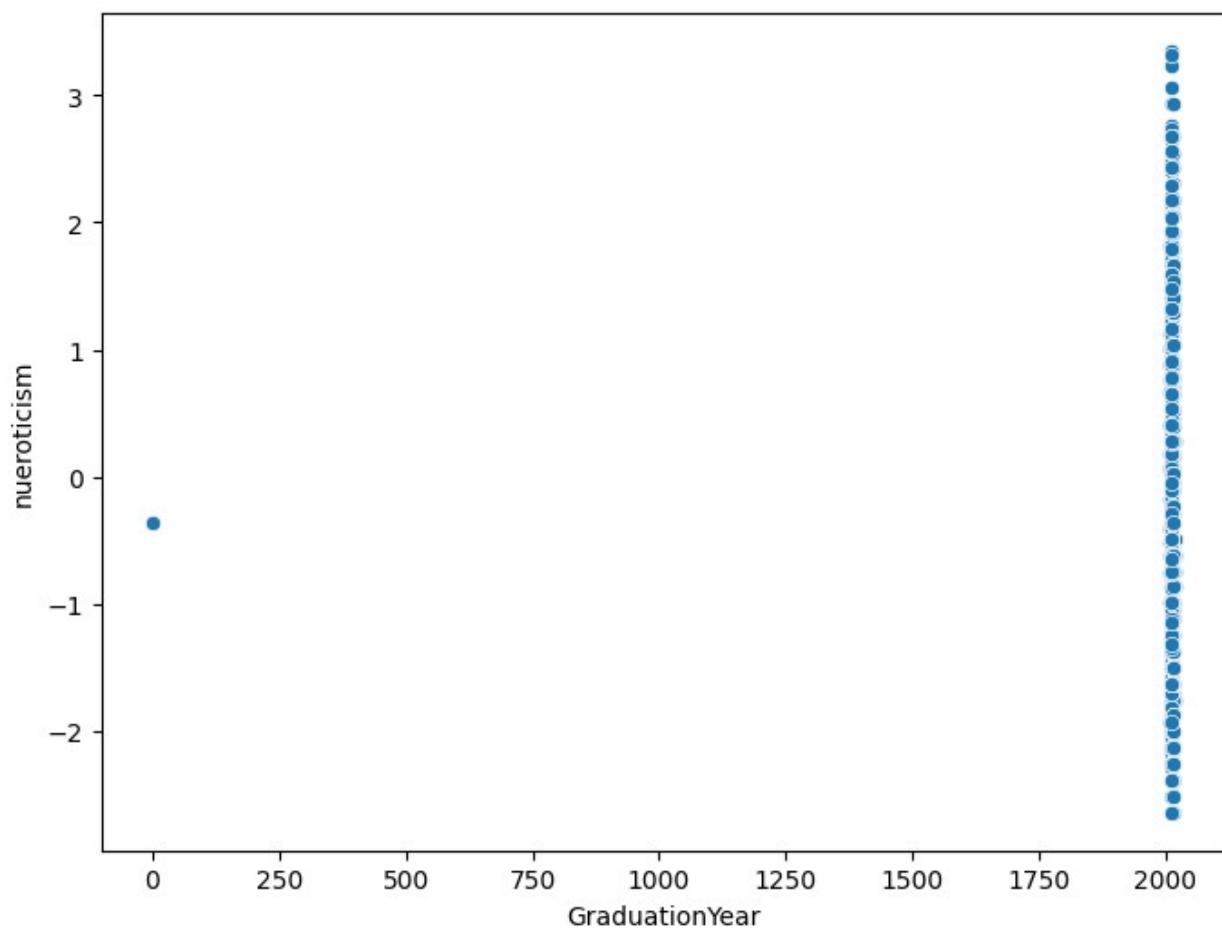
Scatter Plot between GraduationYear and agreeableness



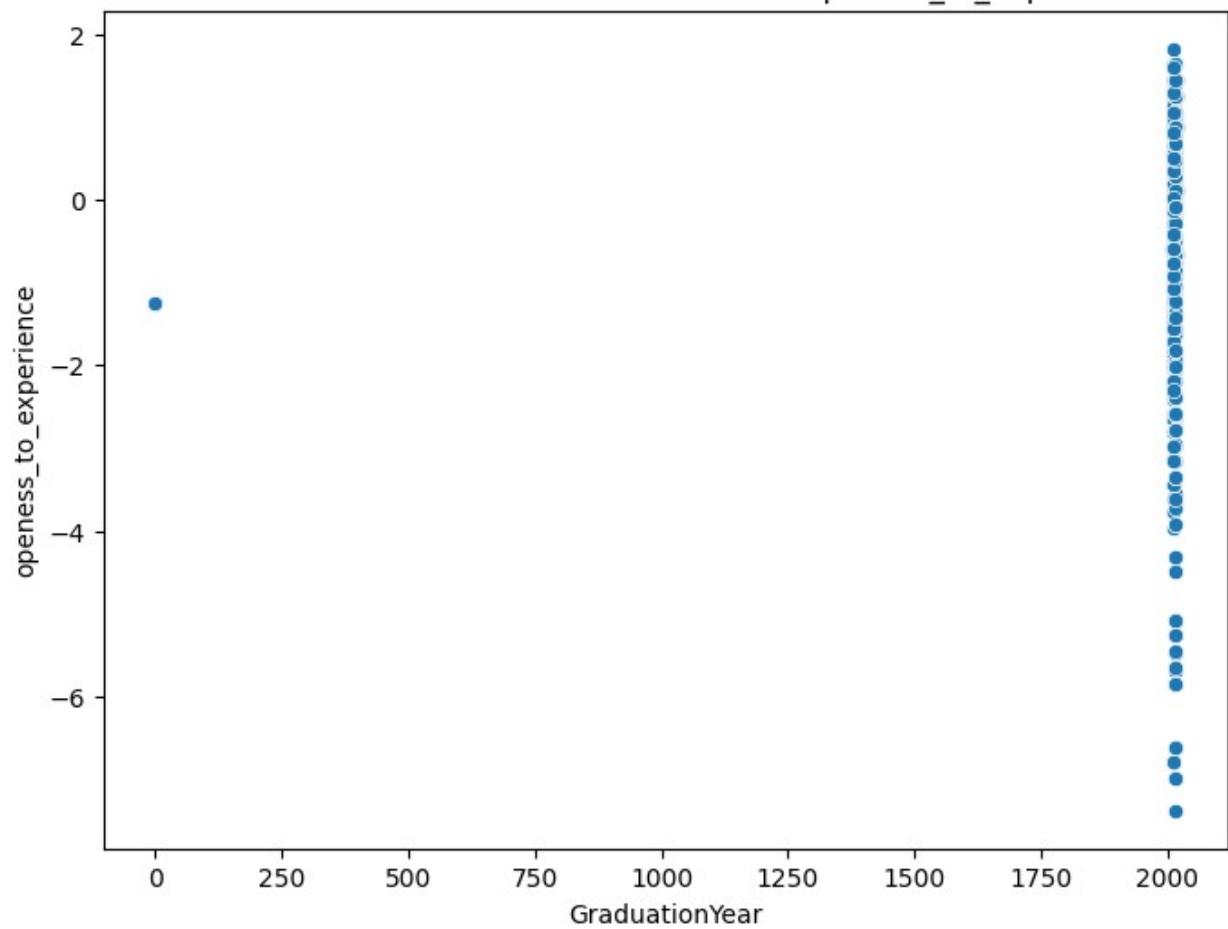
Scatter Plot between GraduationYear and extraversion



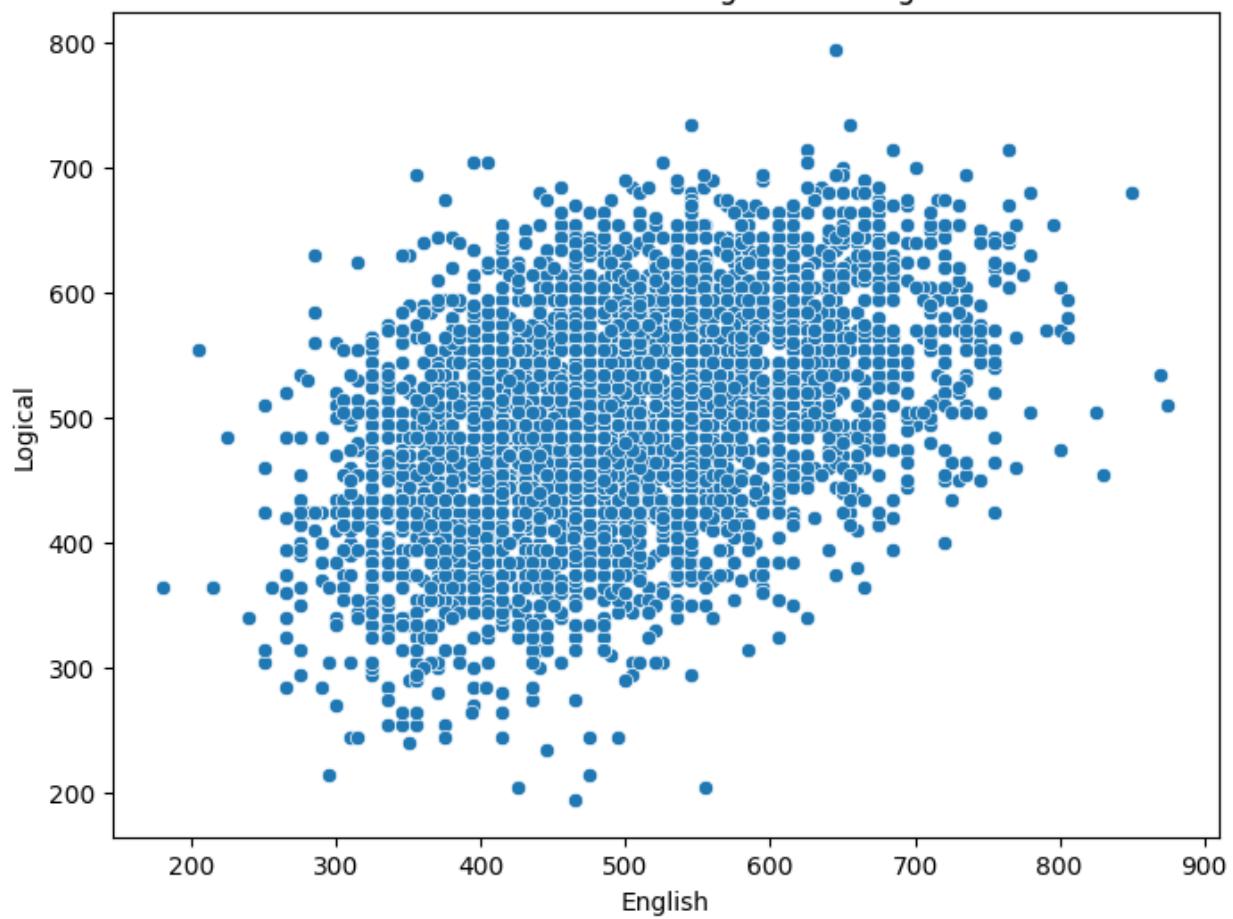
Scatter Plot between GraduationYear and nueroticism



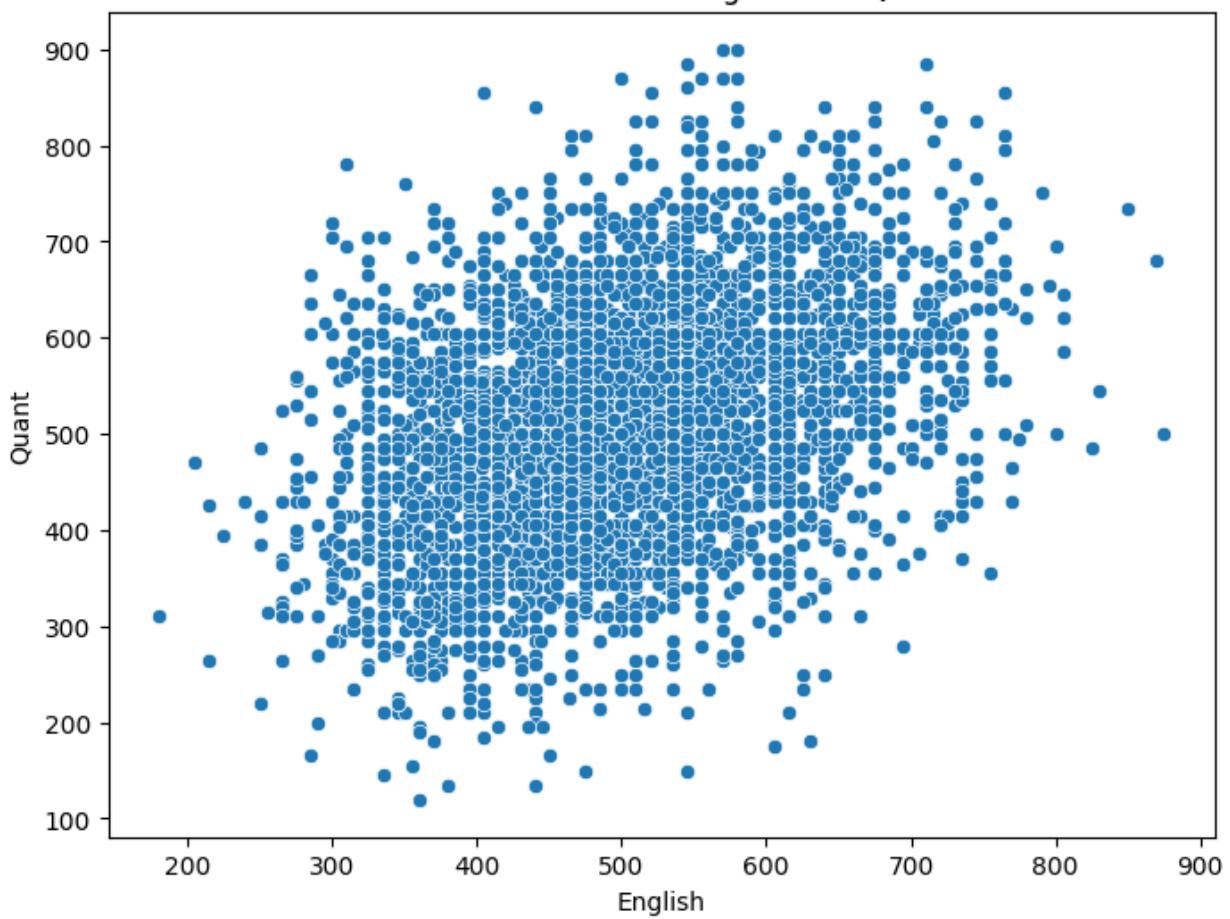
Scatter Plot between GraduationYear and openness_to_experience



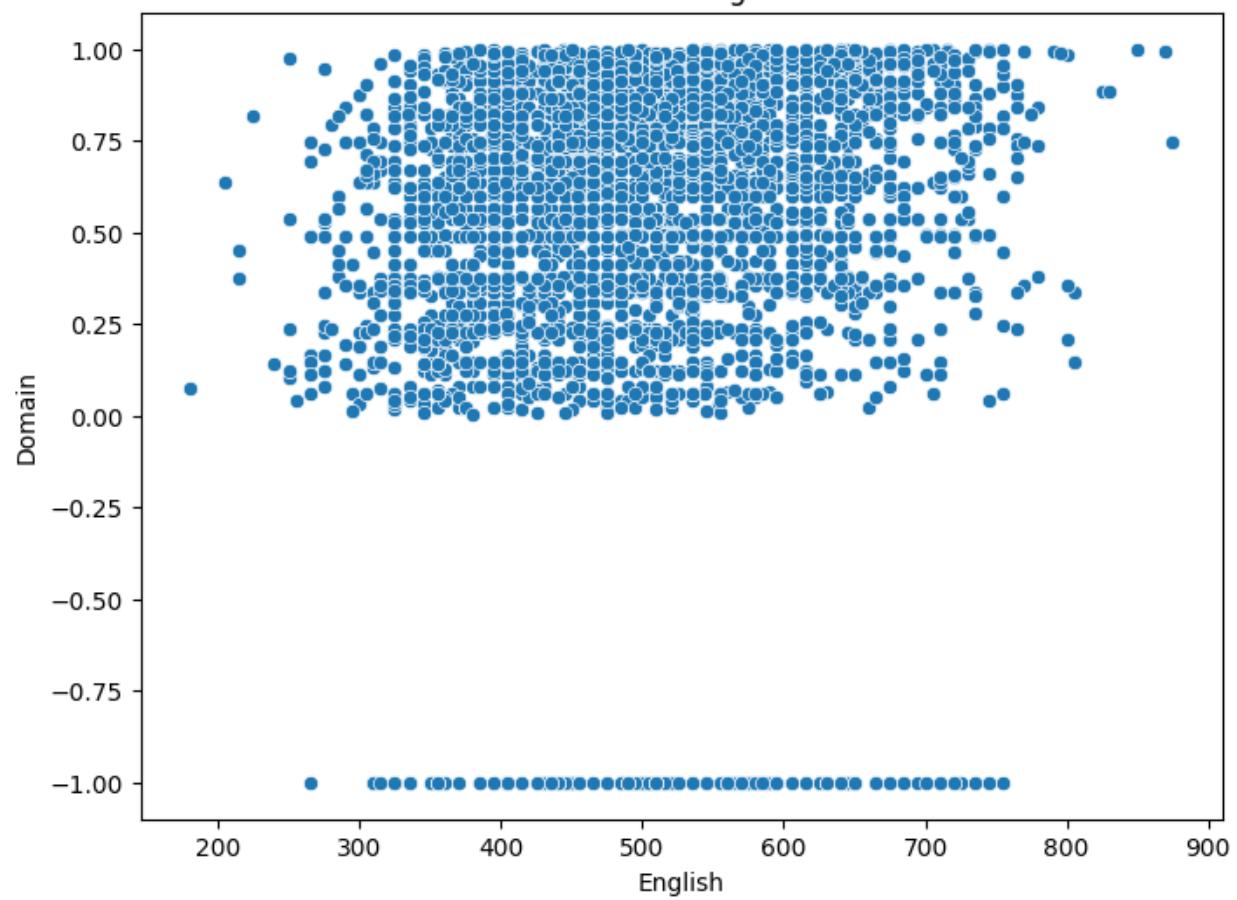
Scatter Plot between English and Logical



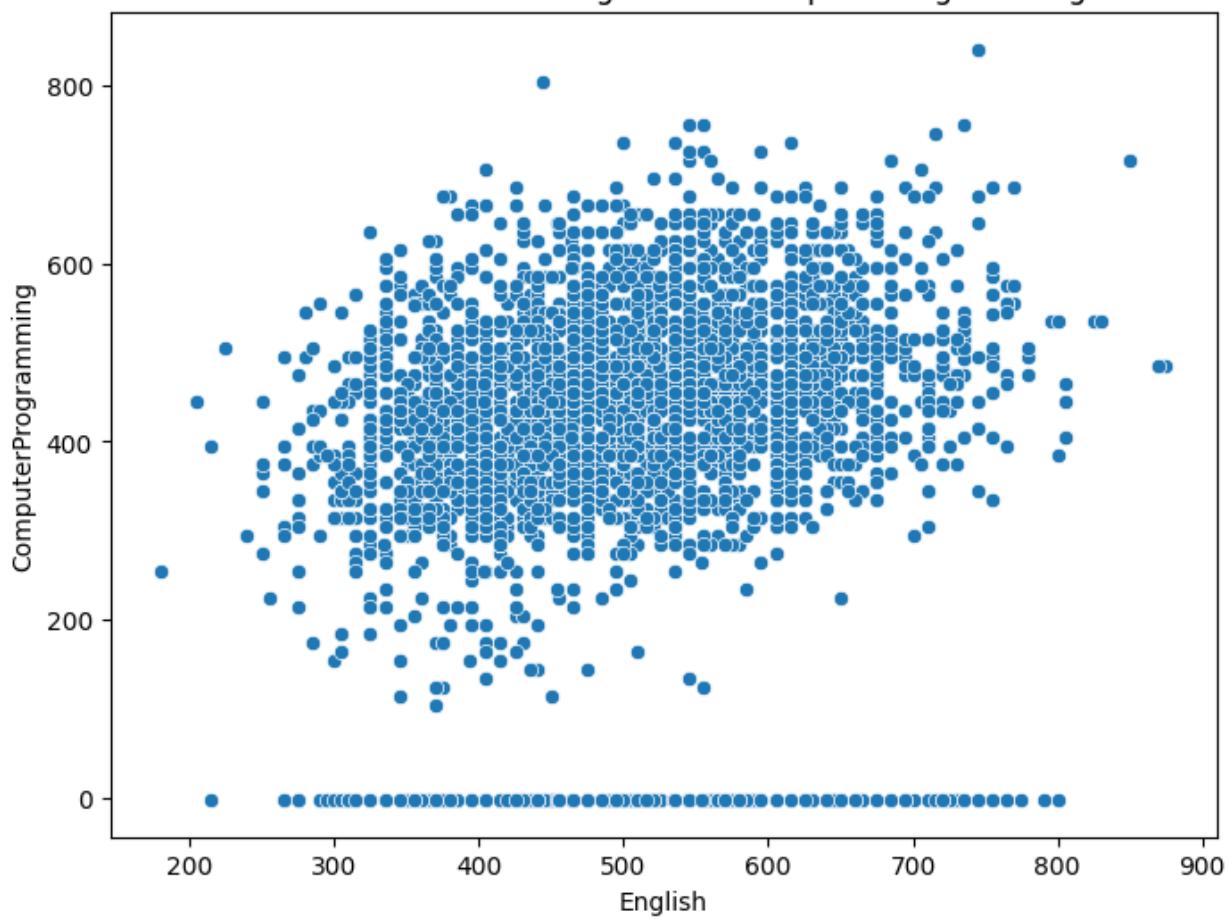
Scatter Plot between English and Quant



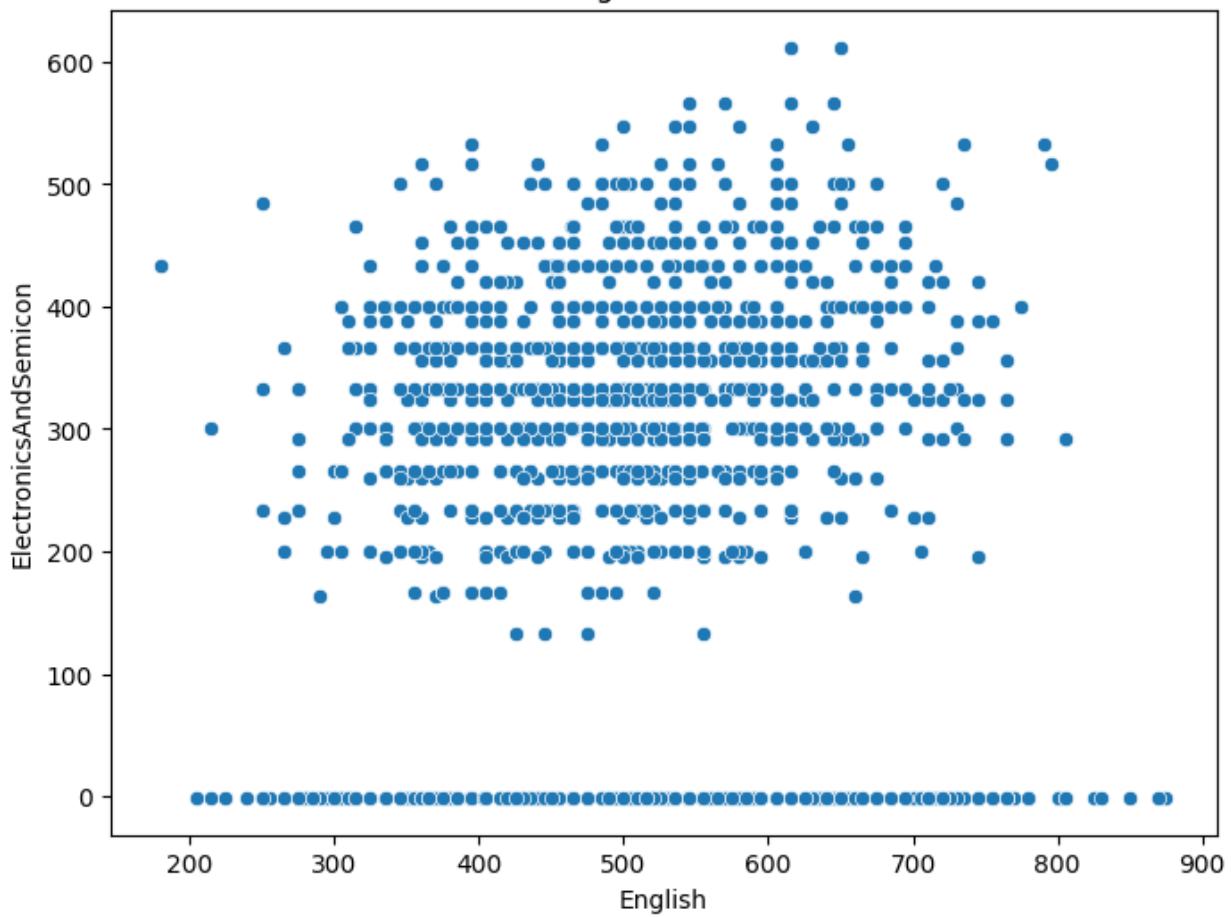
Scatter Plot between English and Domain



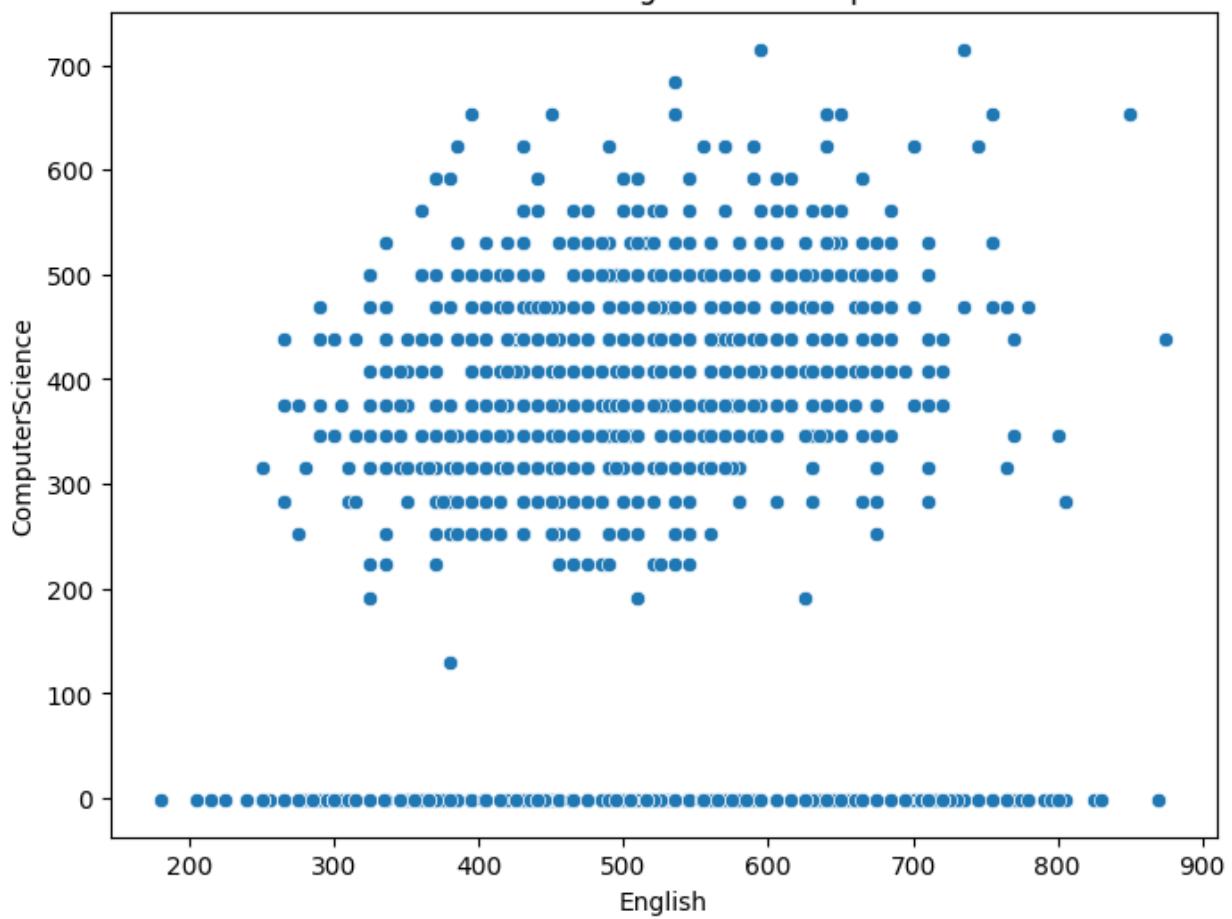
Scatter Plot between English and ComputerProgramming



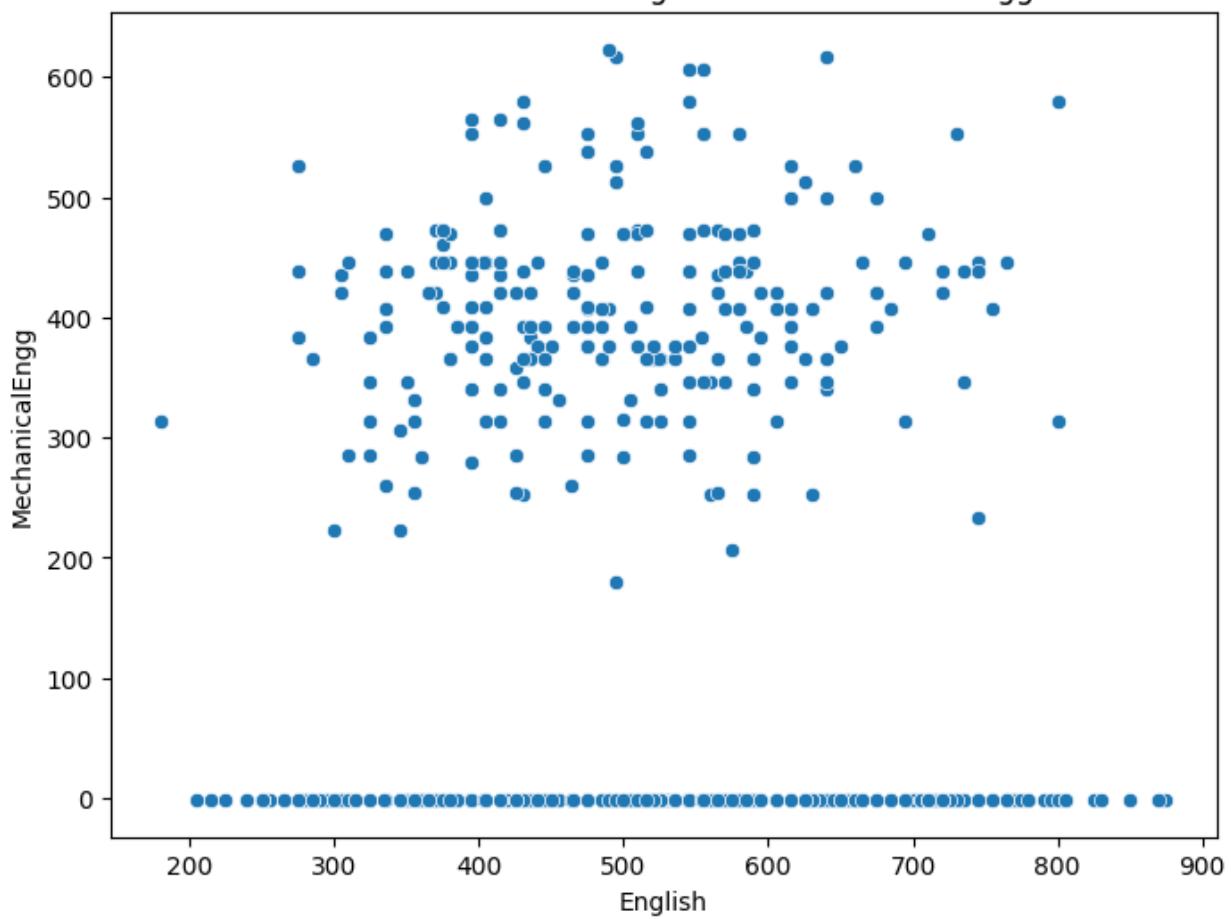
Scatter Plot between English and ElectronicsAndSemicon



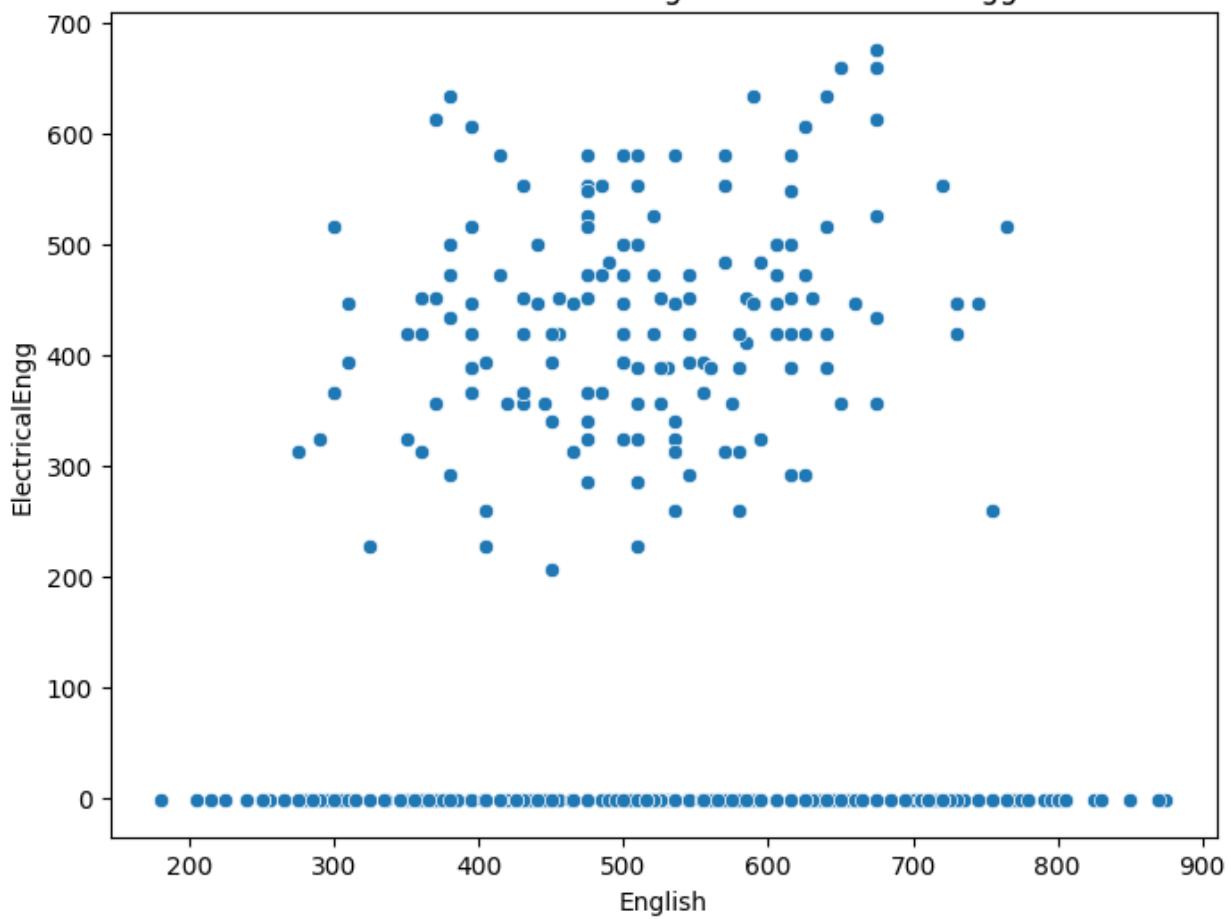
Scatter Plot between English and ComputerScience



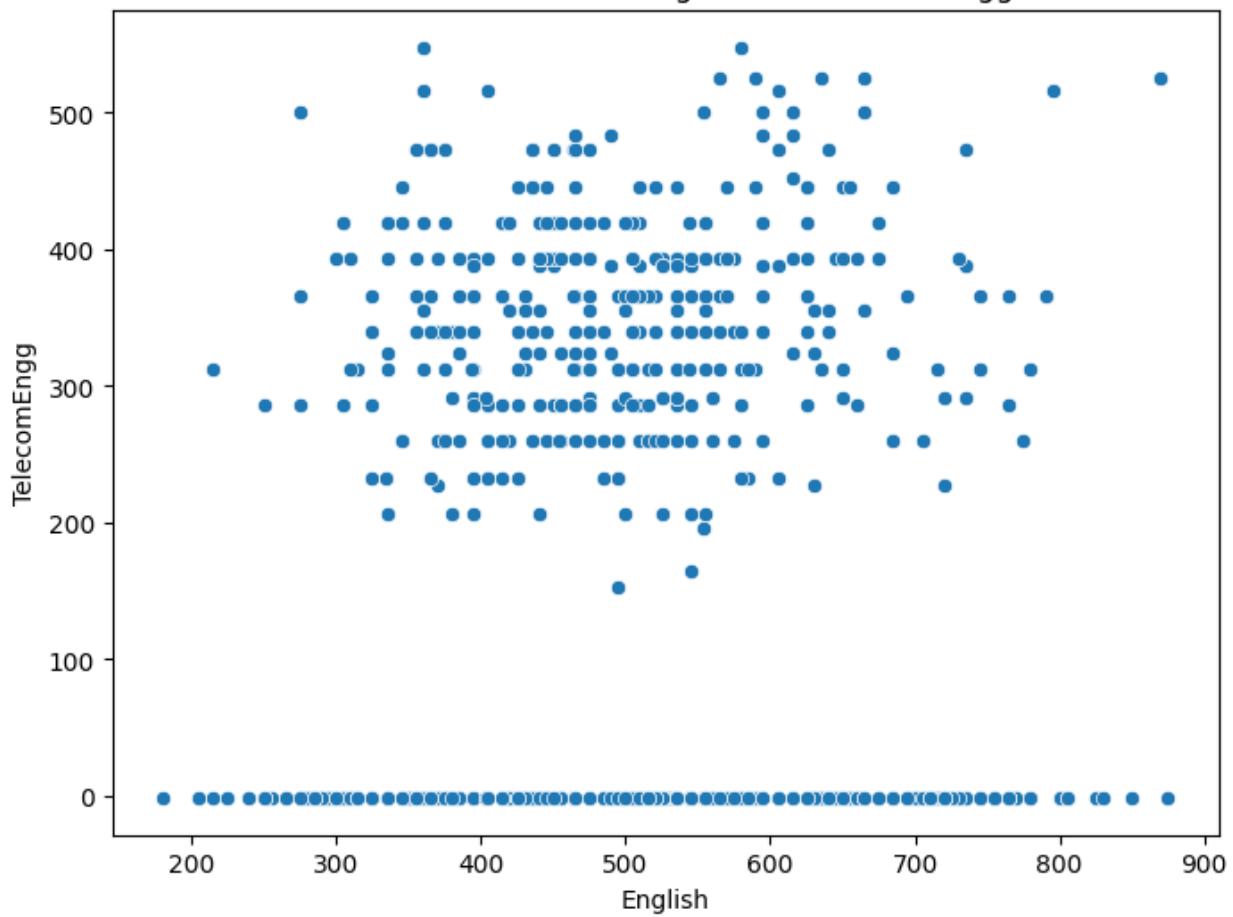
Scatter Plot between English and MechanicalEngg



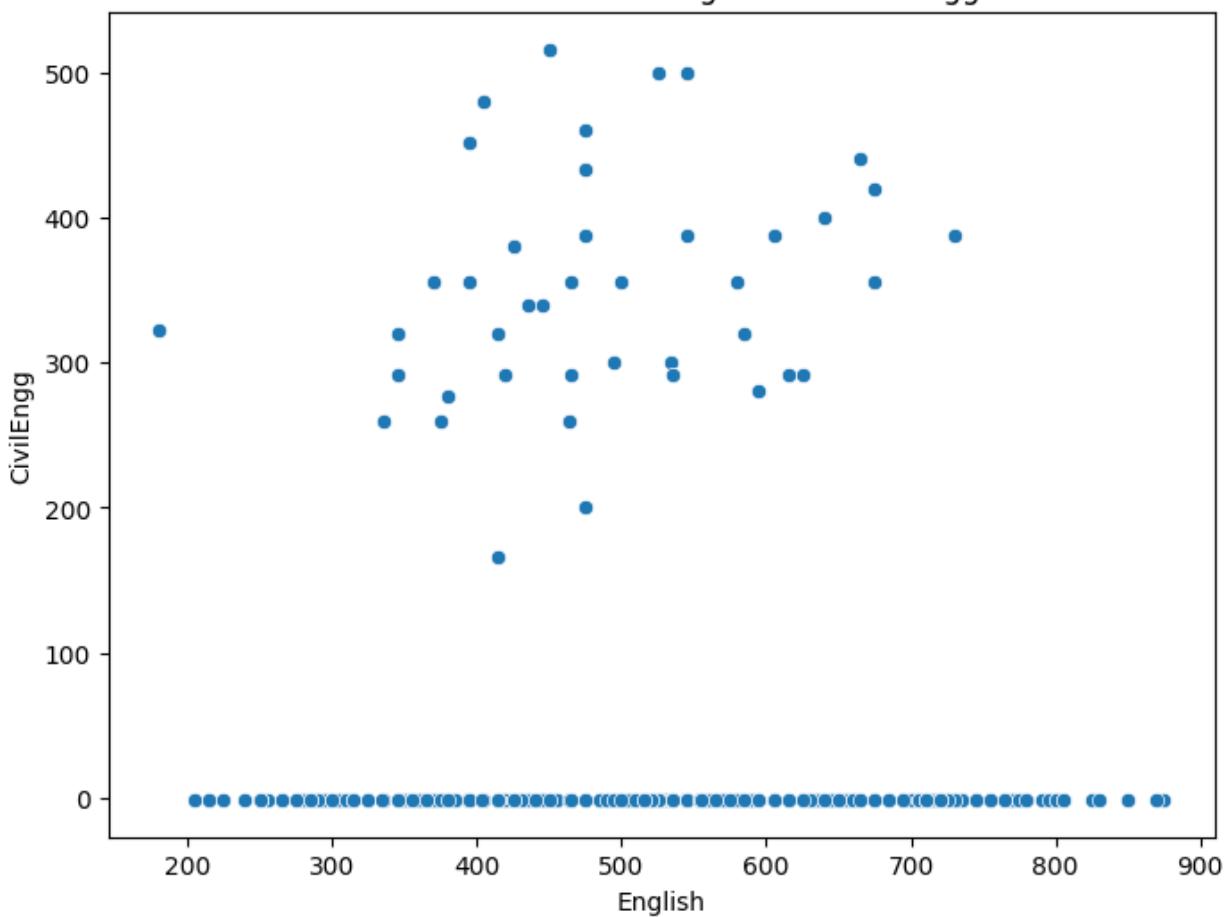
Scatter Plot between English and ElectricalEngg



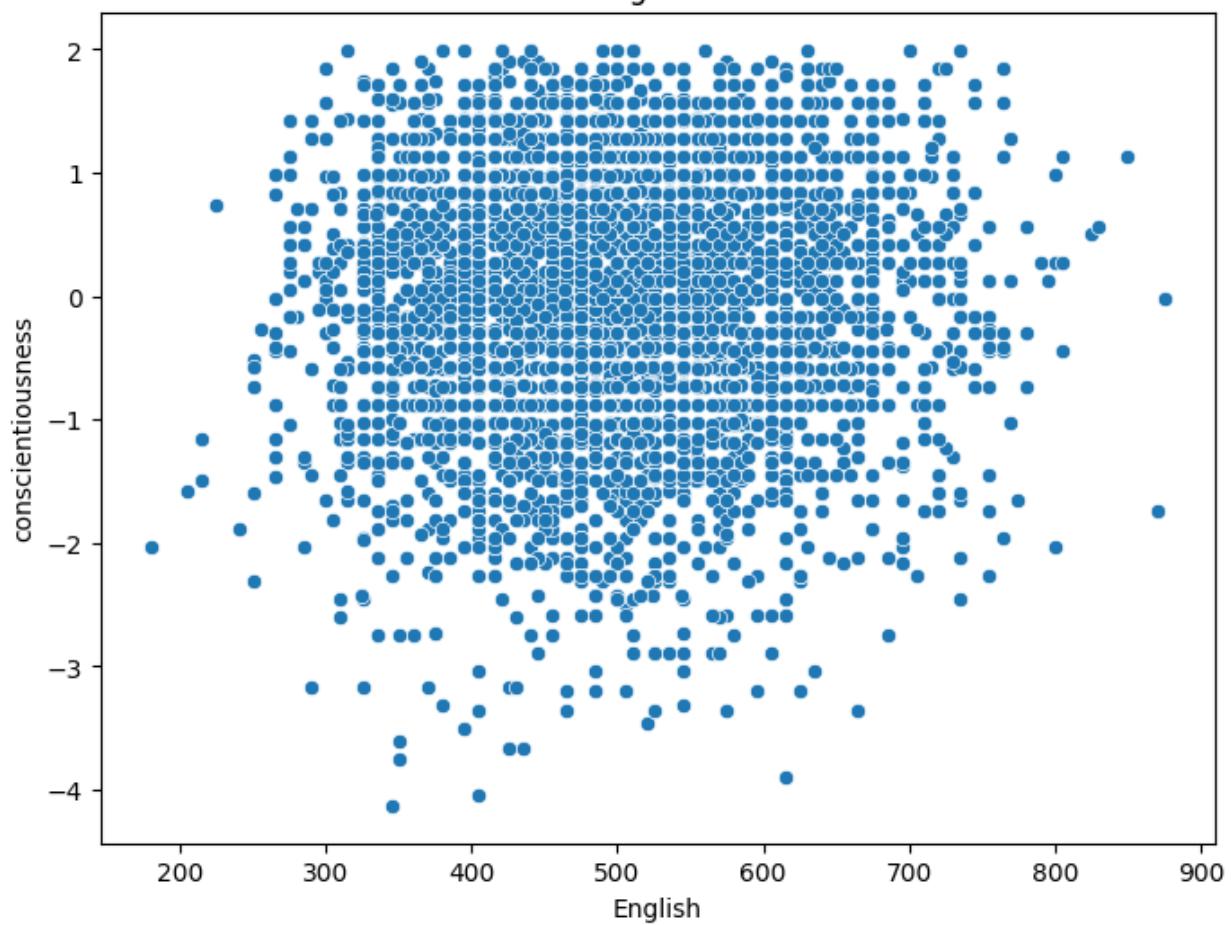
Scatter Plot between English and TelecomEngg



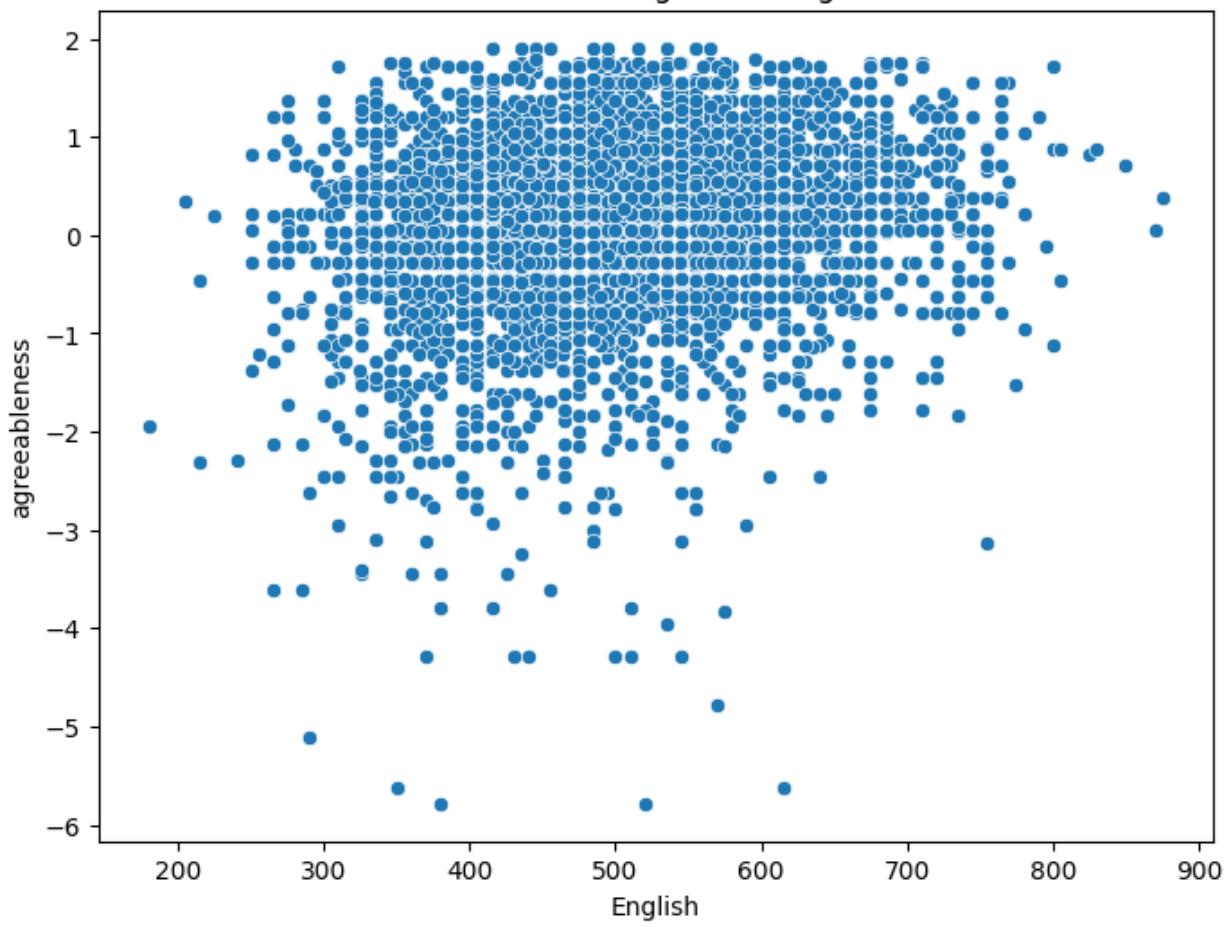
Scatter Plot between English and CivilEngg



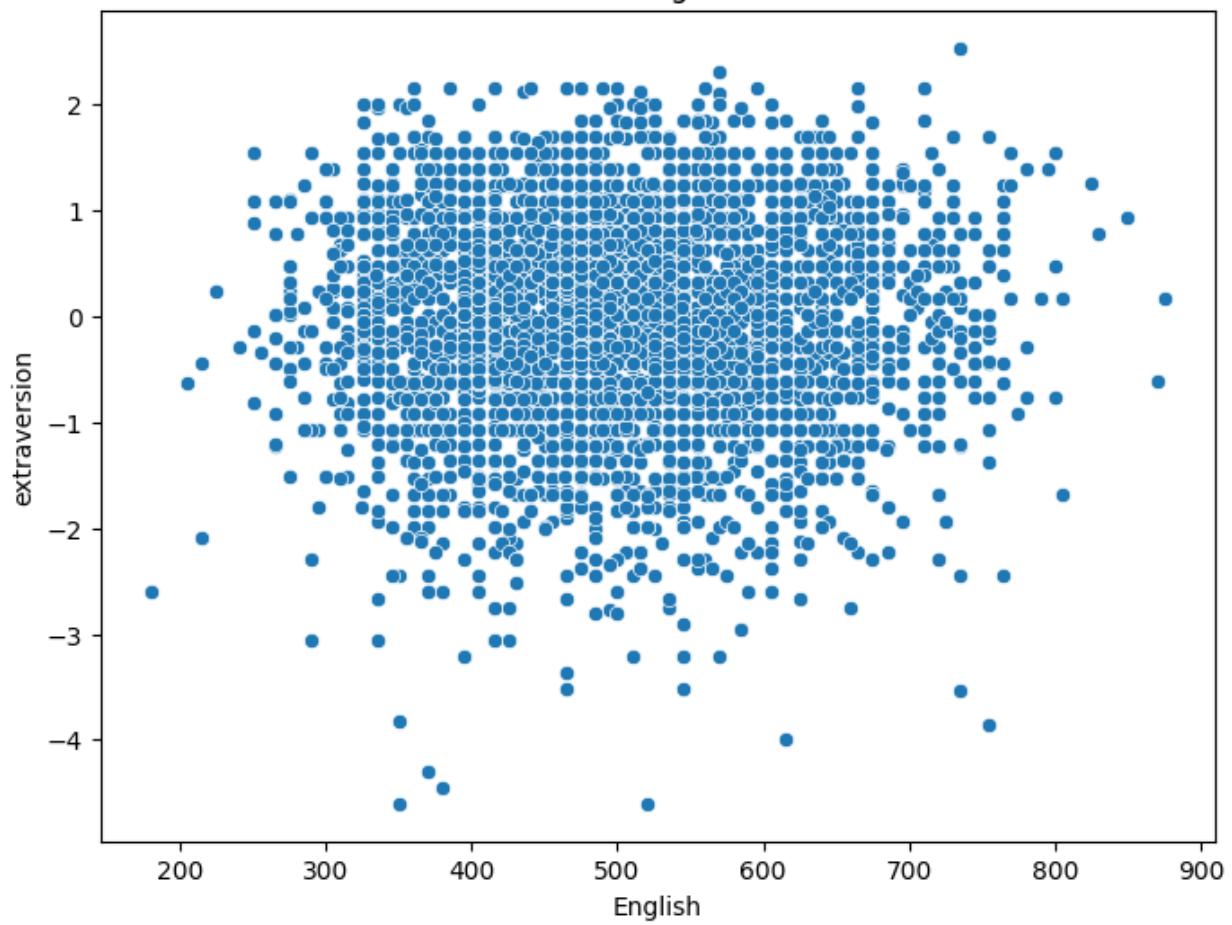
Scatter Plot between English and conscientiousness



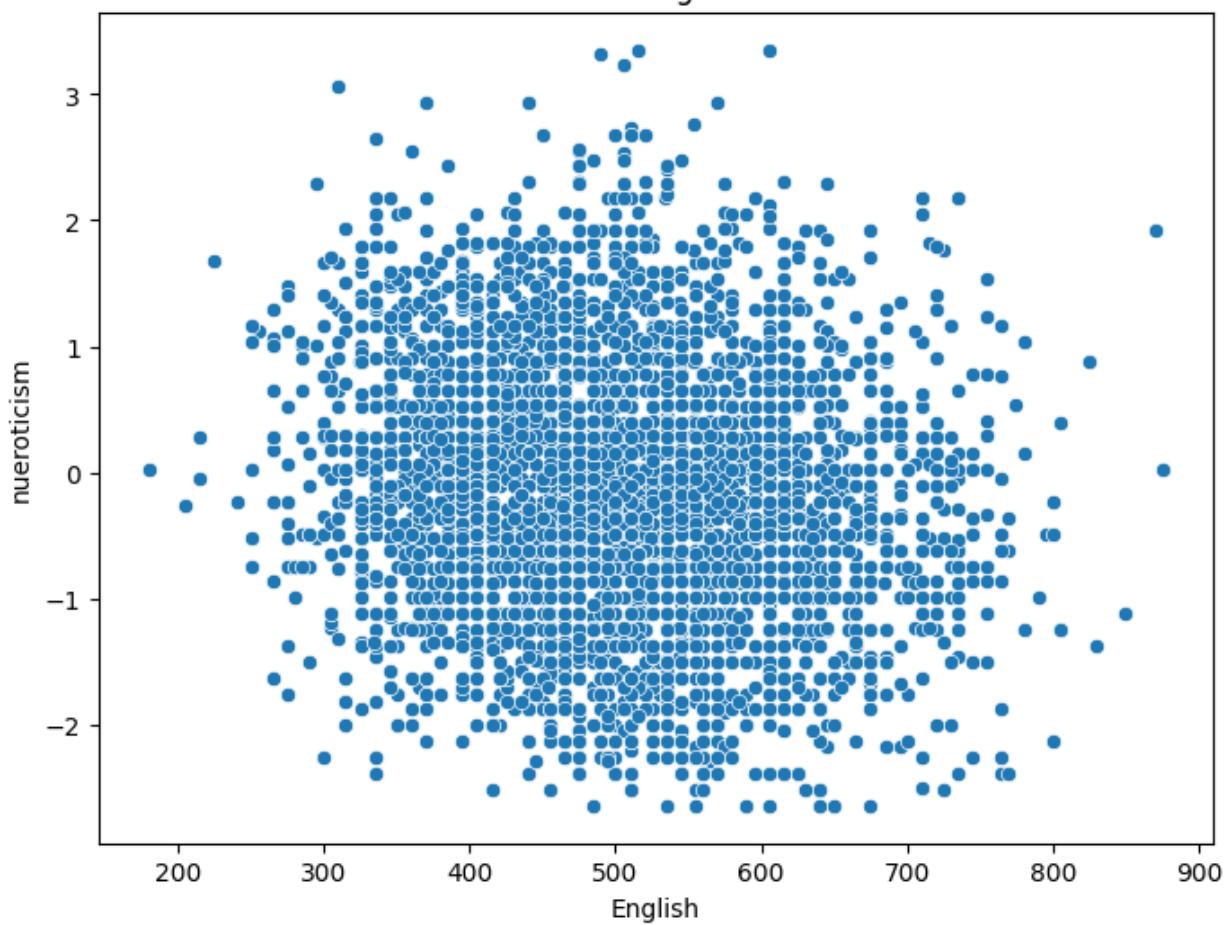
Scatter Plot between English and agreeableness



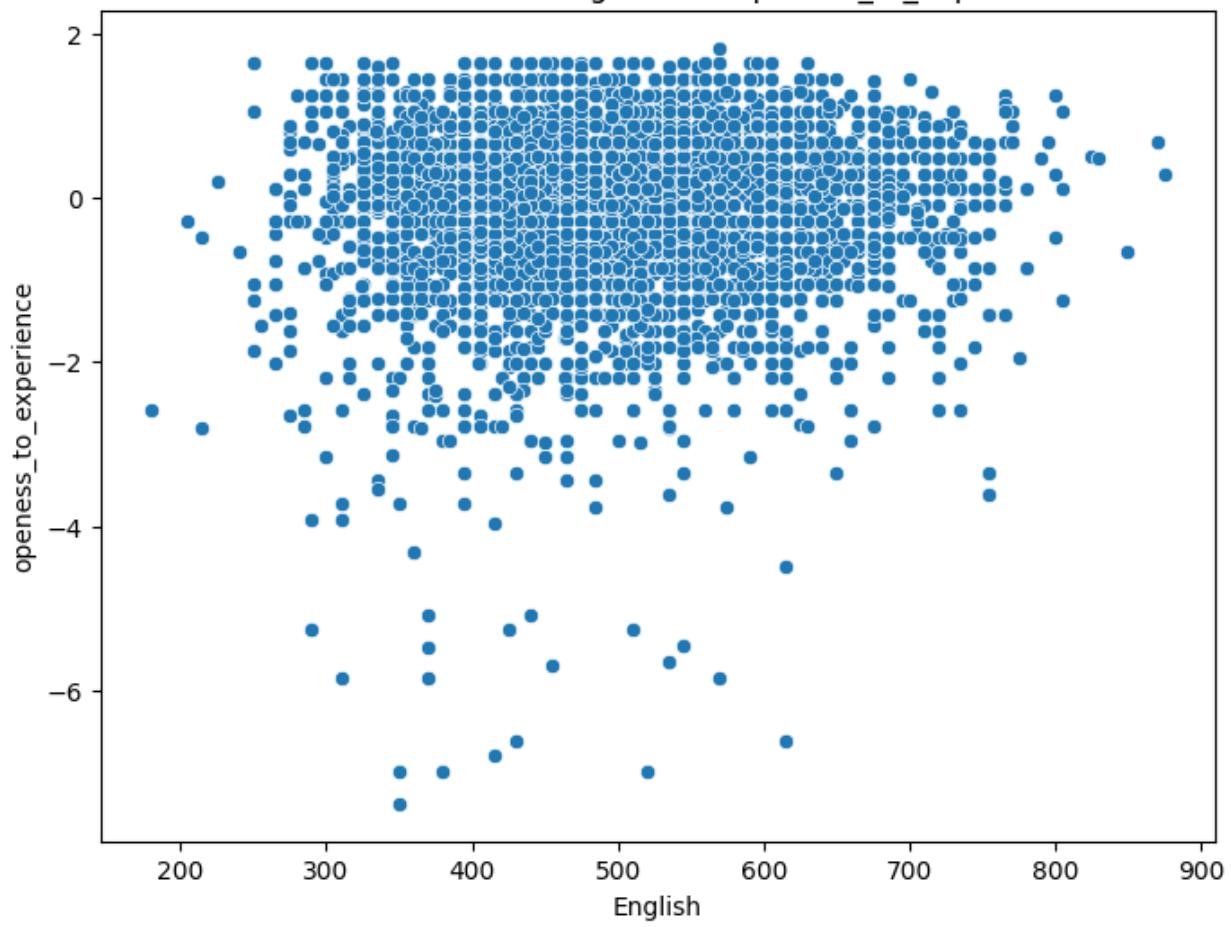
Scatter Plot between English and extraversion



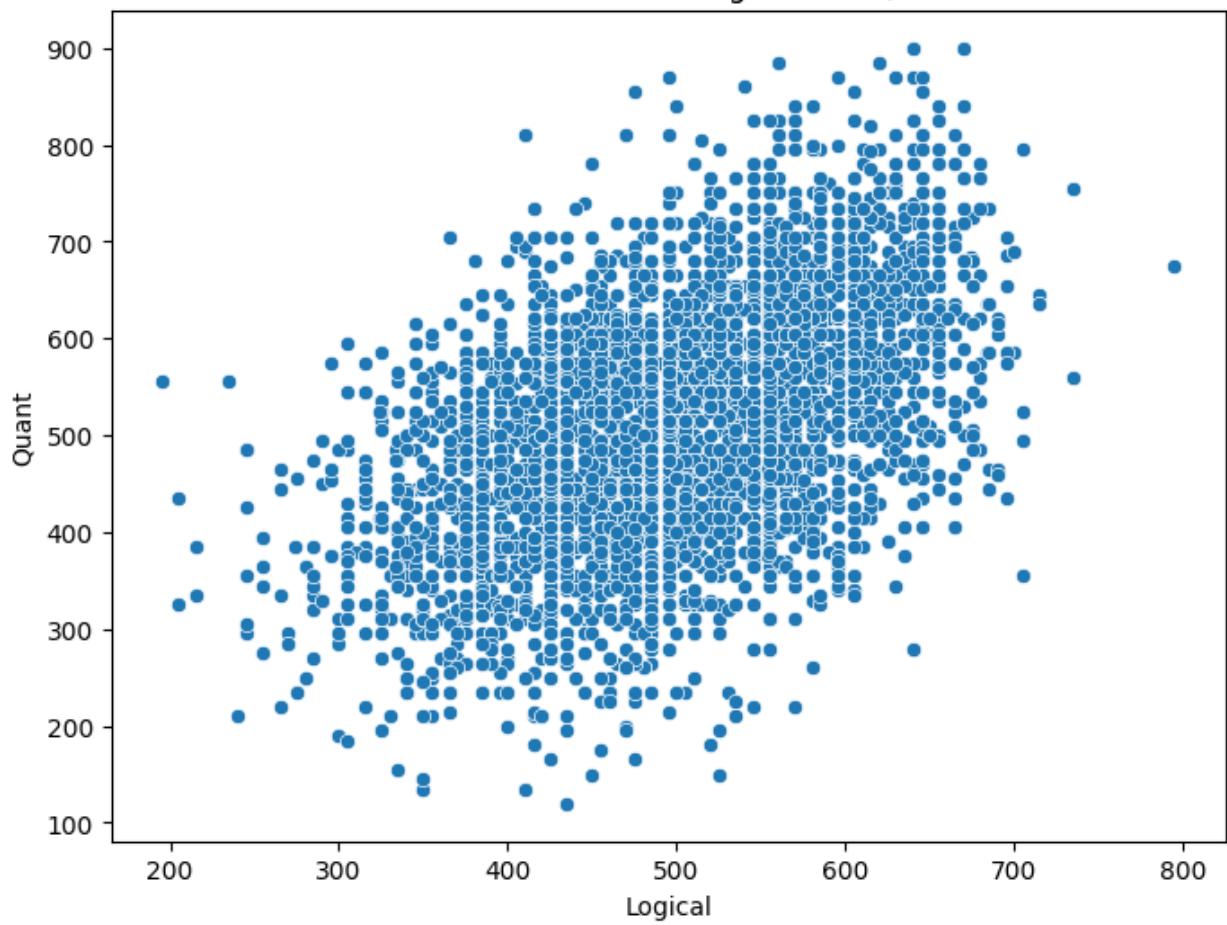
Scatter Plot between English and nueroticism



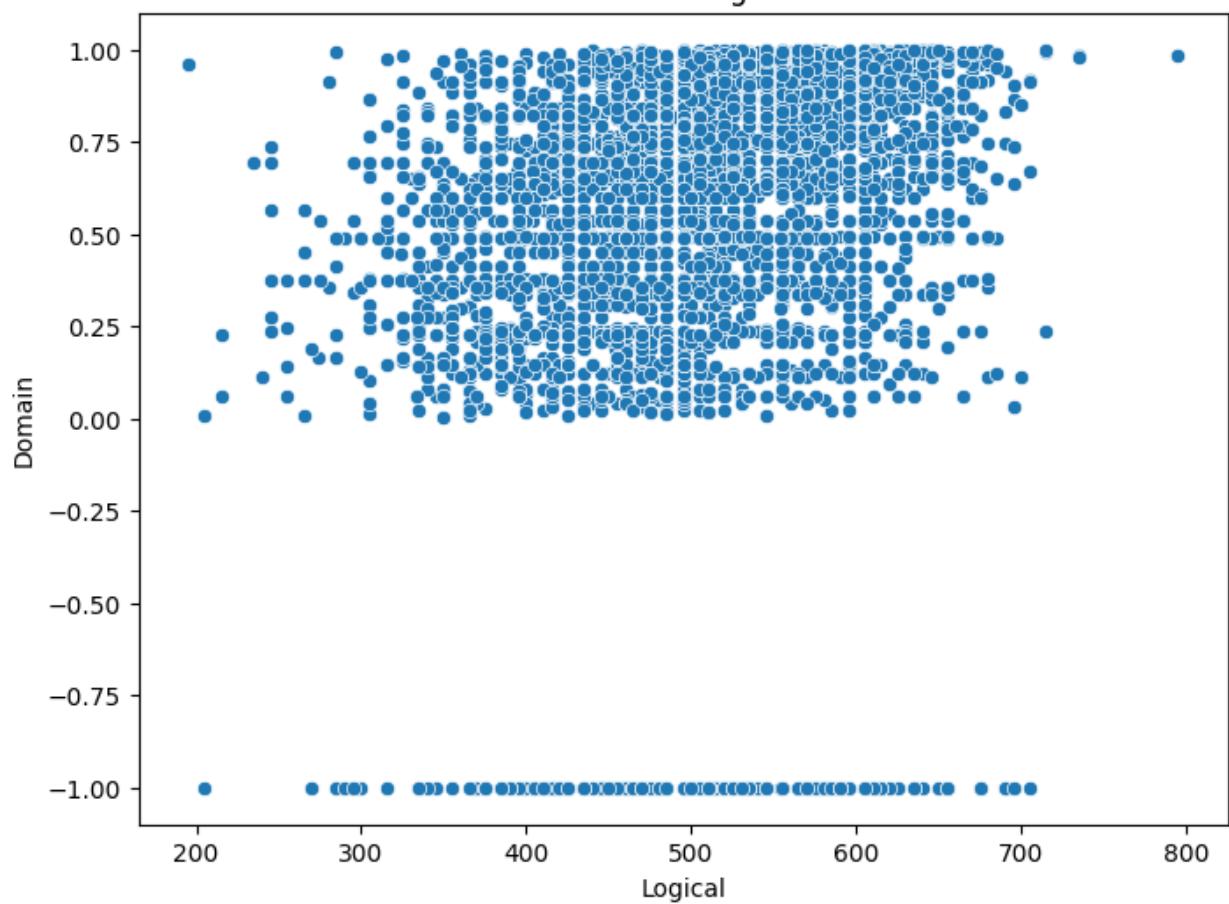
Scatter Plot between English and openness_to_experience



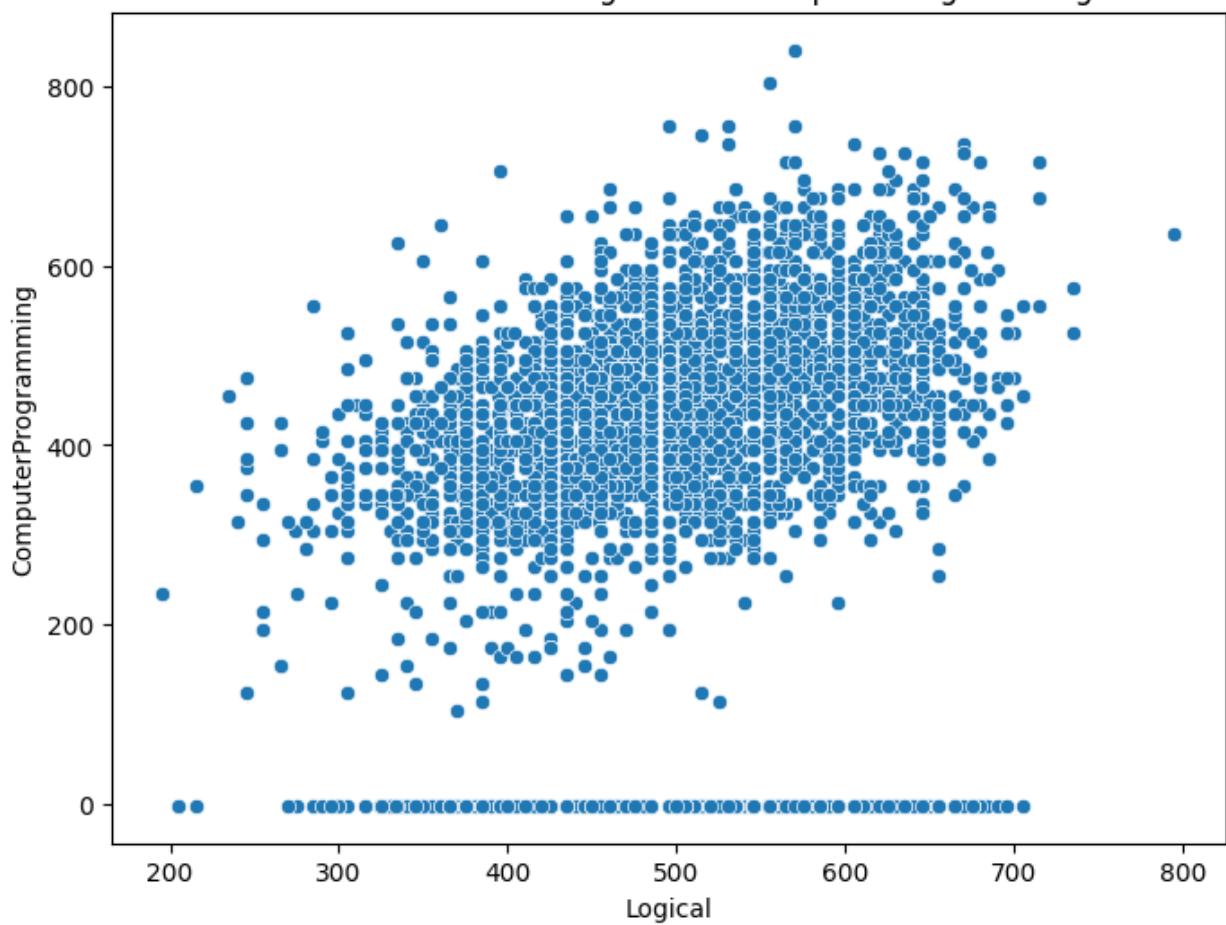
Scatter Plot between Logical and Quant



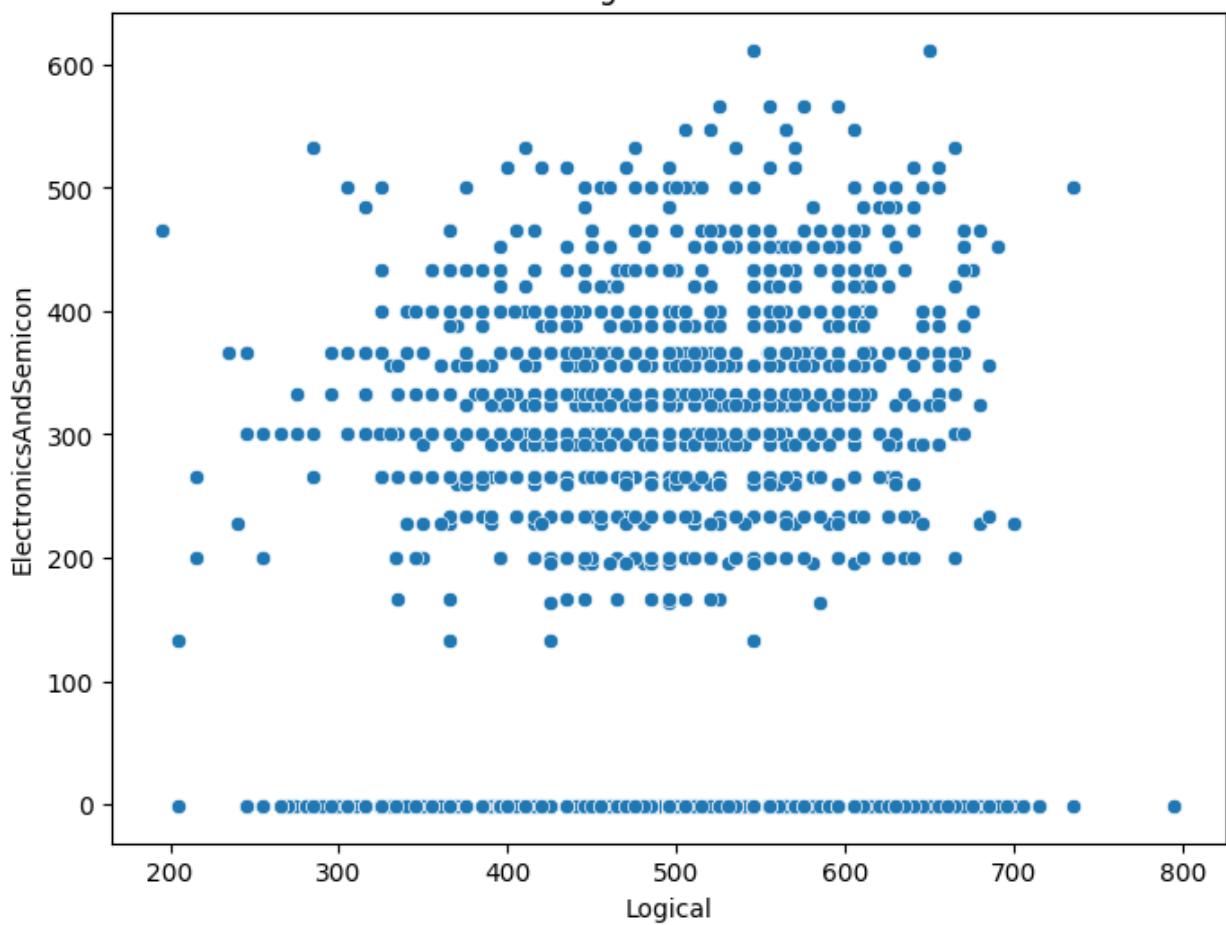
Scatter Plot between Logical and Domain



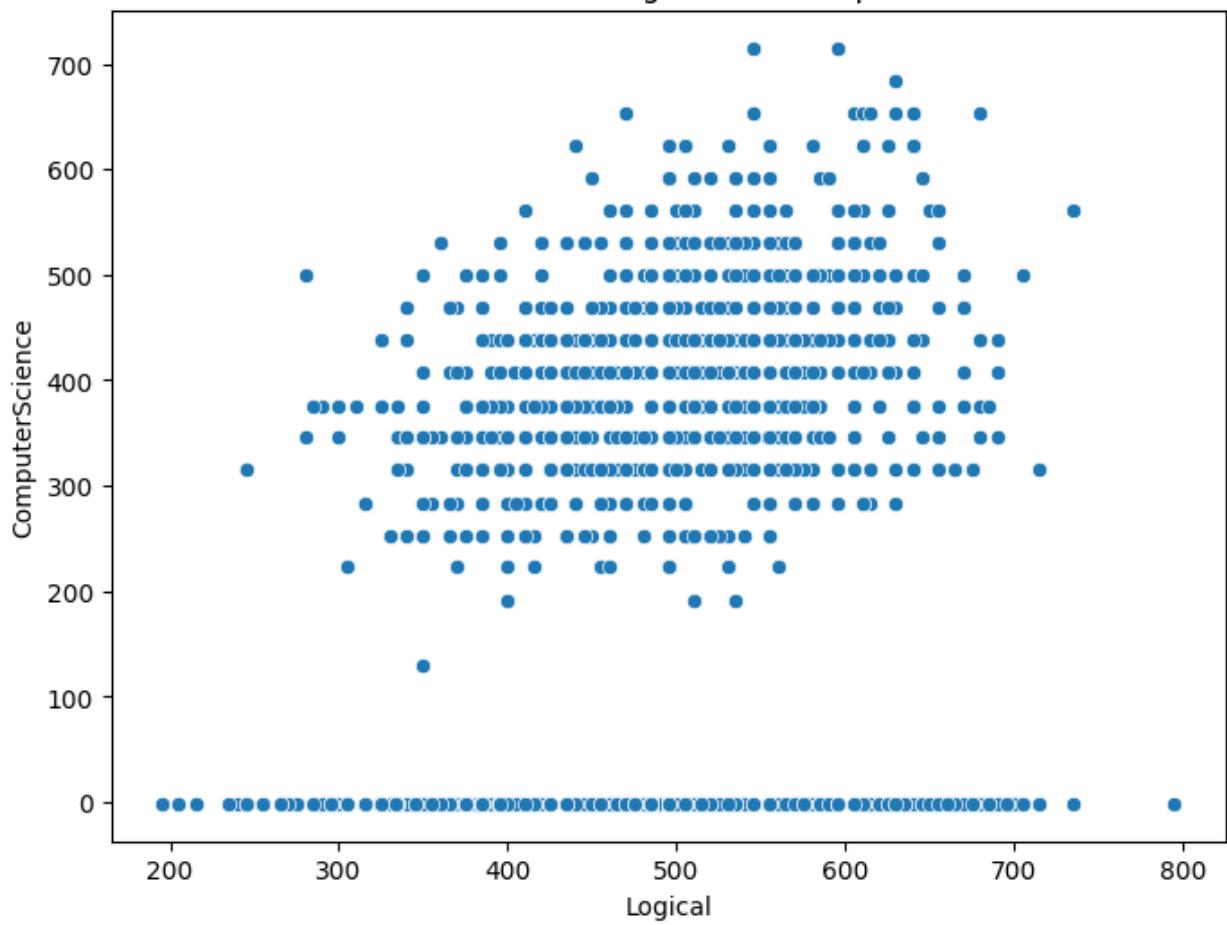
Scatter Plot between Logical and ComputerProgramming



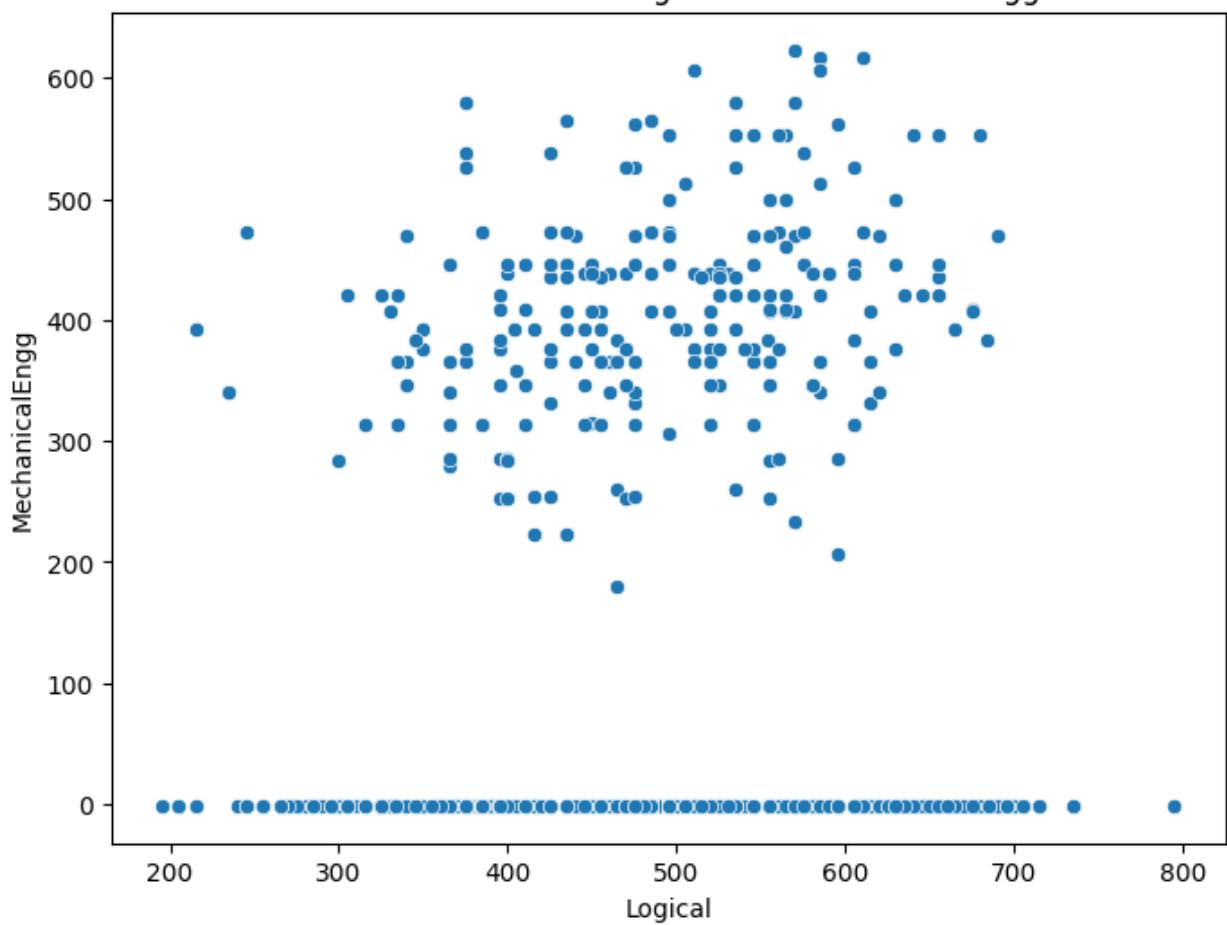
Scatter Plot between Logical and ElectronicsAndSemicon



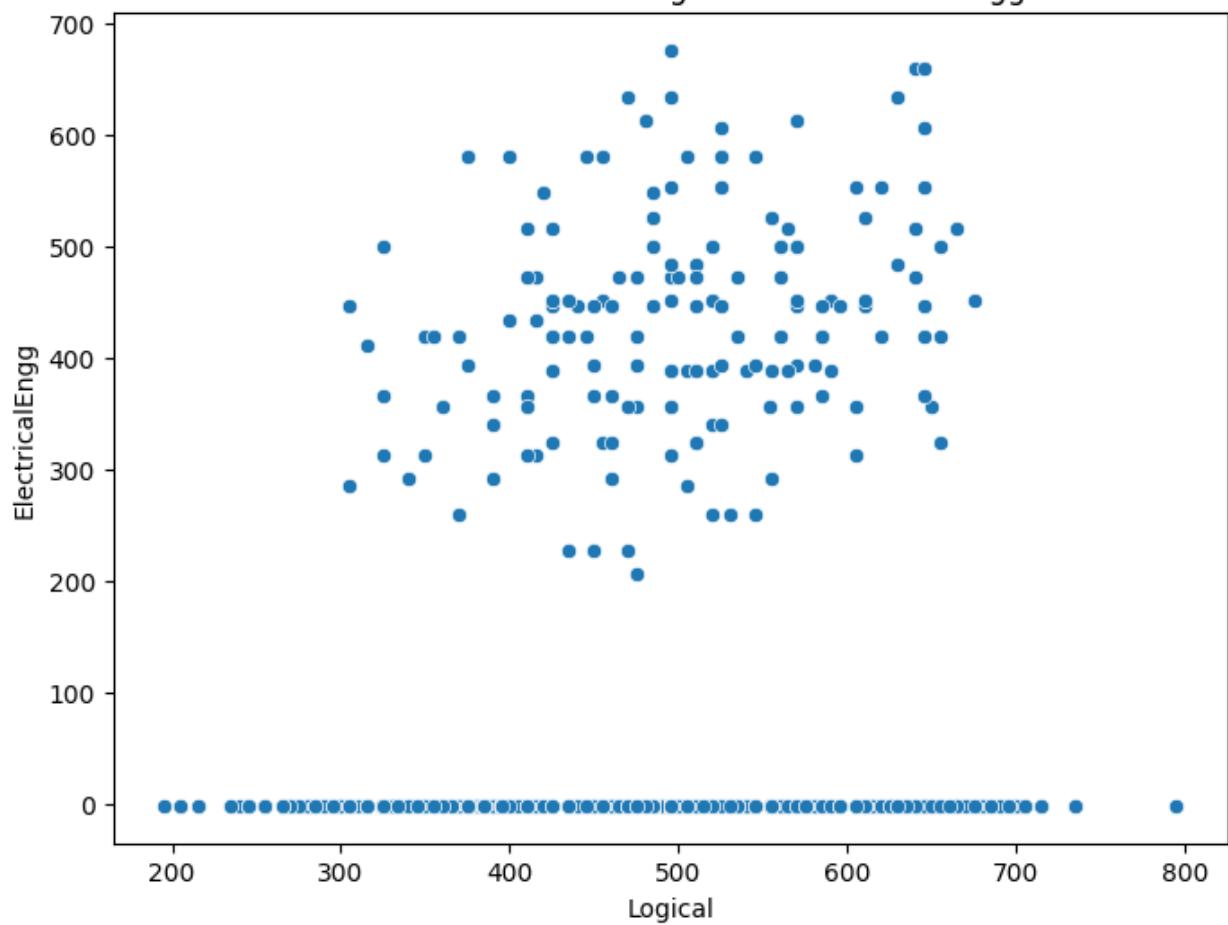
Scatter Plot between Logical and ComputerScience



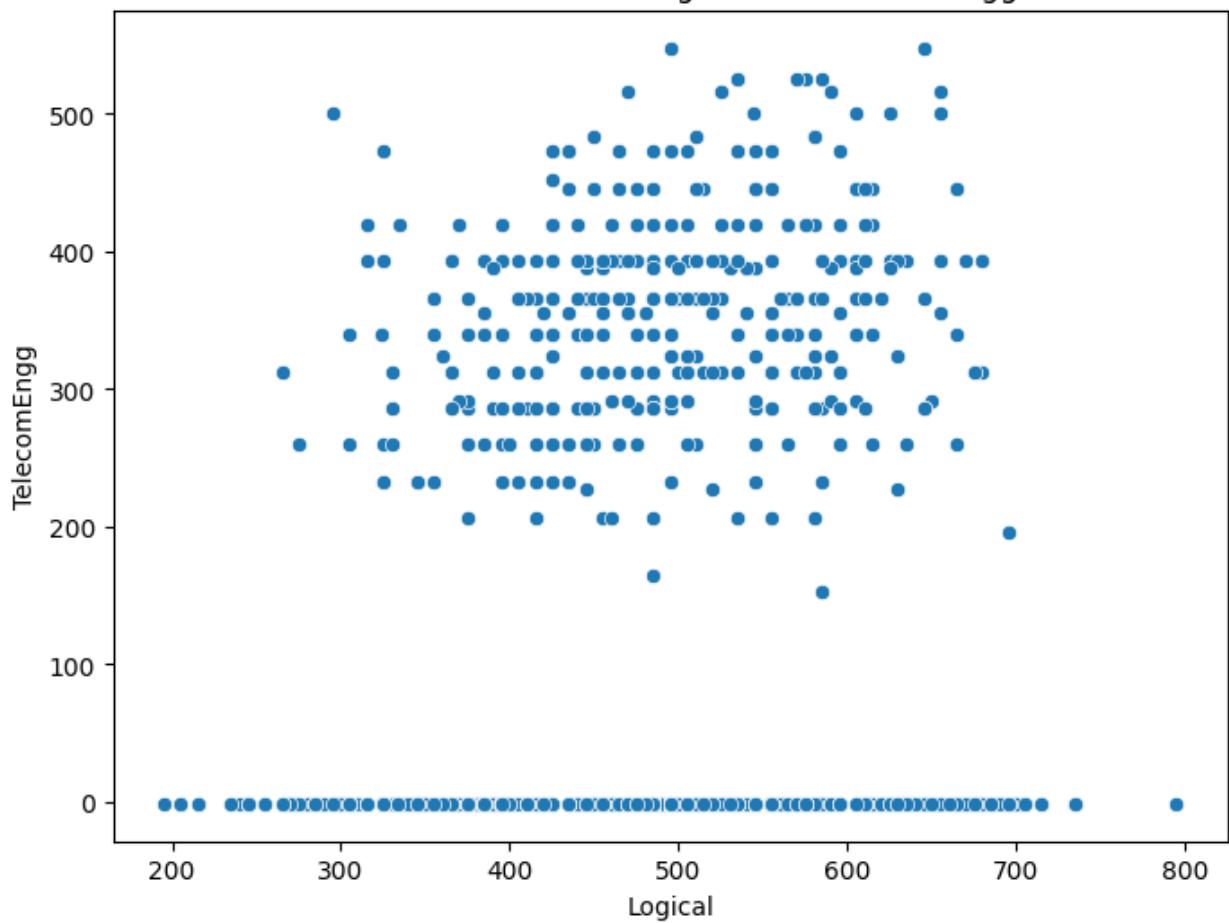
Scatter Plot between Logical and MechanicalEngg



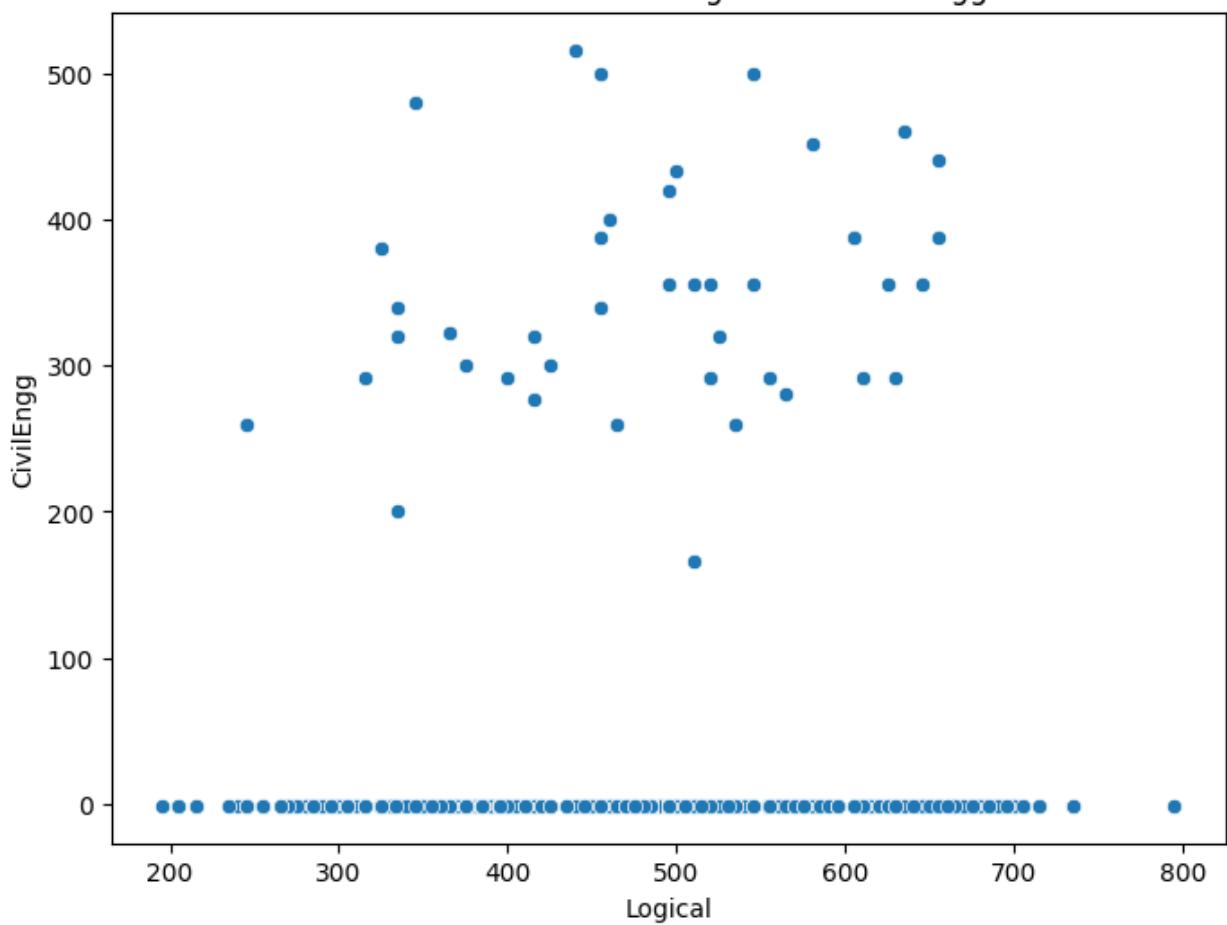
Scatter Plot between Logical and ElectricalEngg



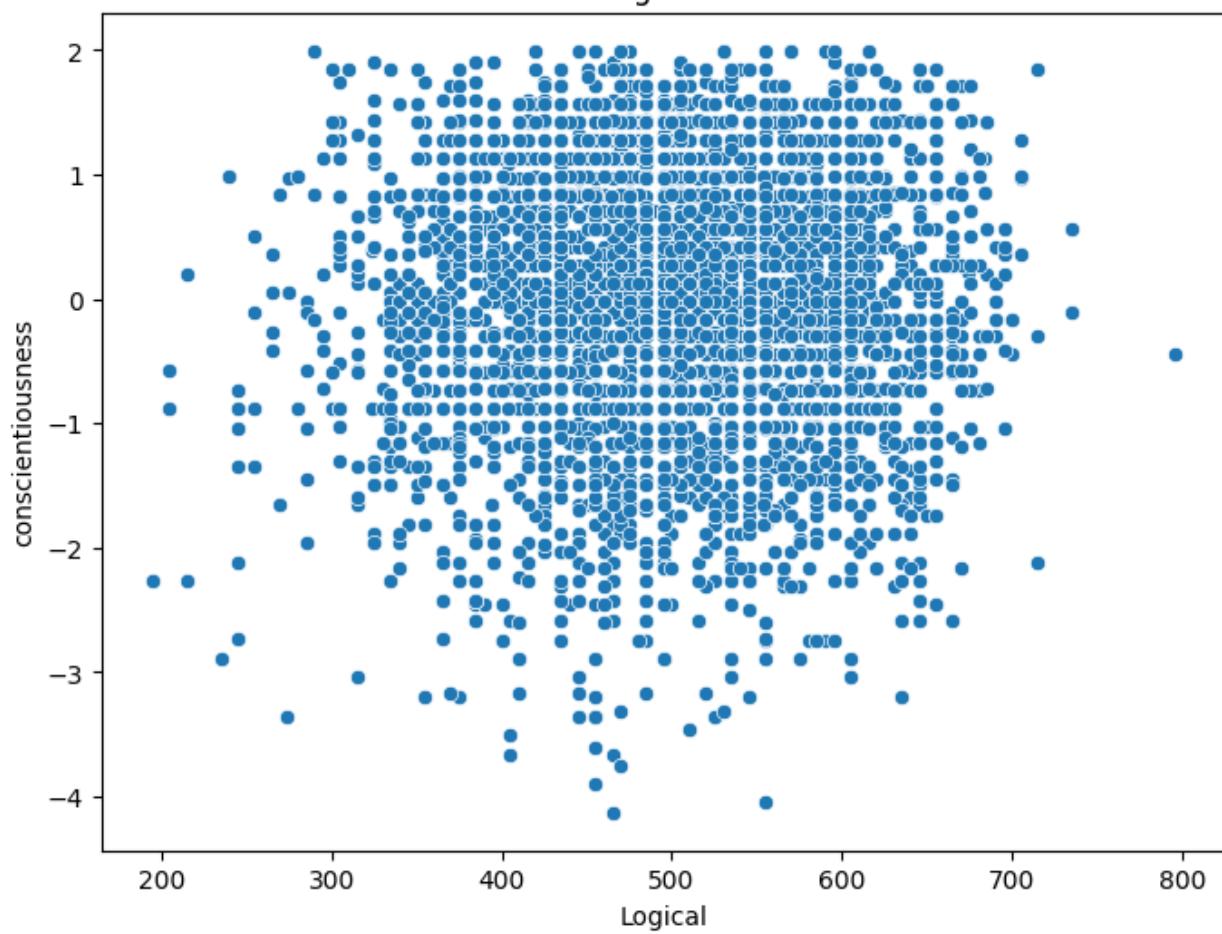
Scatter Plot between Logical and TelecomEngg



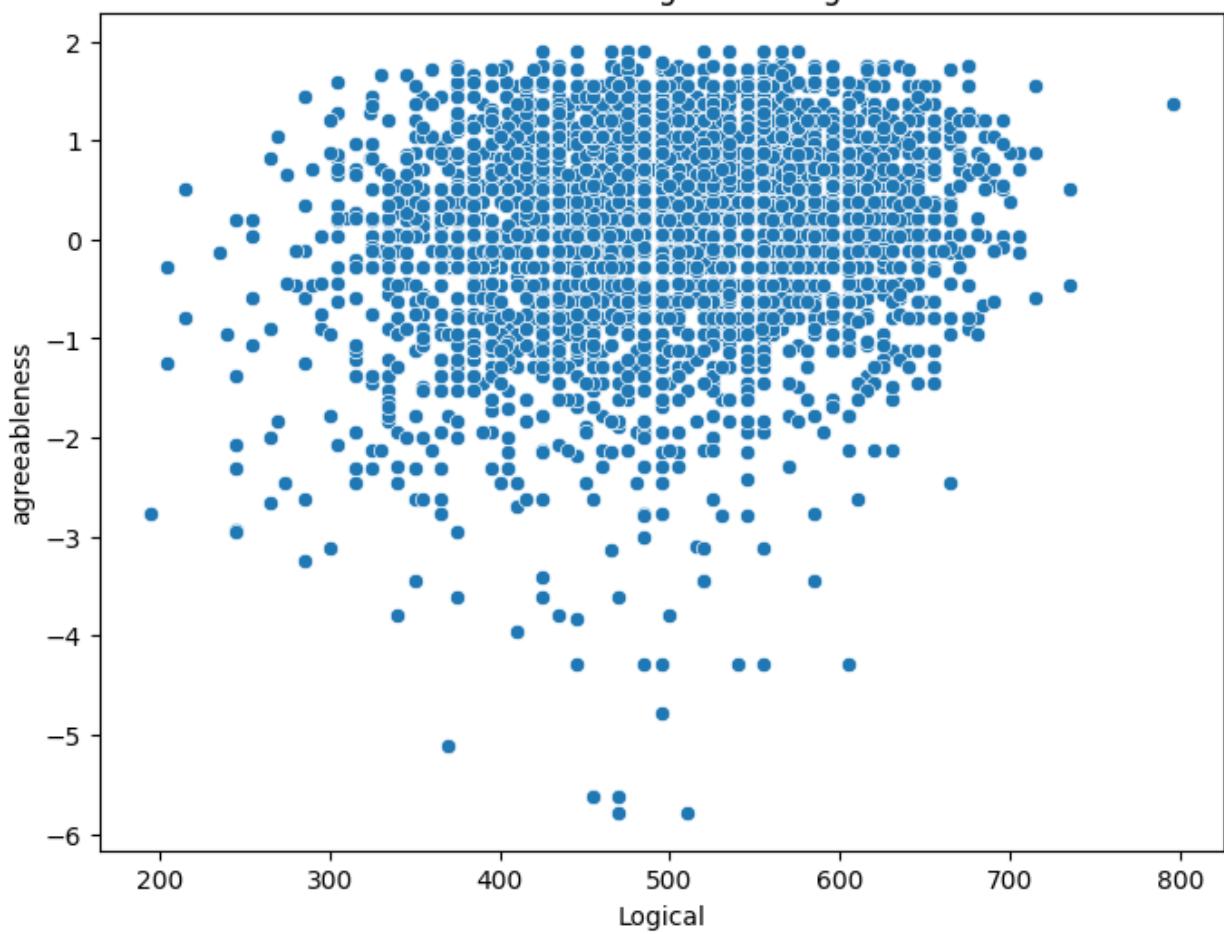
Scatter Plot between Logical and CivilEngg



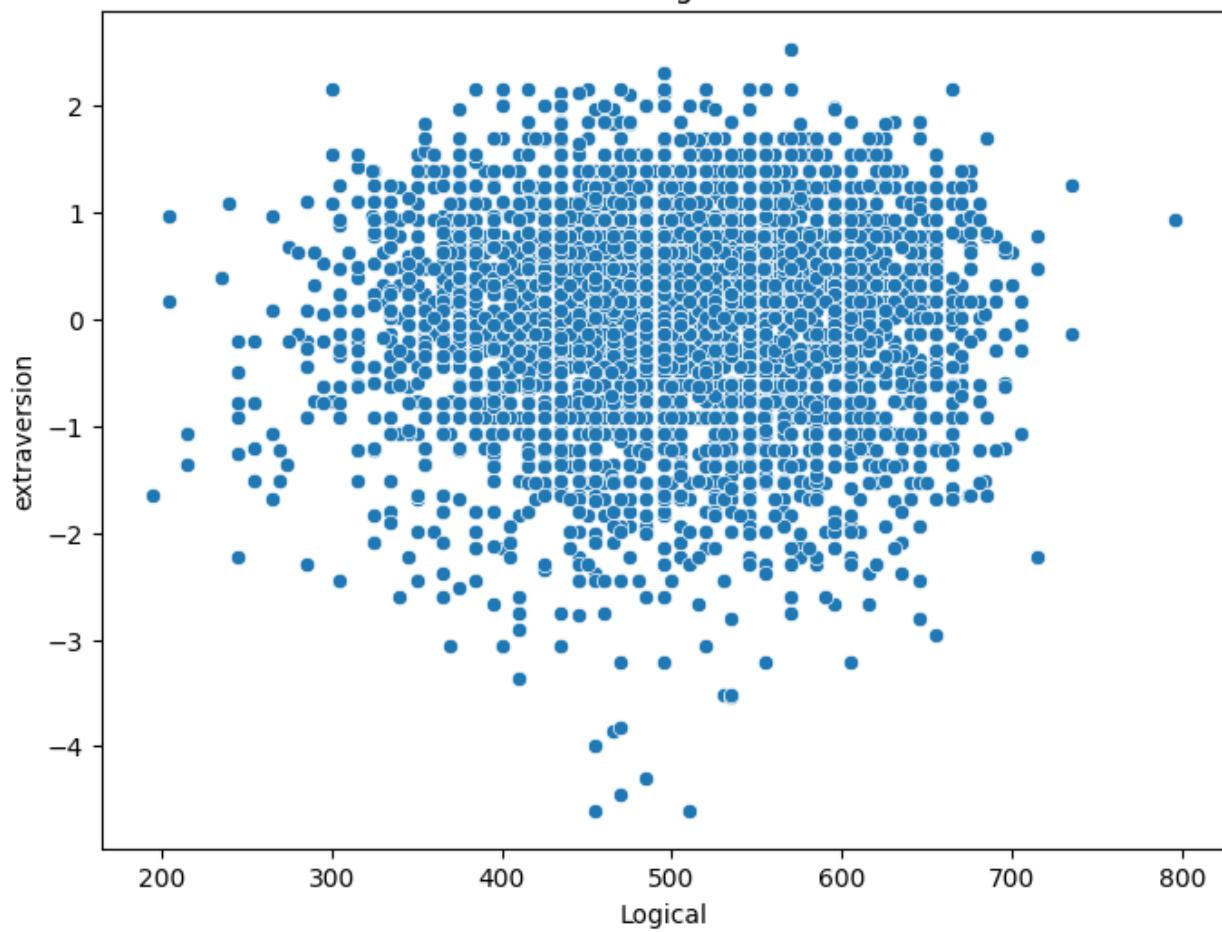
Scatter Plot between Logical and conscientiousness



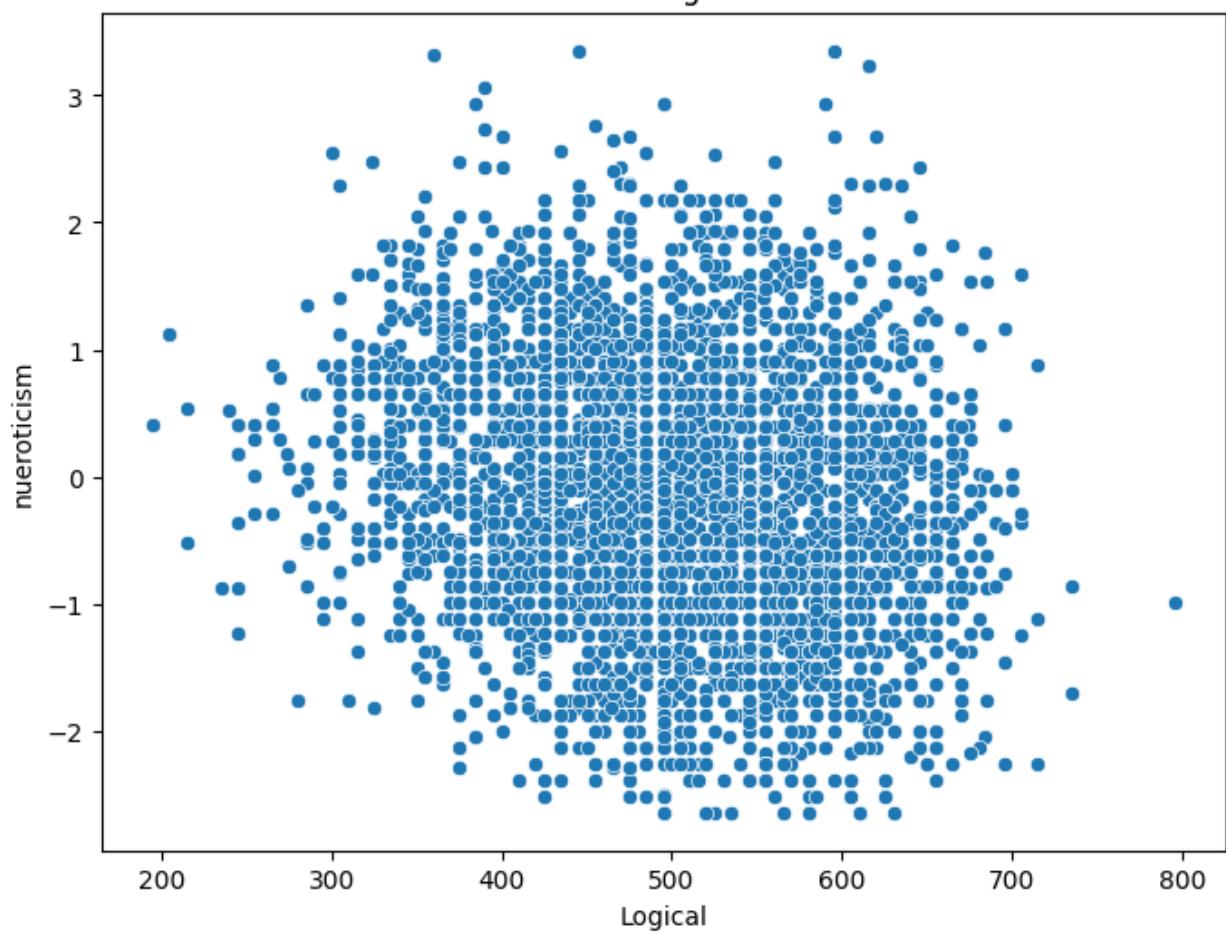
Scatter Plot between Logical and agreeableness



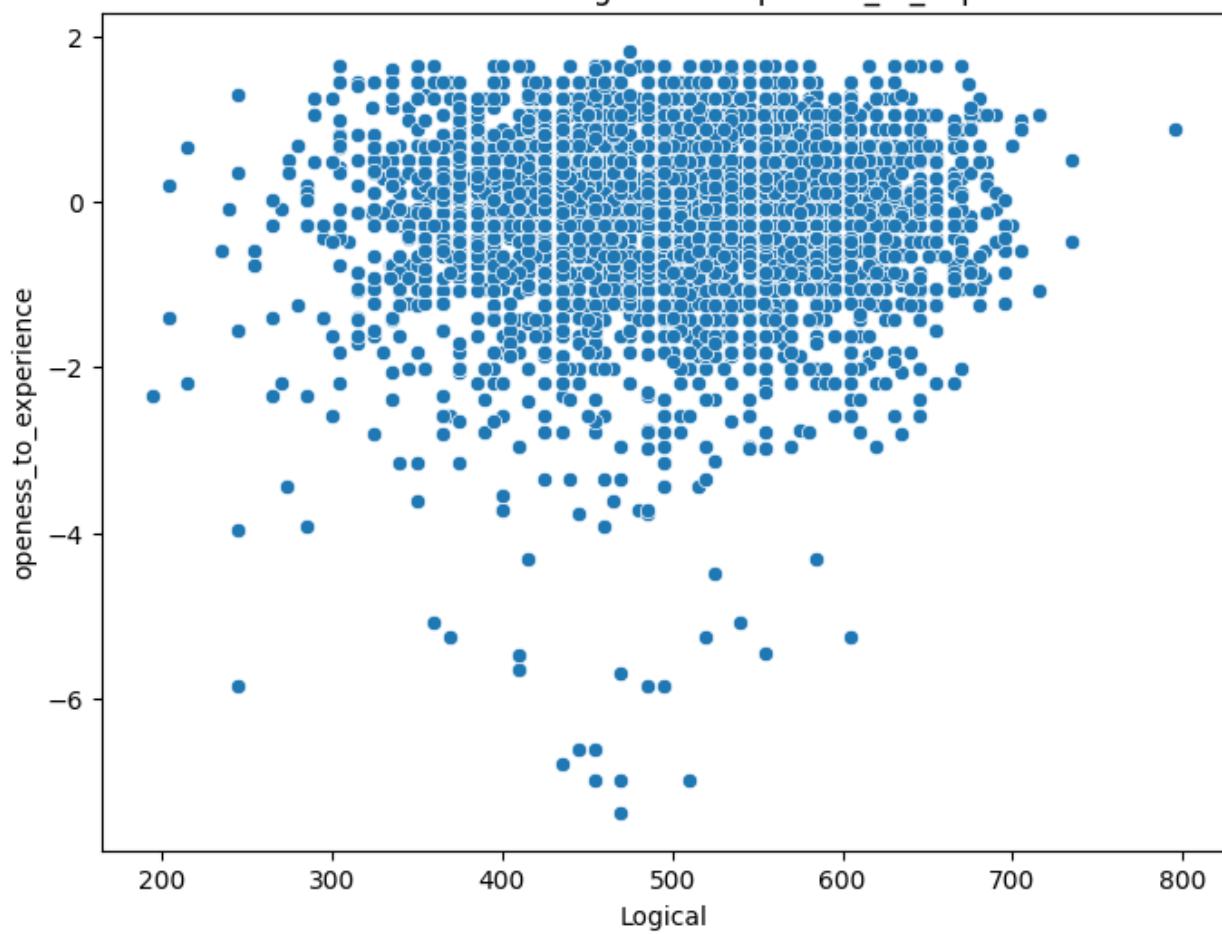
Scatter Plot between Logical and extraversion



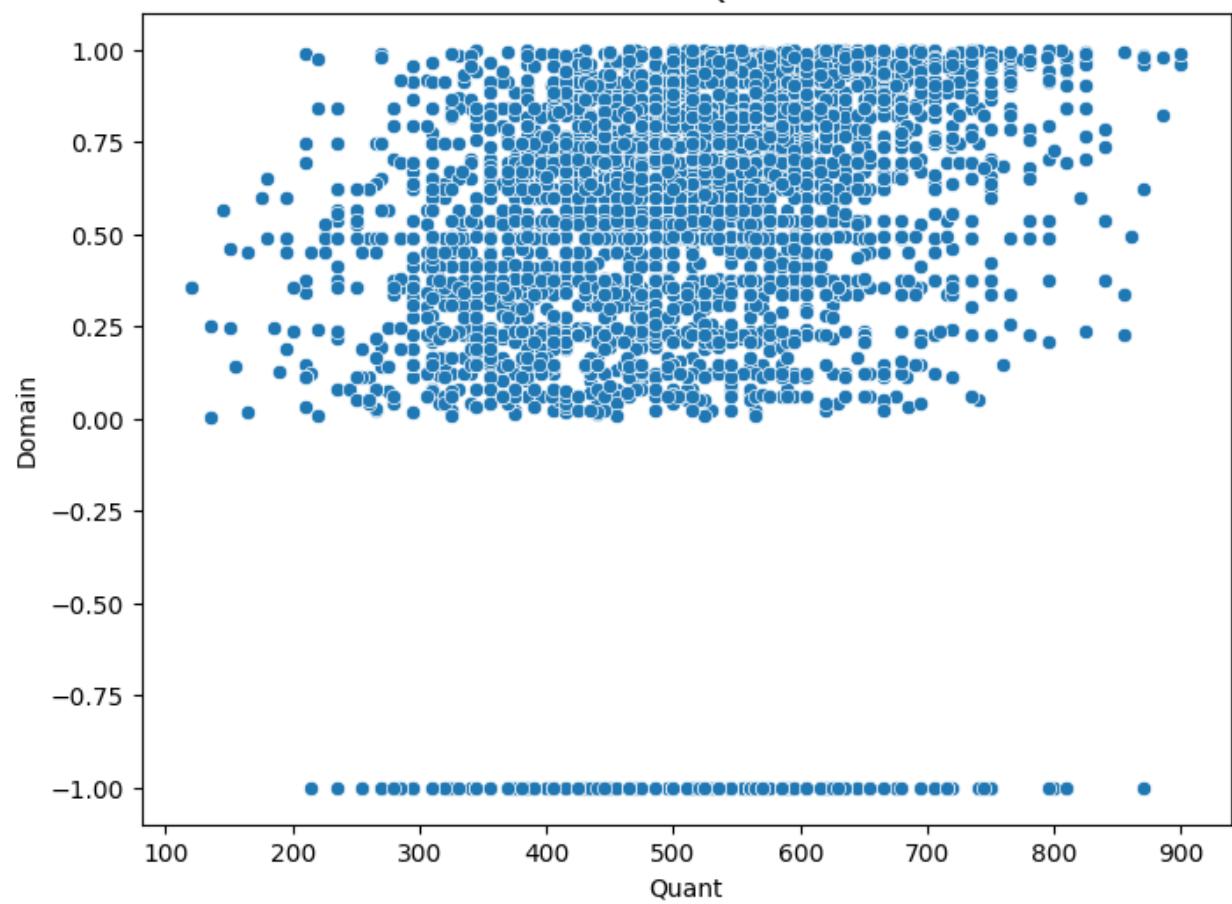
Scatter Plot between Logical and nueroticism



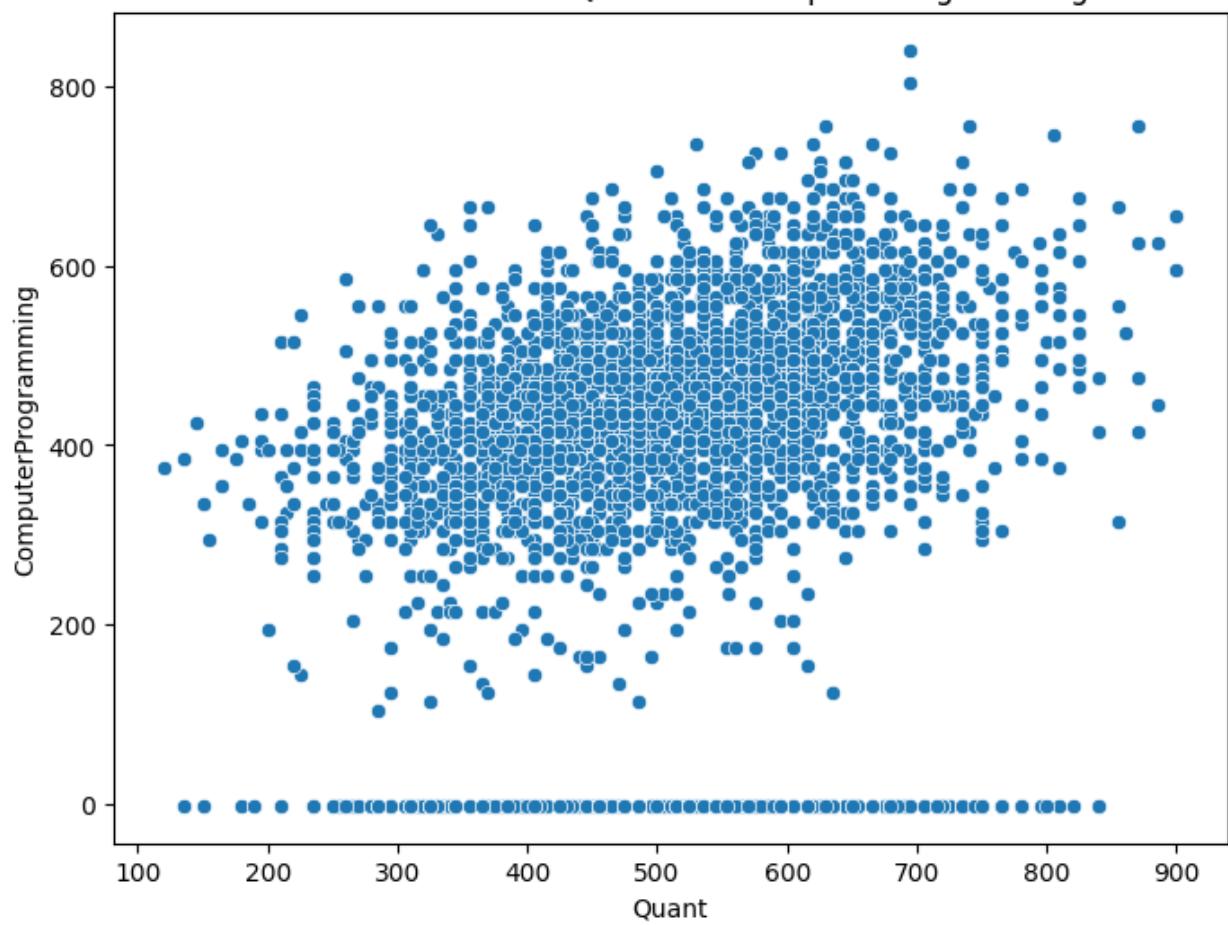
Scatter Plot between Logical and openness_to_experience



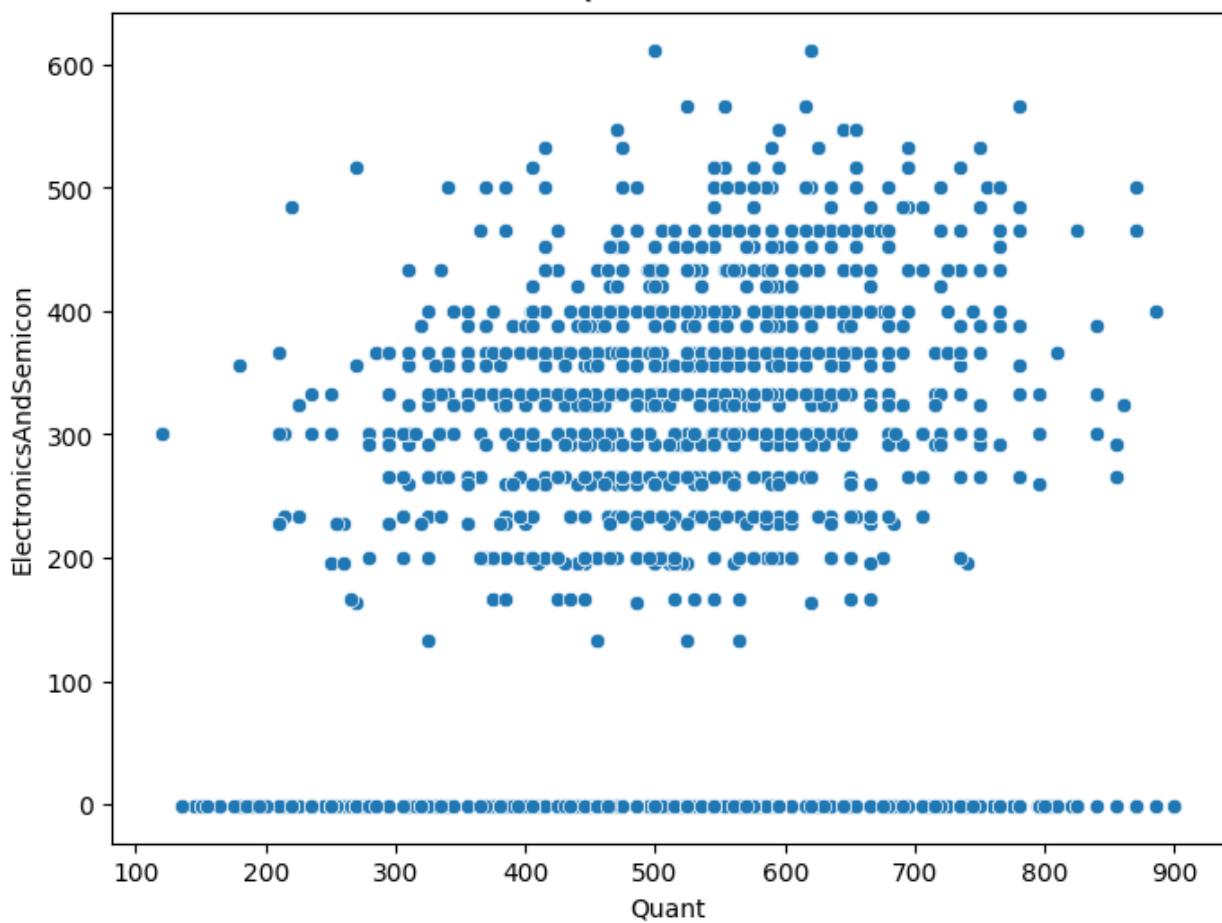
Scatter Plot between Quant and Domain



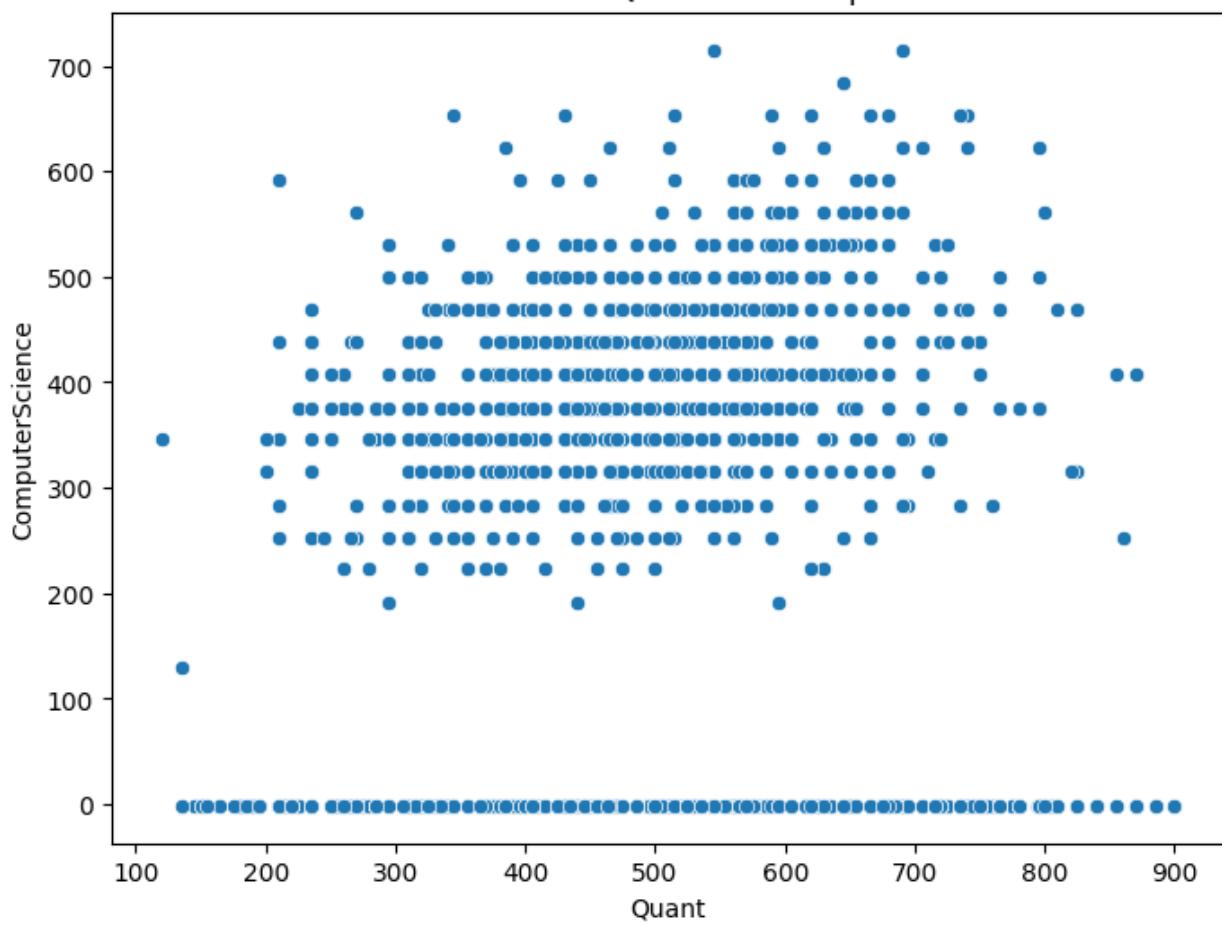
Scatter Plot between Quant and ComputerProgramming



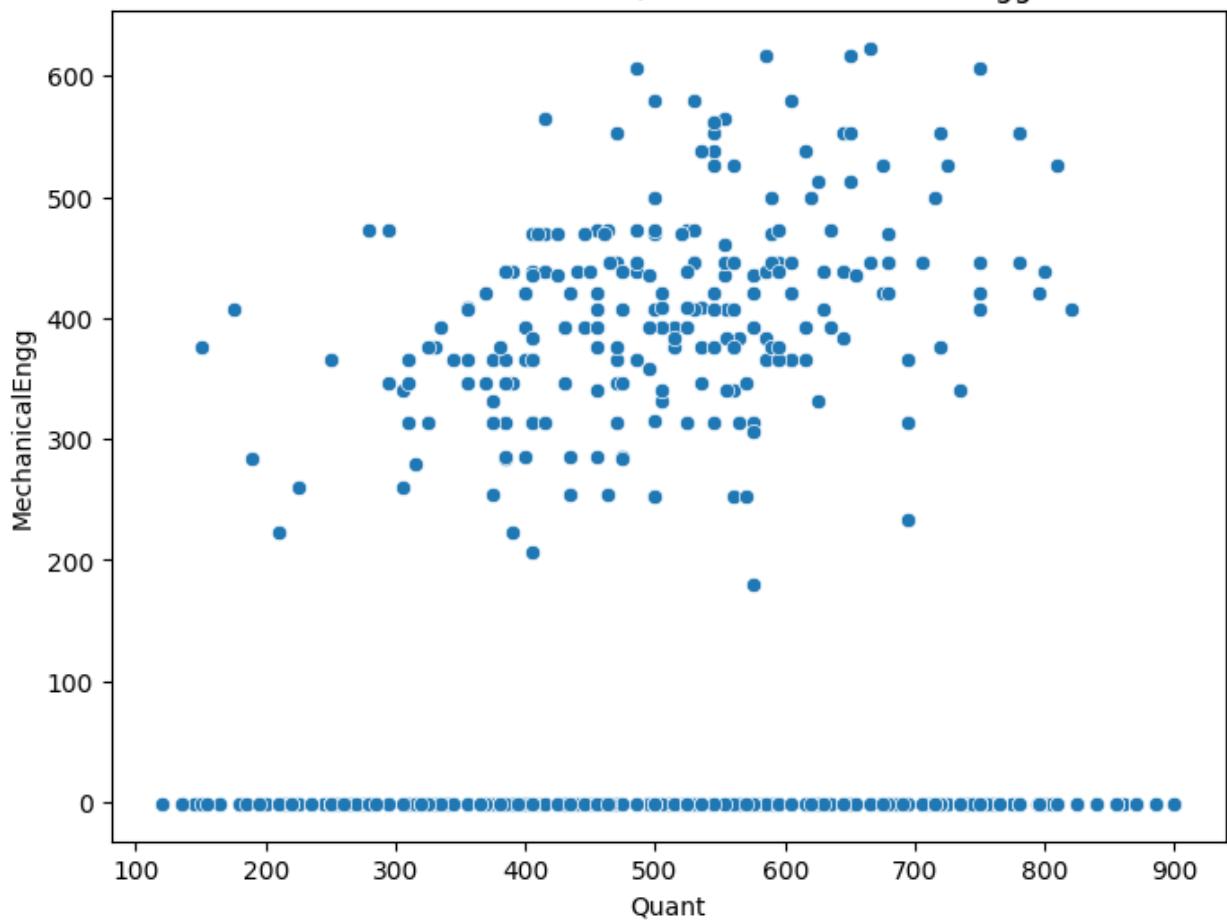
Scatter Plot between Quant and ElectronicsAndSemicon



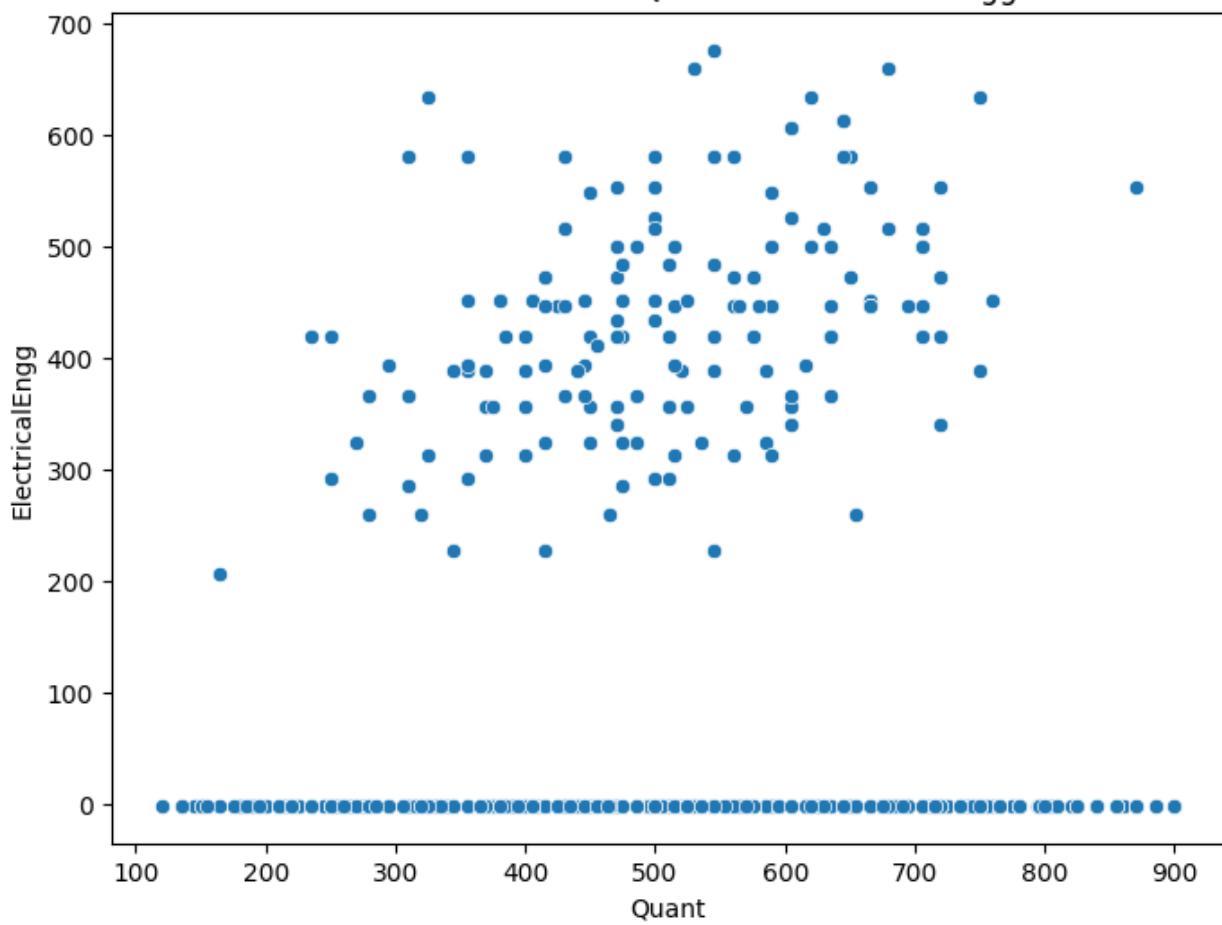
Scatter Plot between Quant and ComputerScience



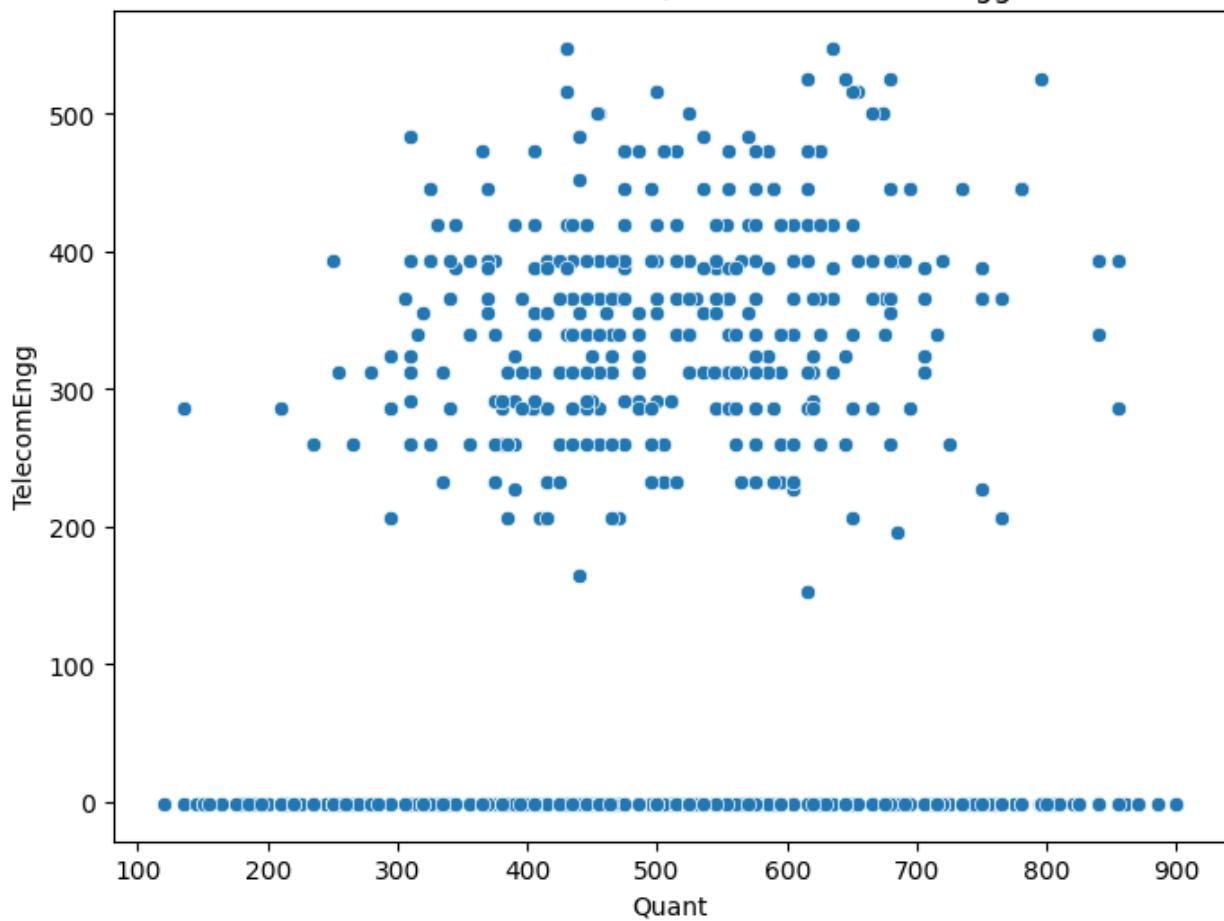
Scatter Plot between Quant and MechanicalEngg



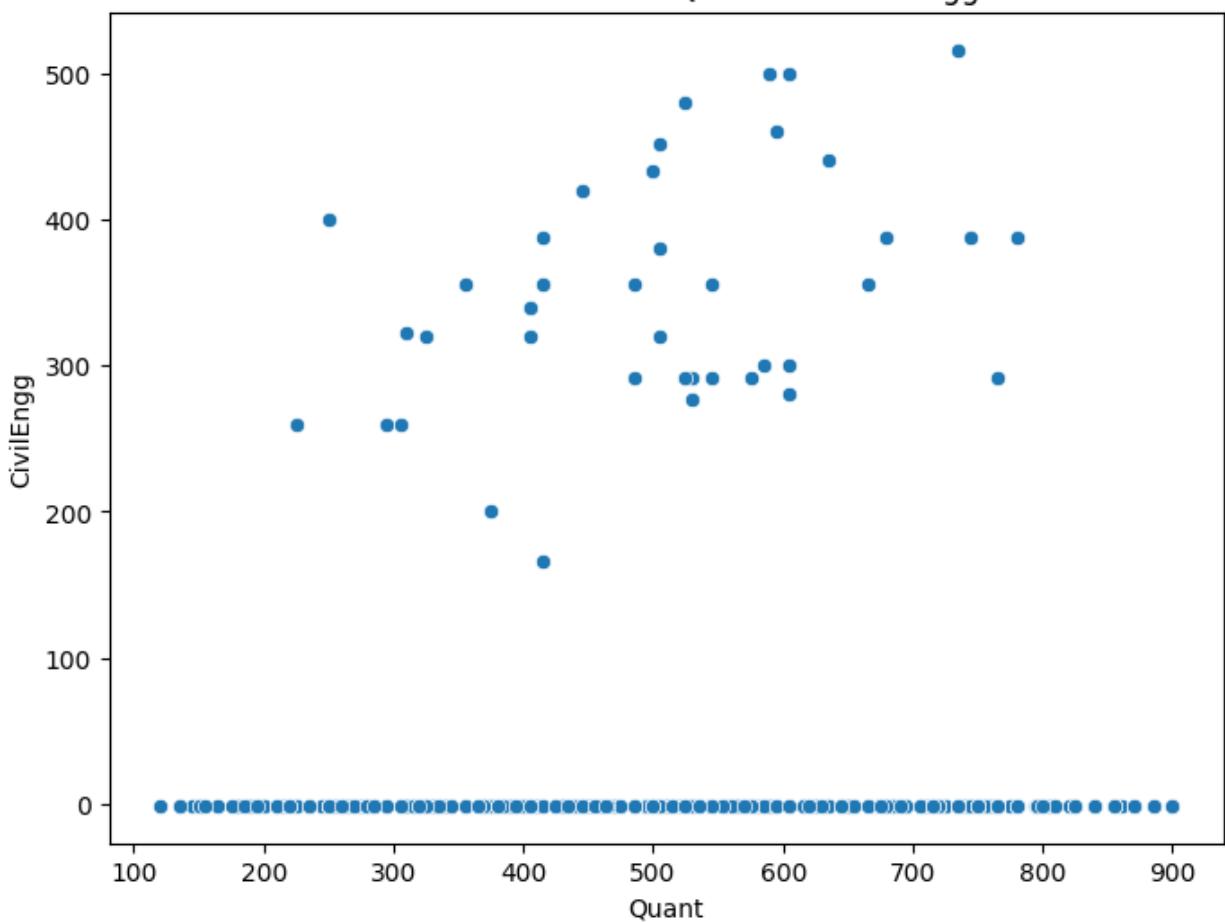
Scatter Plot between Quant and ElectricalEngg



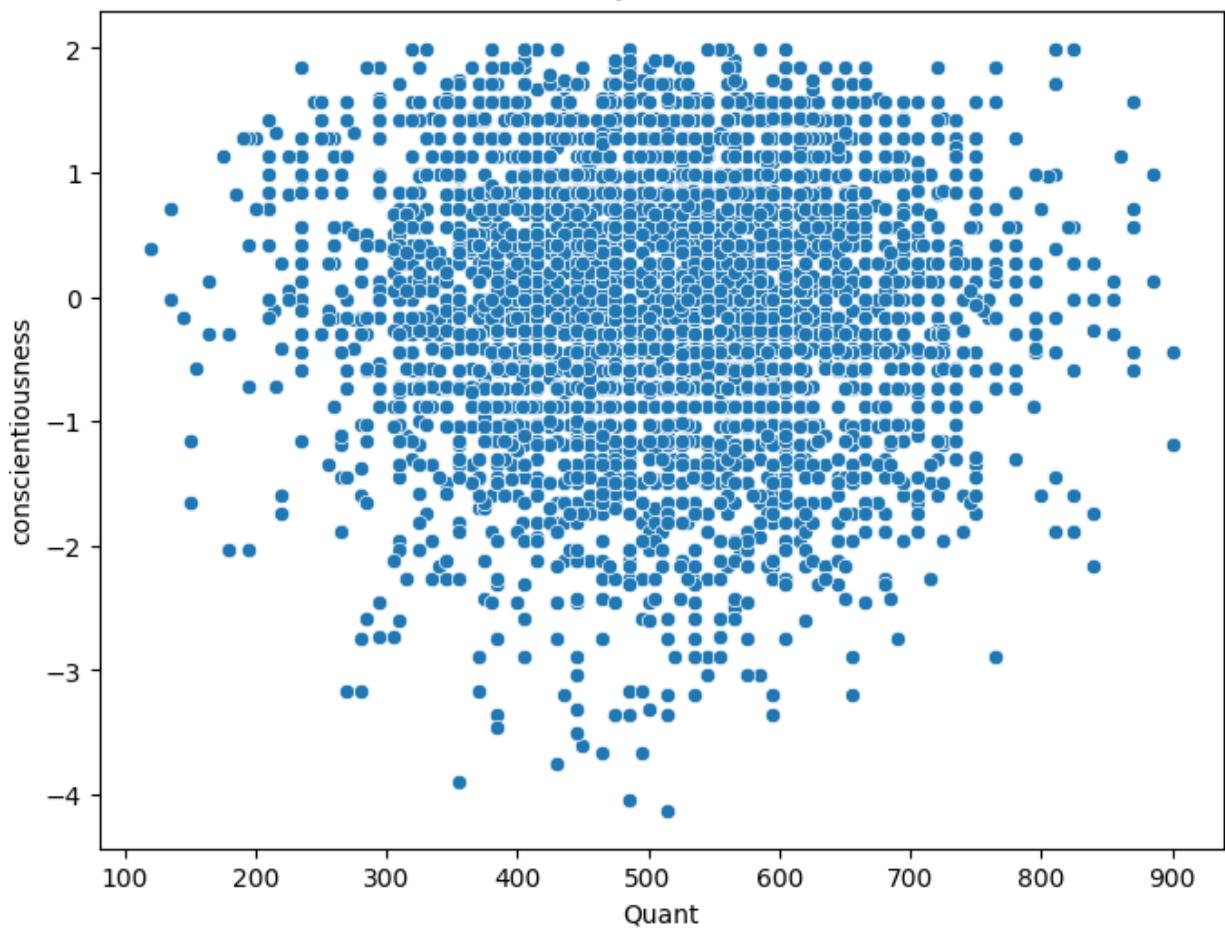
Scatter Plot between Quant and TelecomEngg



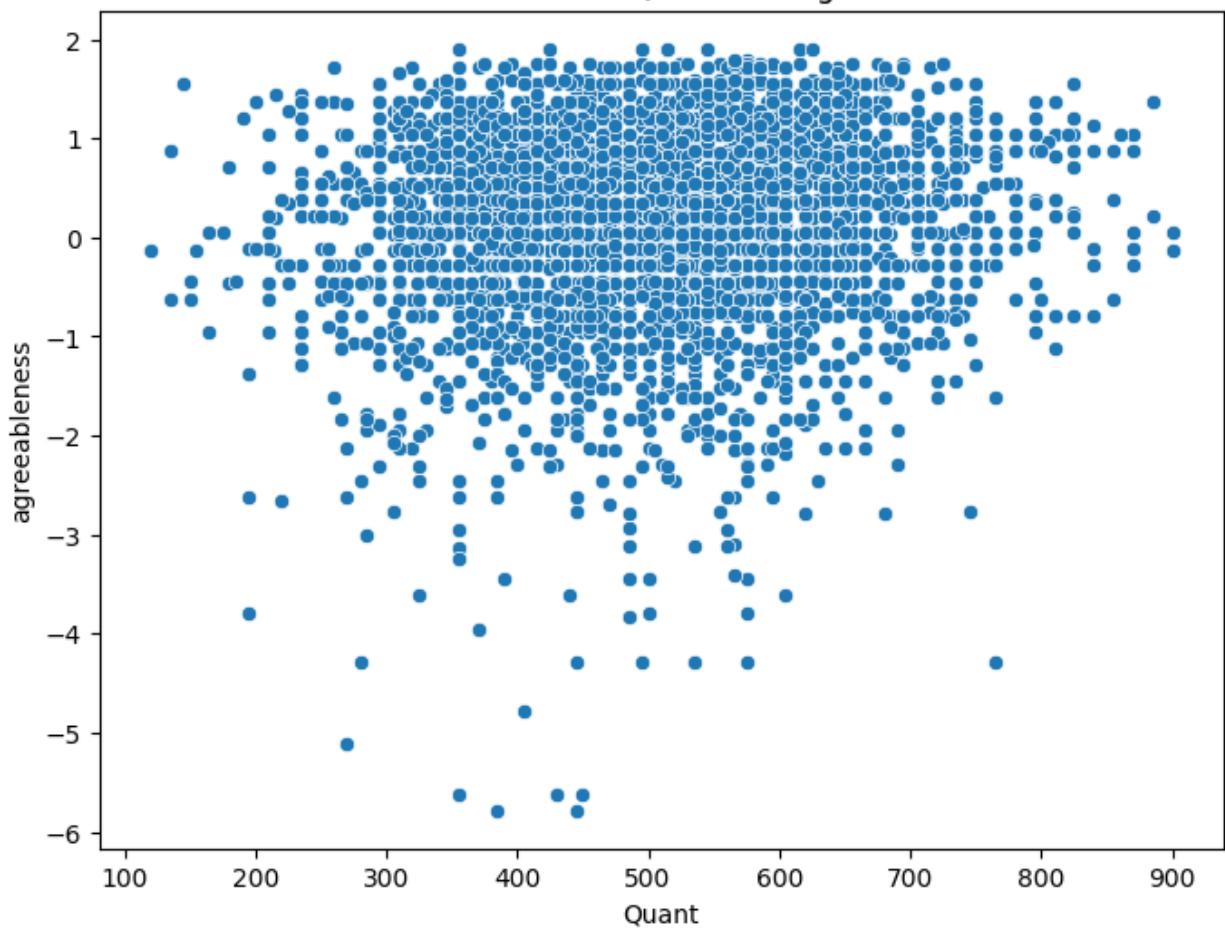
Scatter Plot between Quant and CivilEngg



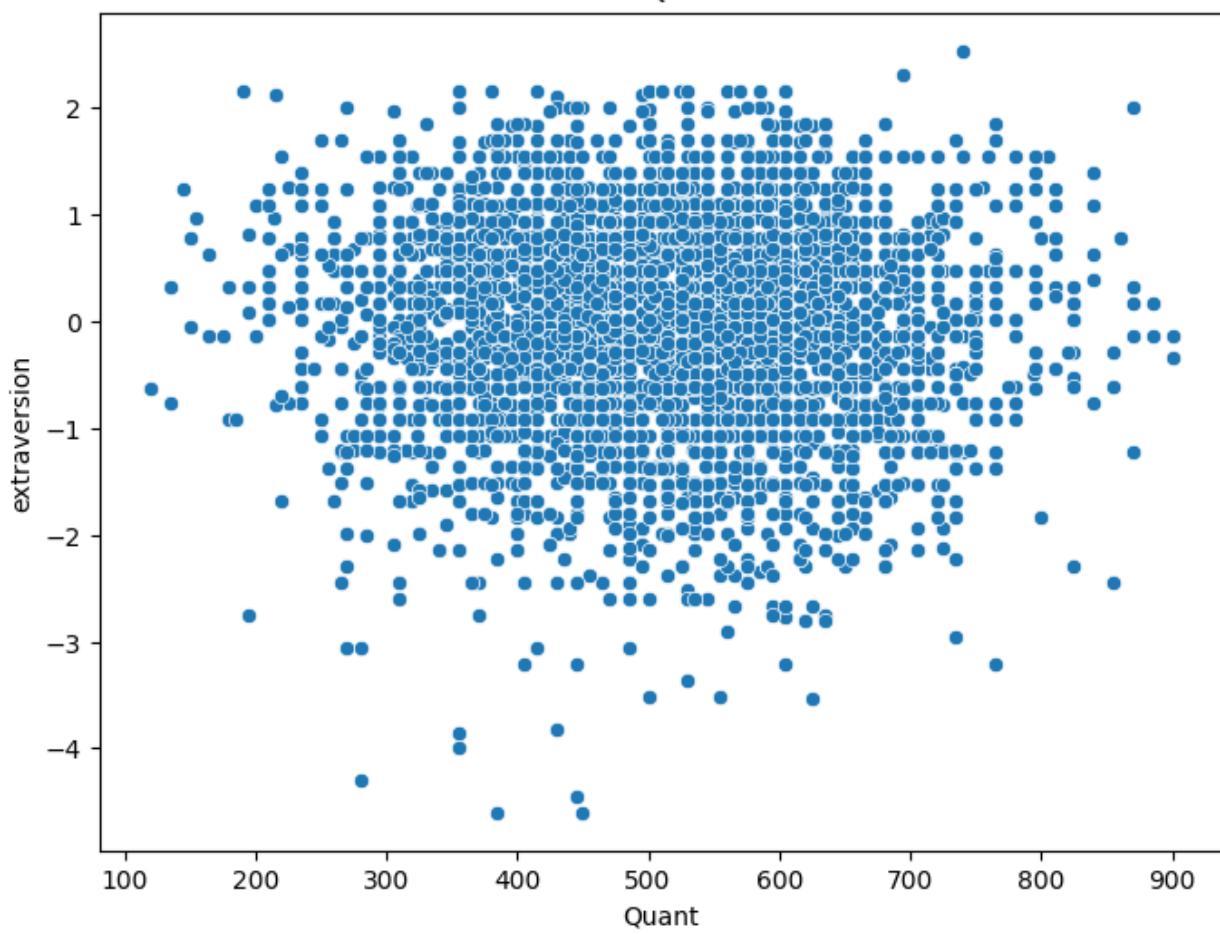
Scatter Plot between Quant and conscientiousness



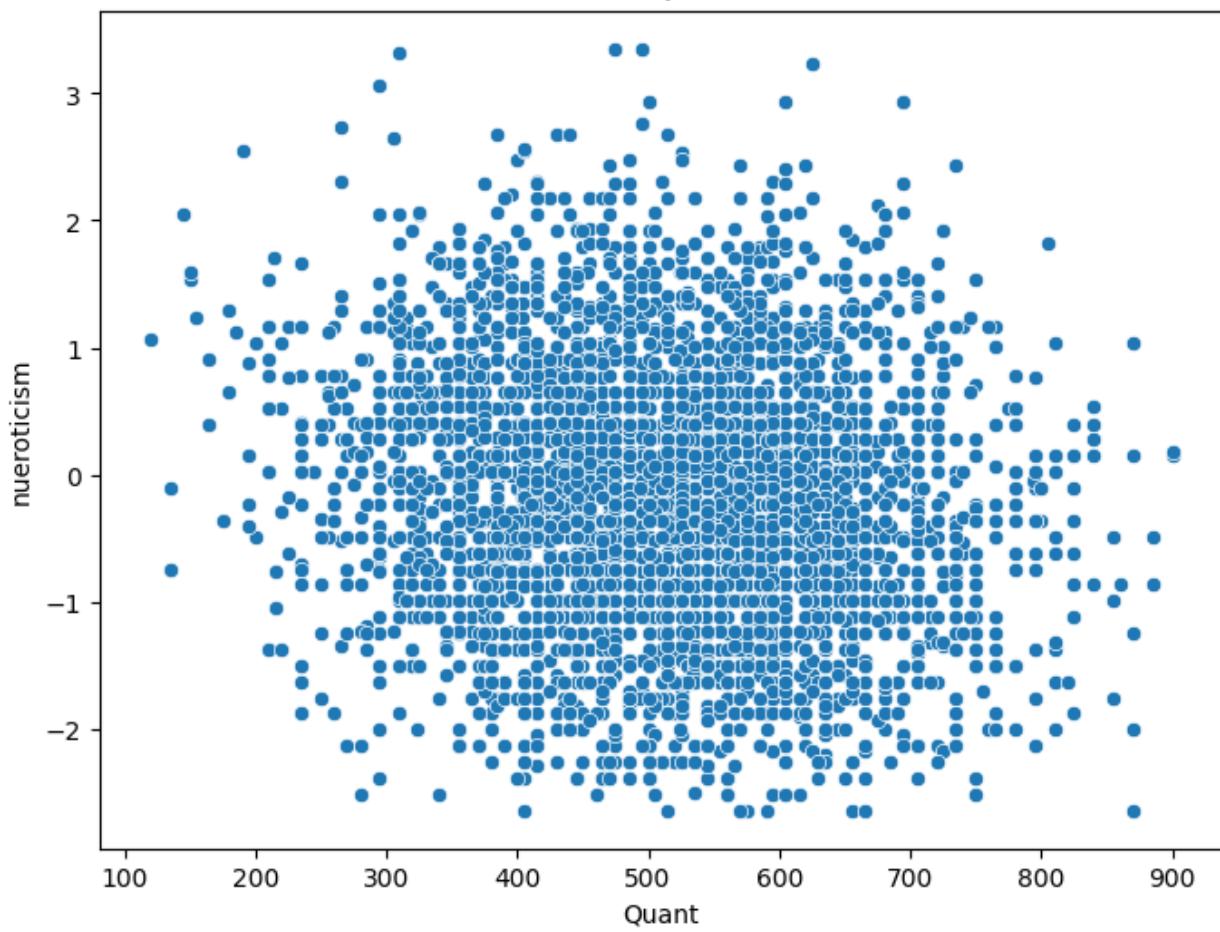
Scatter Plot between Quant and agreeableness



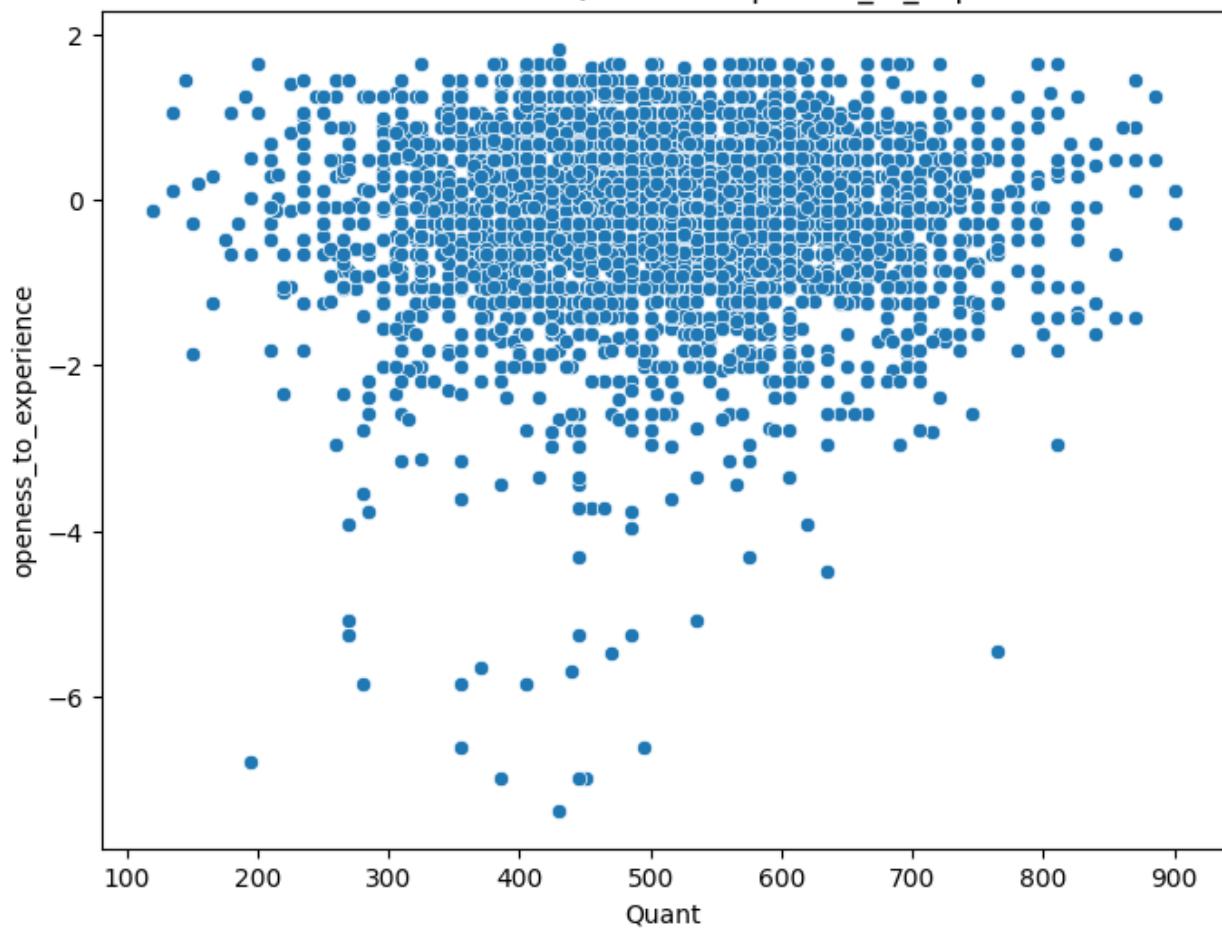
Scatter Plot between Quant and extraversion



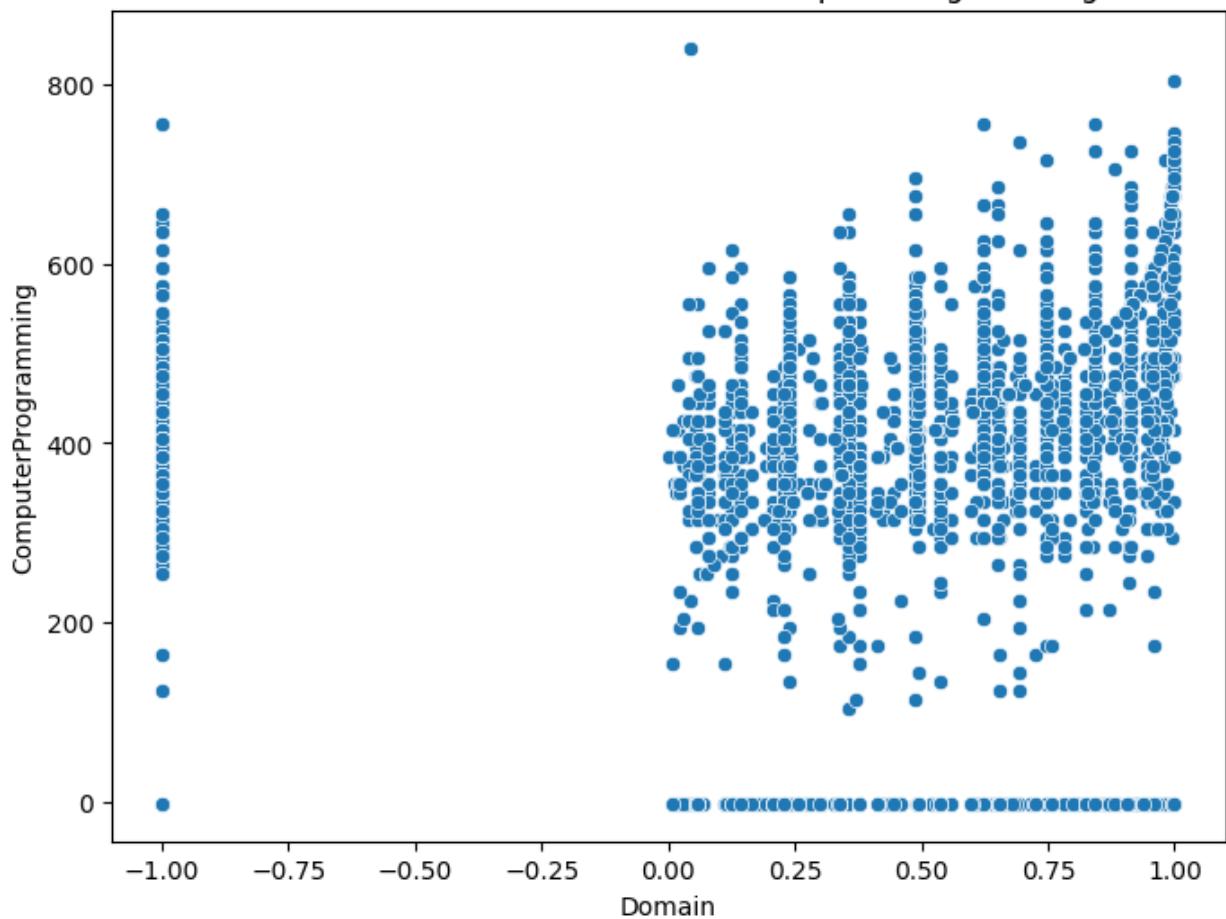
Scatter Plot between Quant and nuerotism



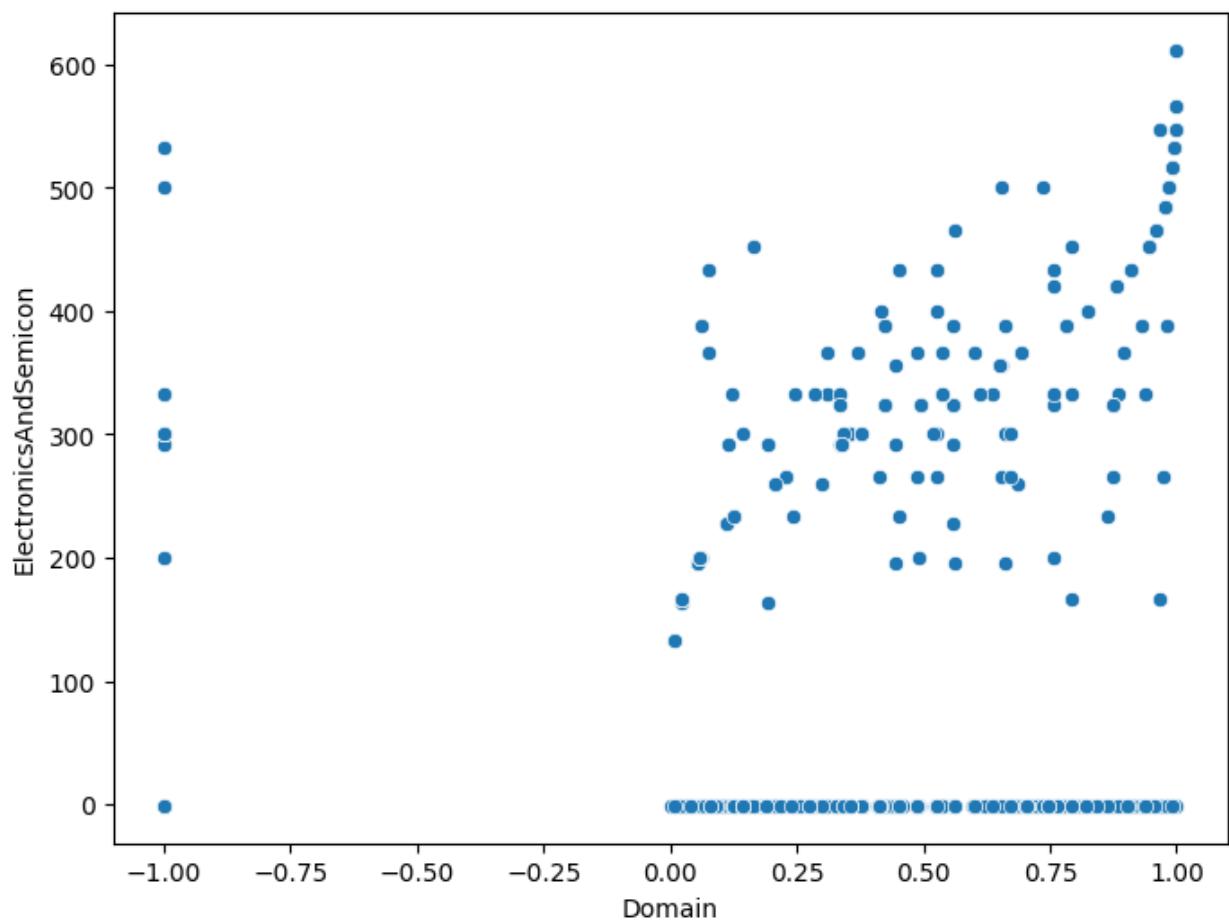
Scatter Plot between Quant and openness_to_experience



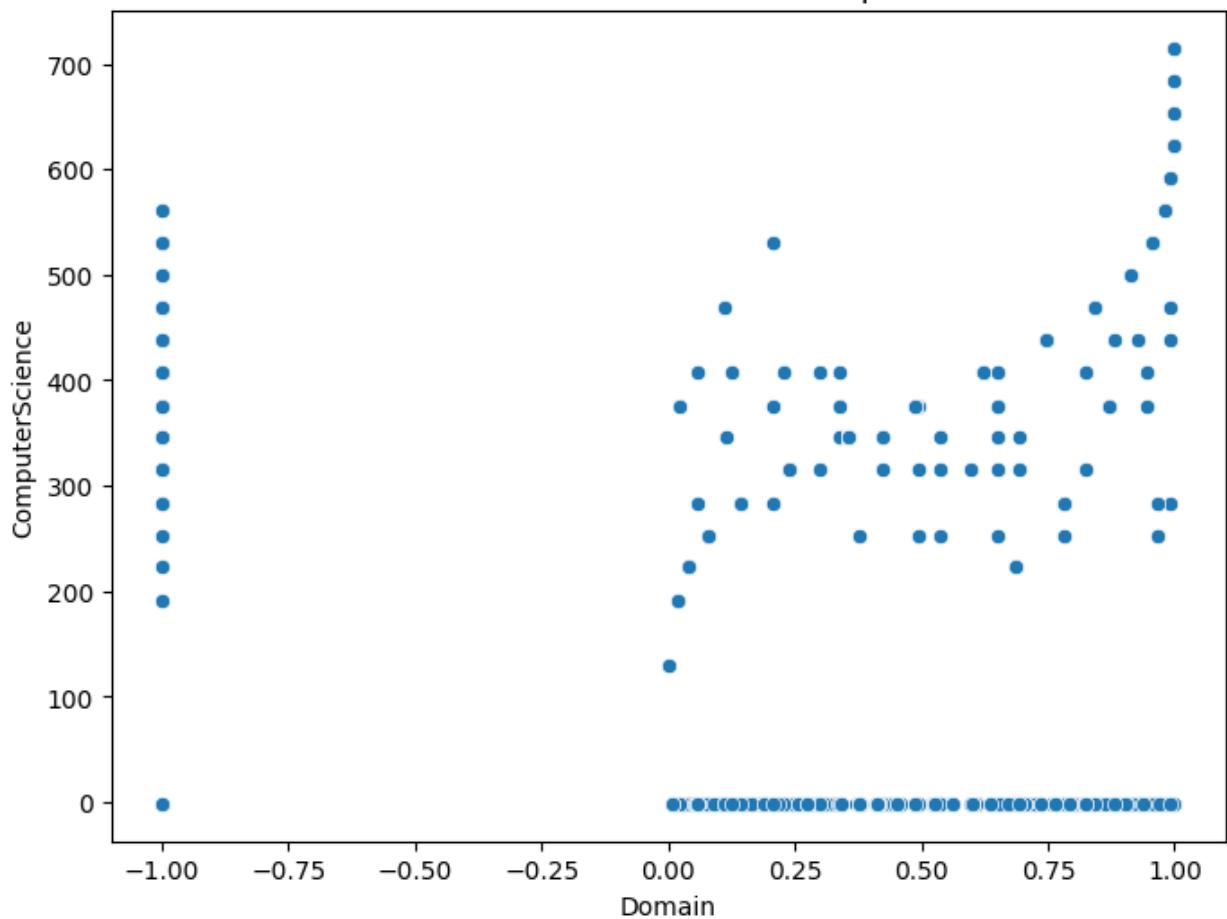
Scatter Plot between Domain and ComputerProgramming



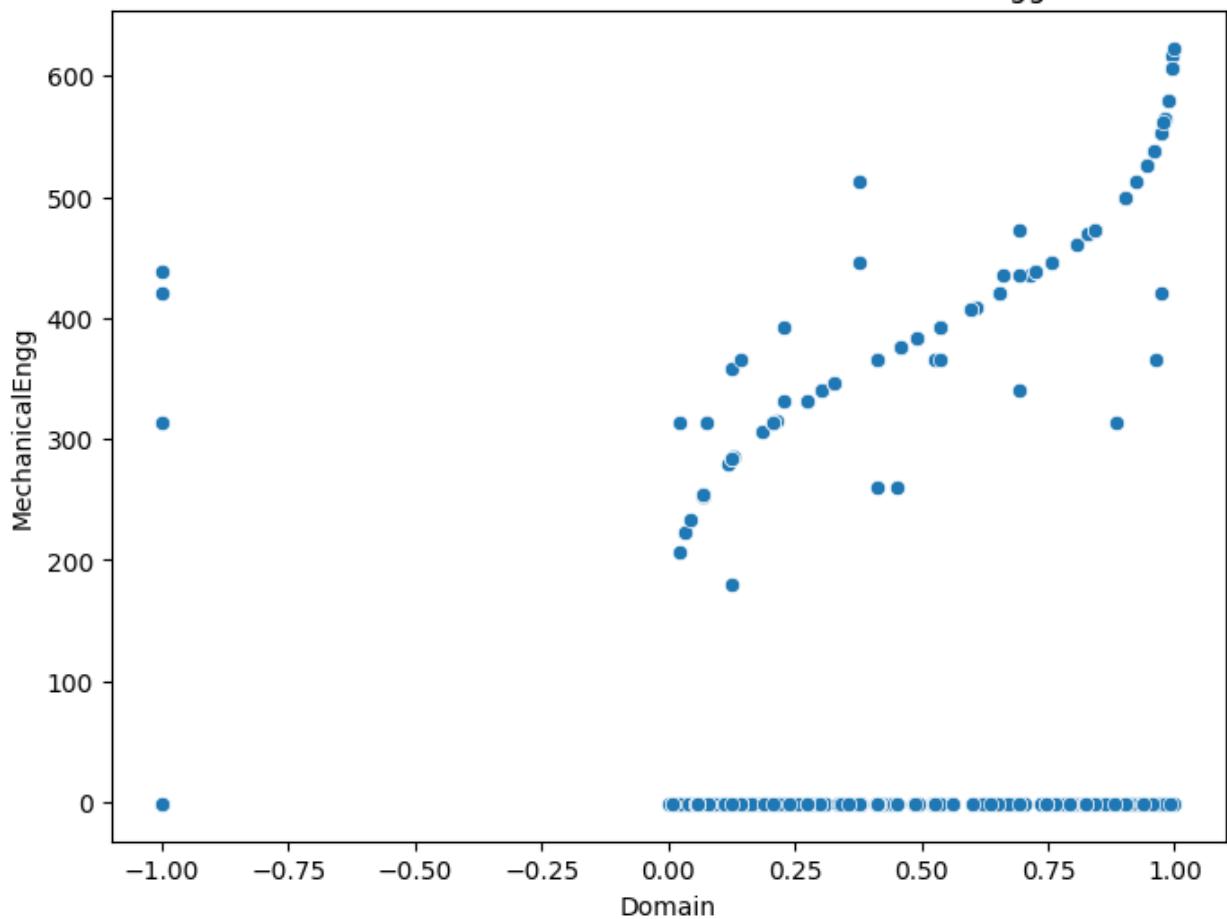
Scatter Plot between Domain and ElectronicsAndSemicon



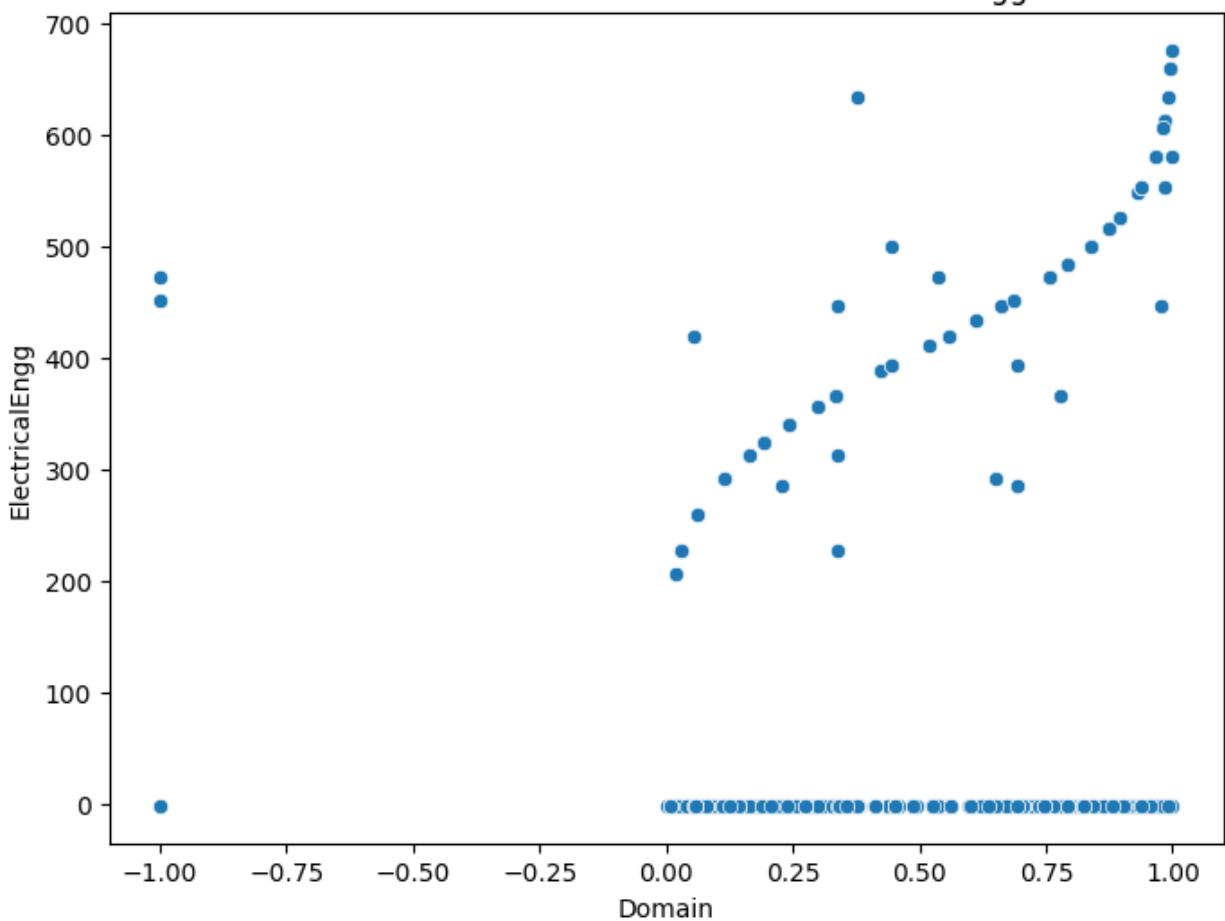
Scatter Plot between Domain and ComputerScience



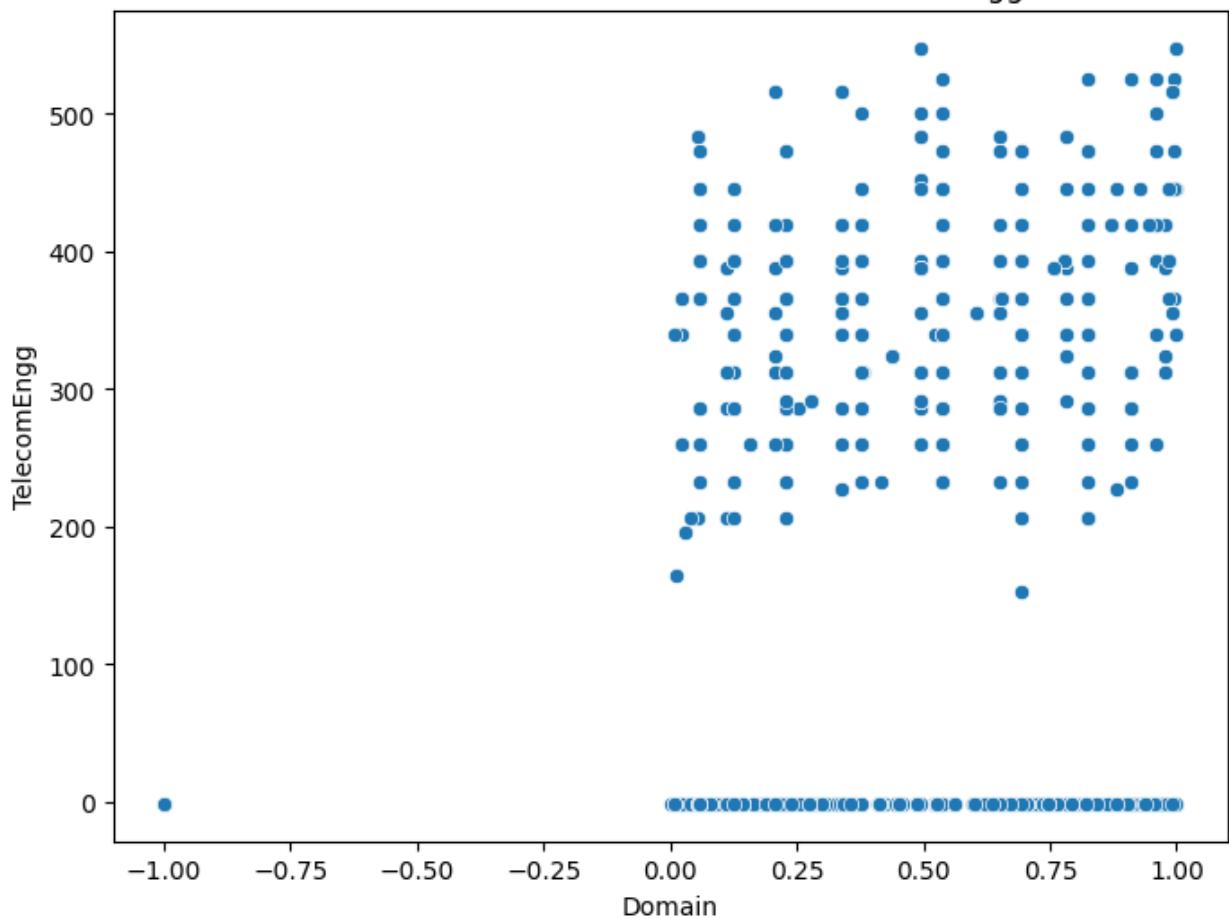
Scatter Plot between Domain and MechanicalEngg



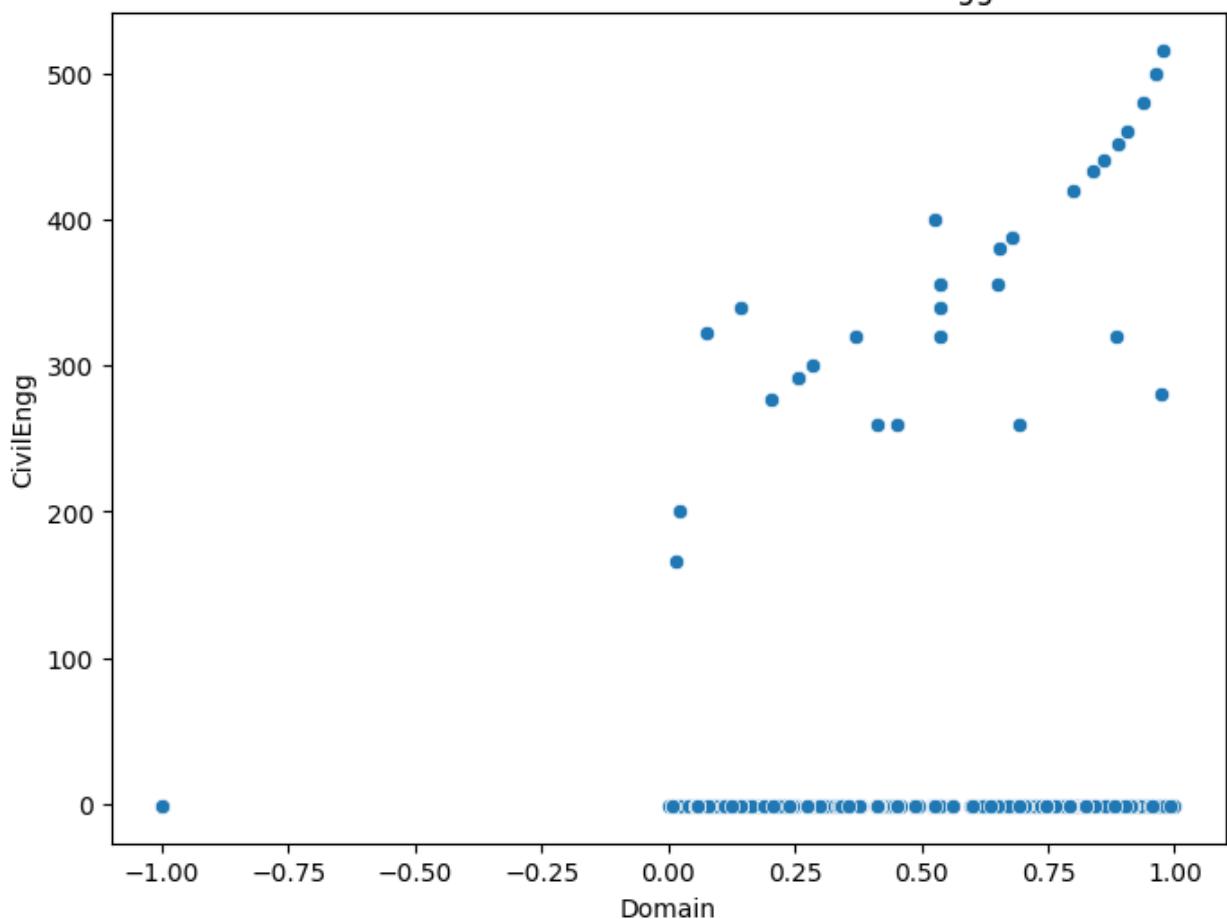
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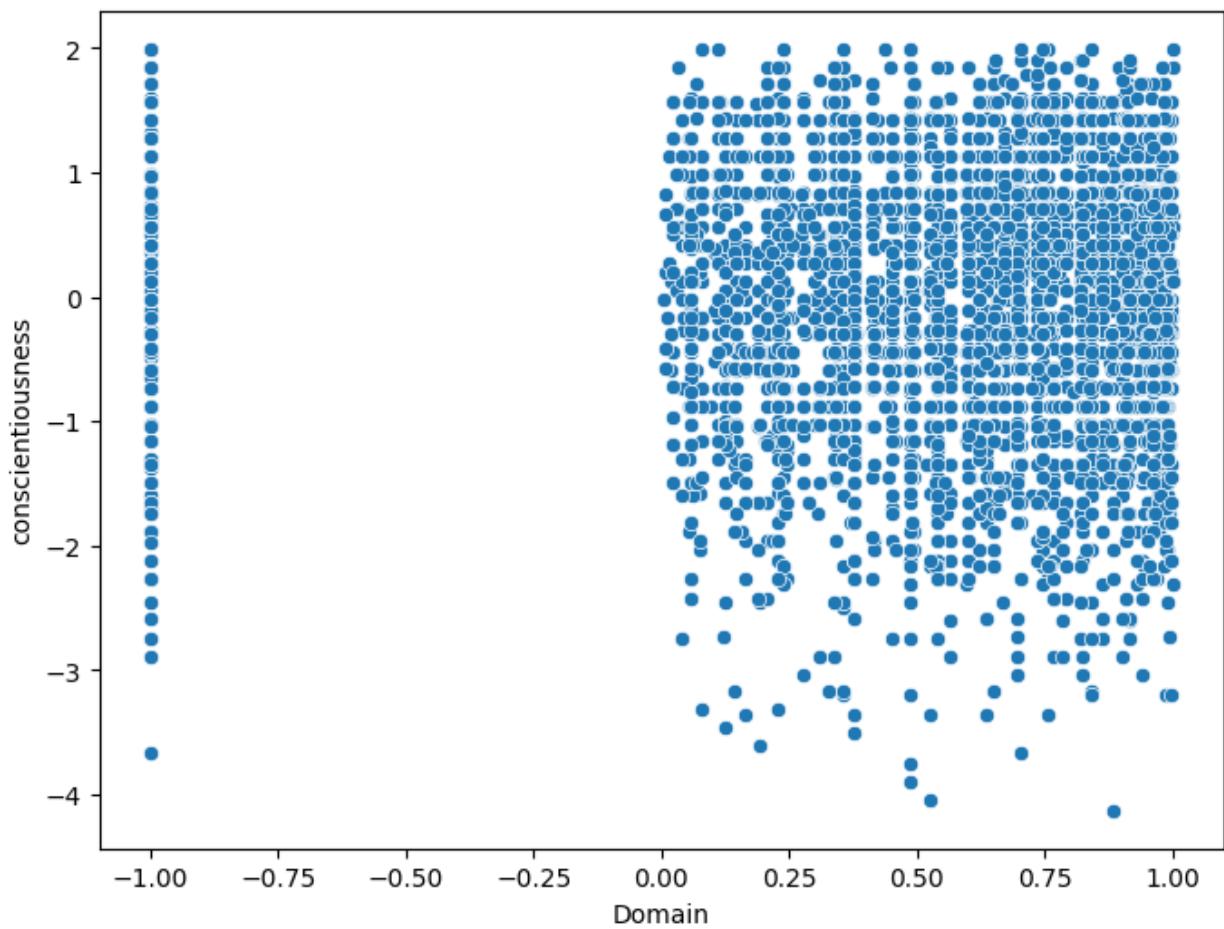
Scatter Plot between Domain and TelecomEngg



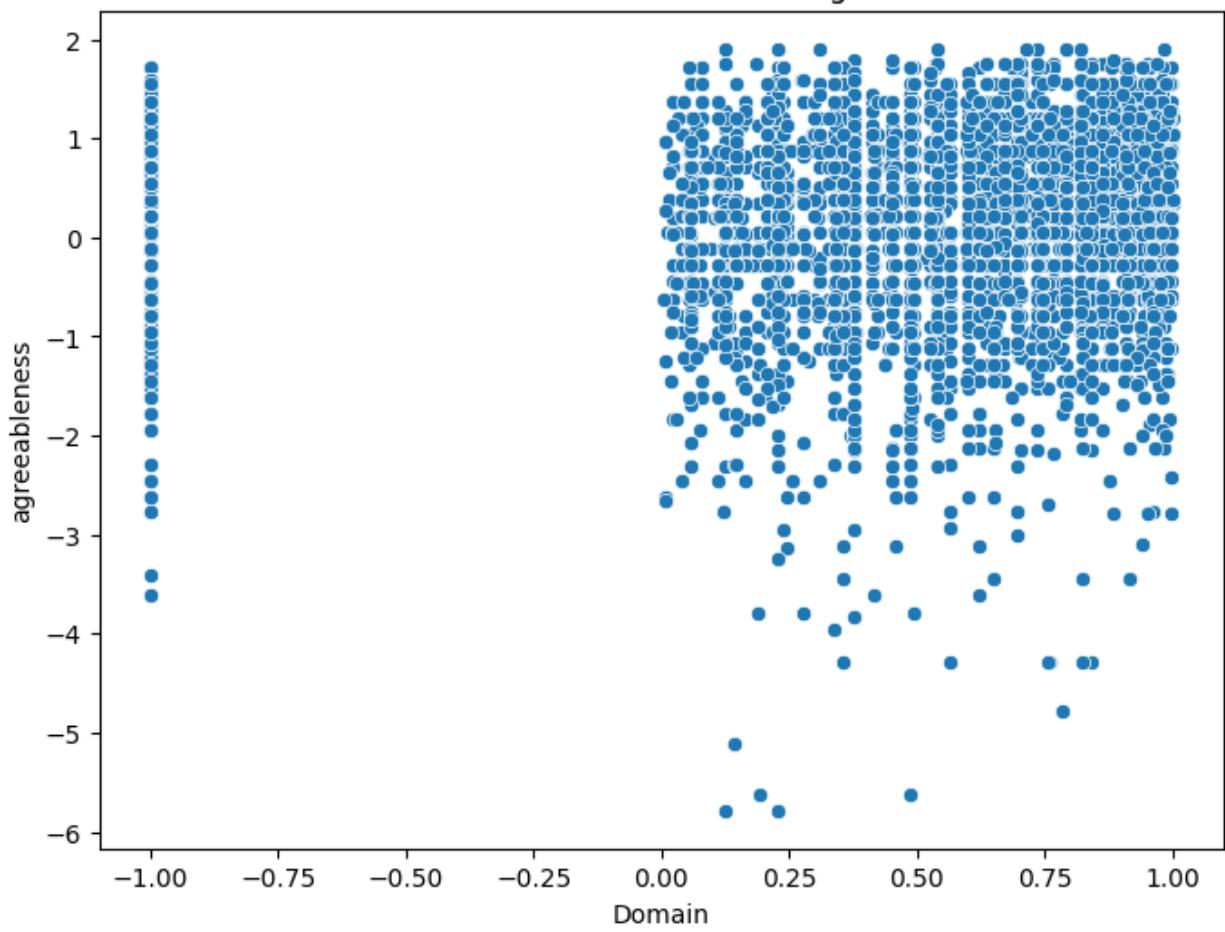
Scatter Plot between Domain and CivilEngg



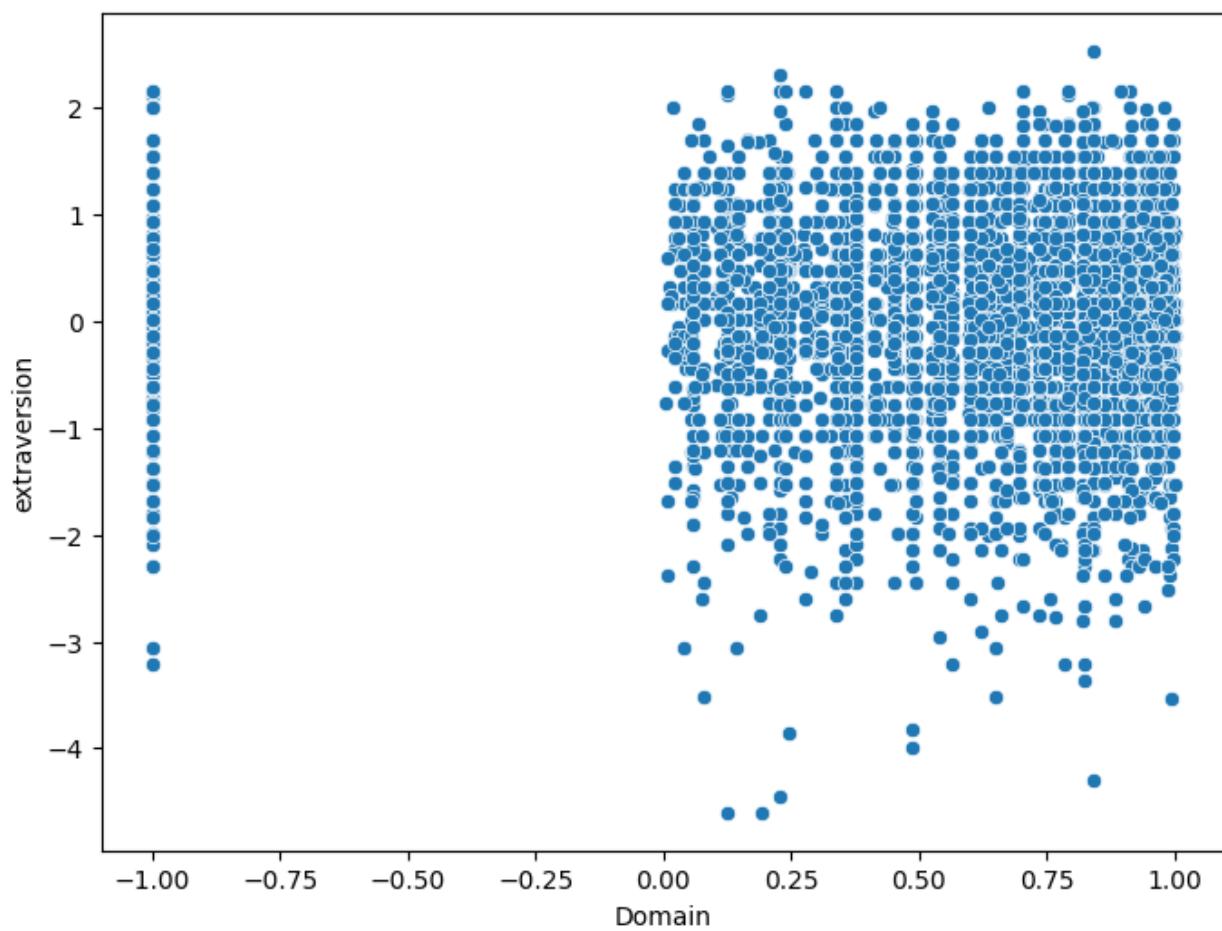
Scatter Plot between Domain and conscientiousness



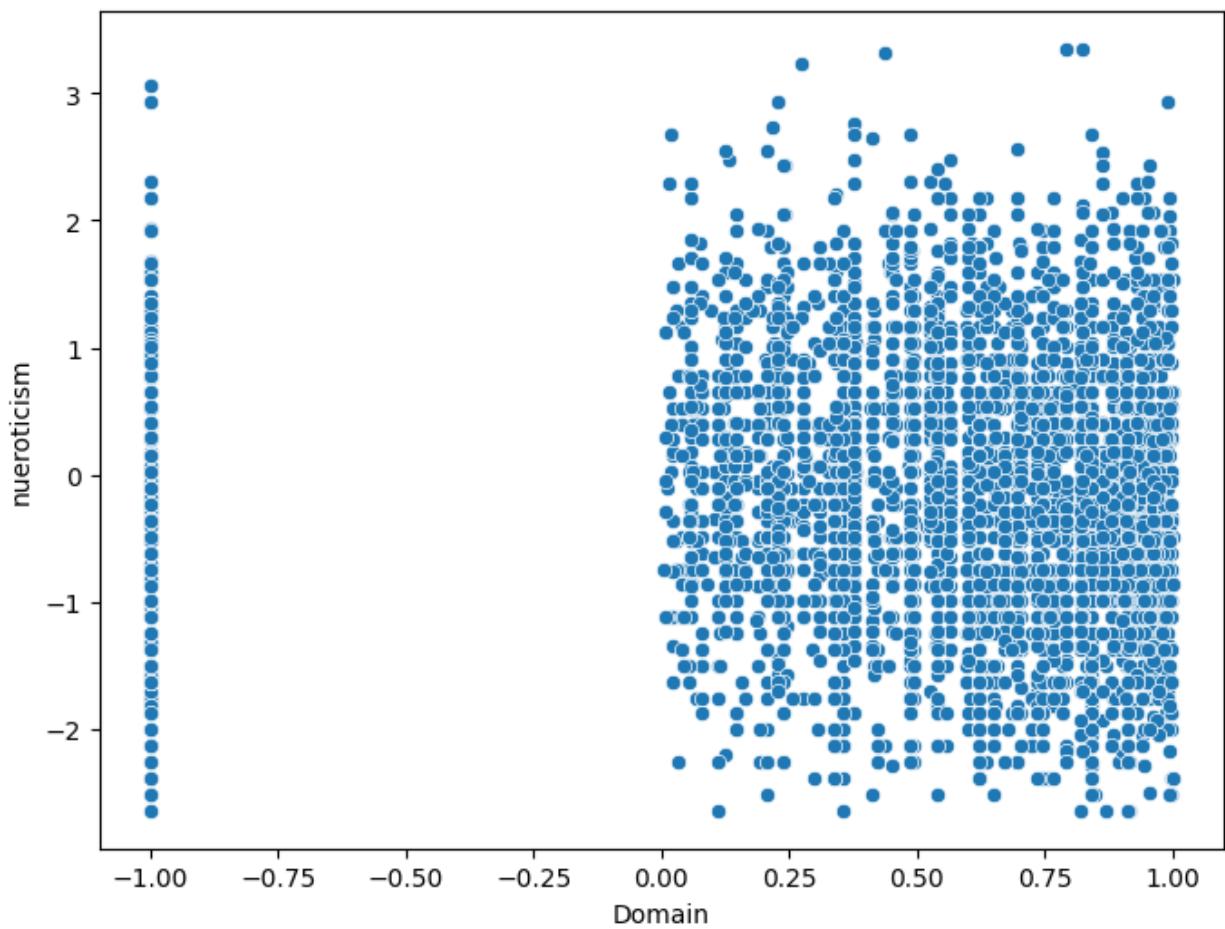
Scatter Plot between Domain and agreeableness



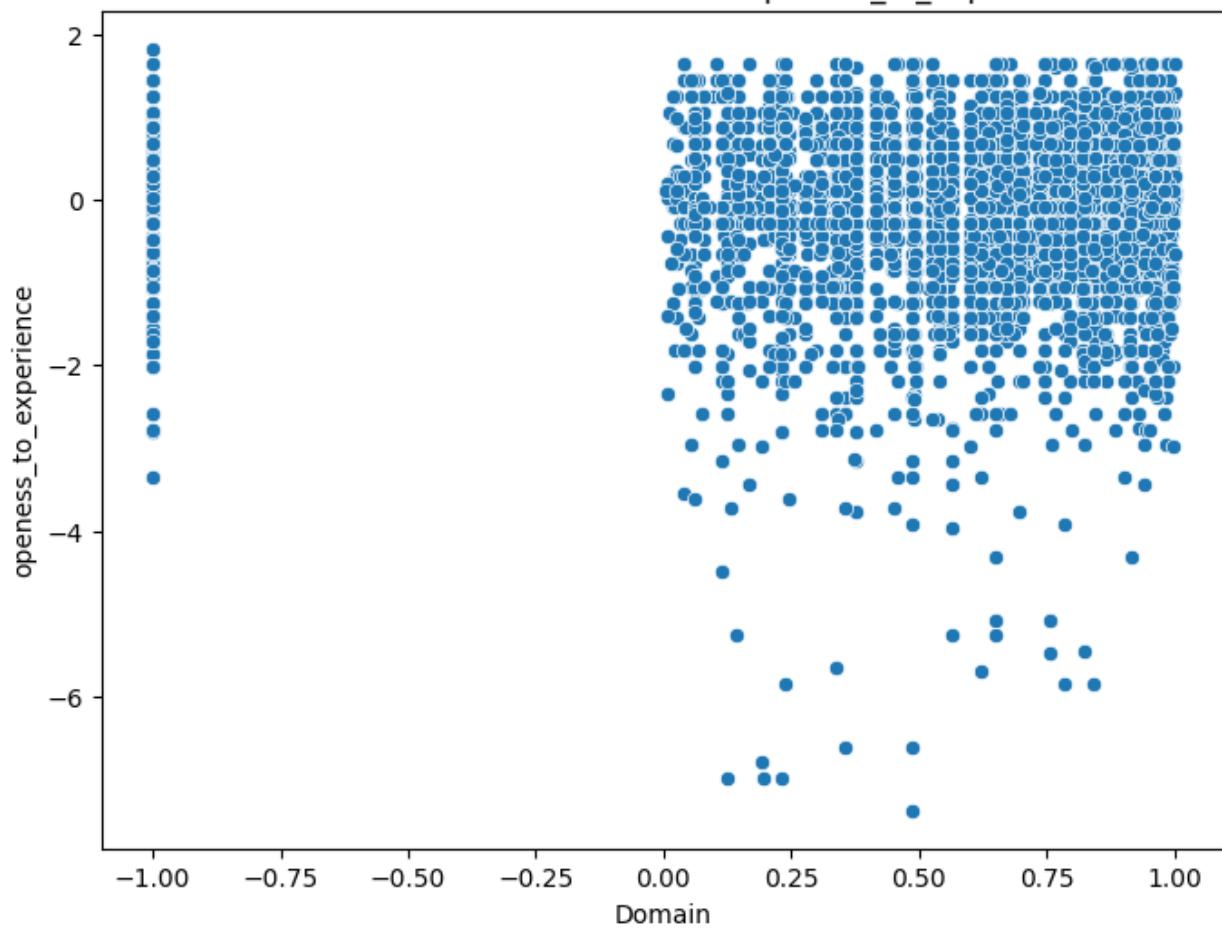
Scatter Plot between Domain and extraversion



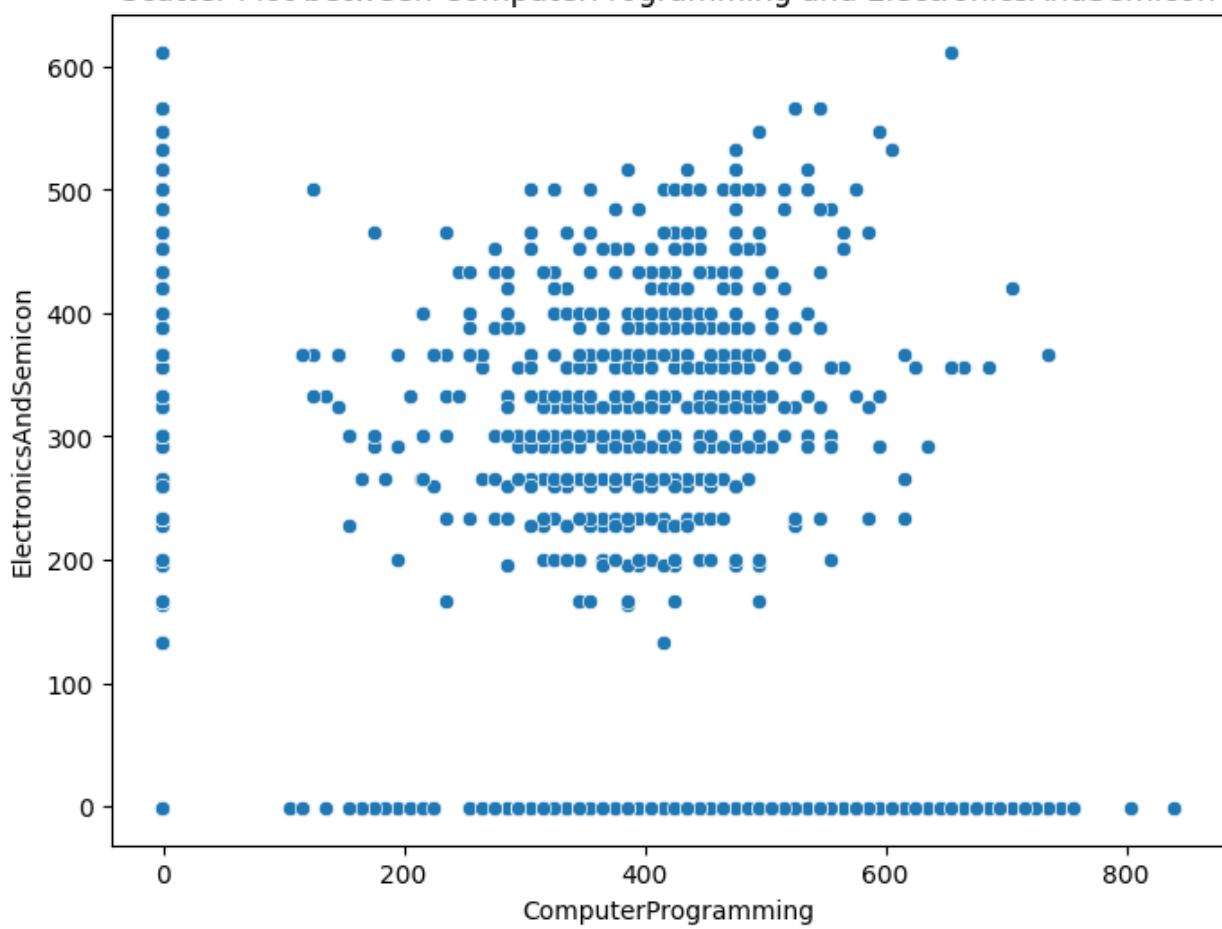
Scatter Plot between Domain and nueroticism



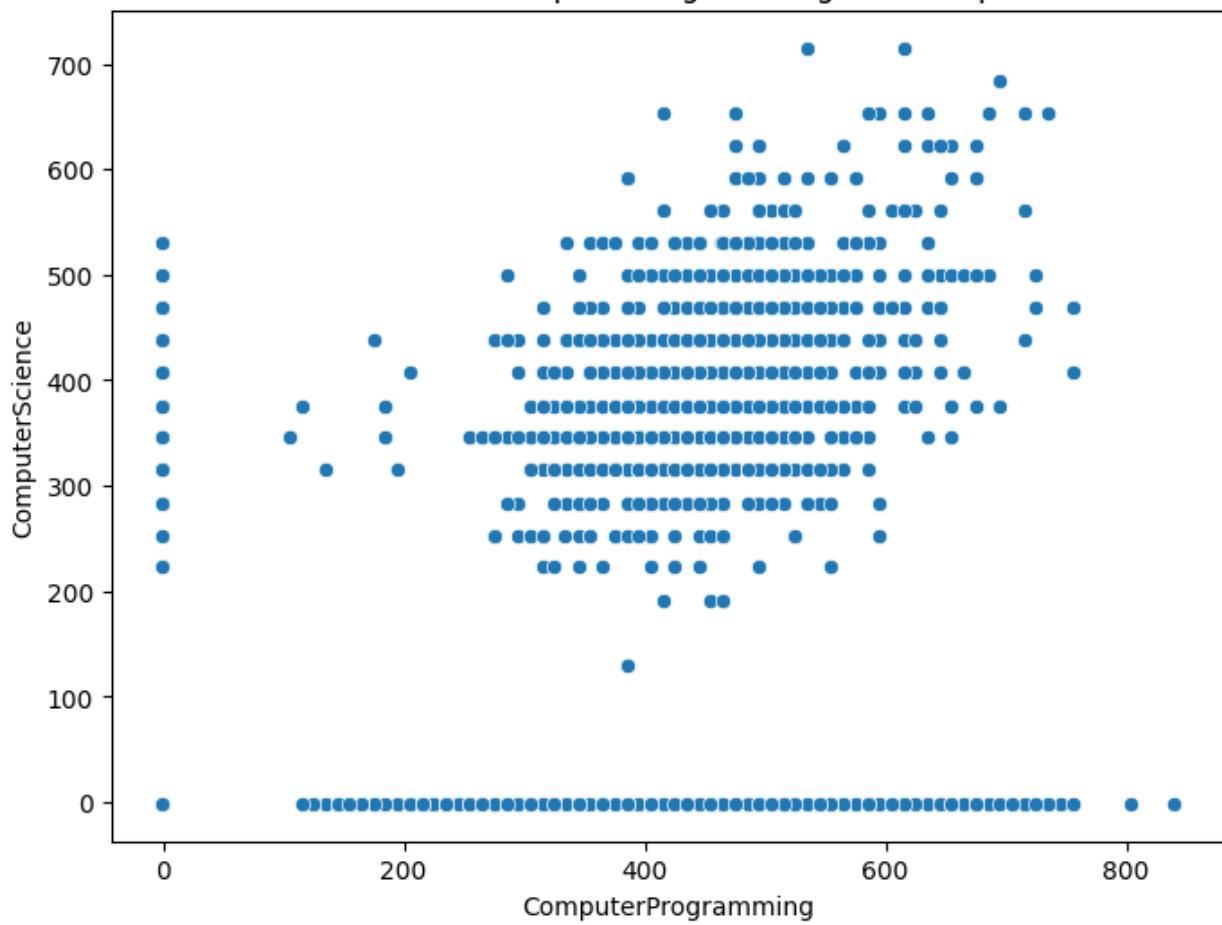
Scatter Plot between Domain and openness_to_experience



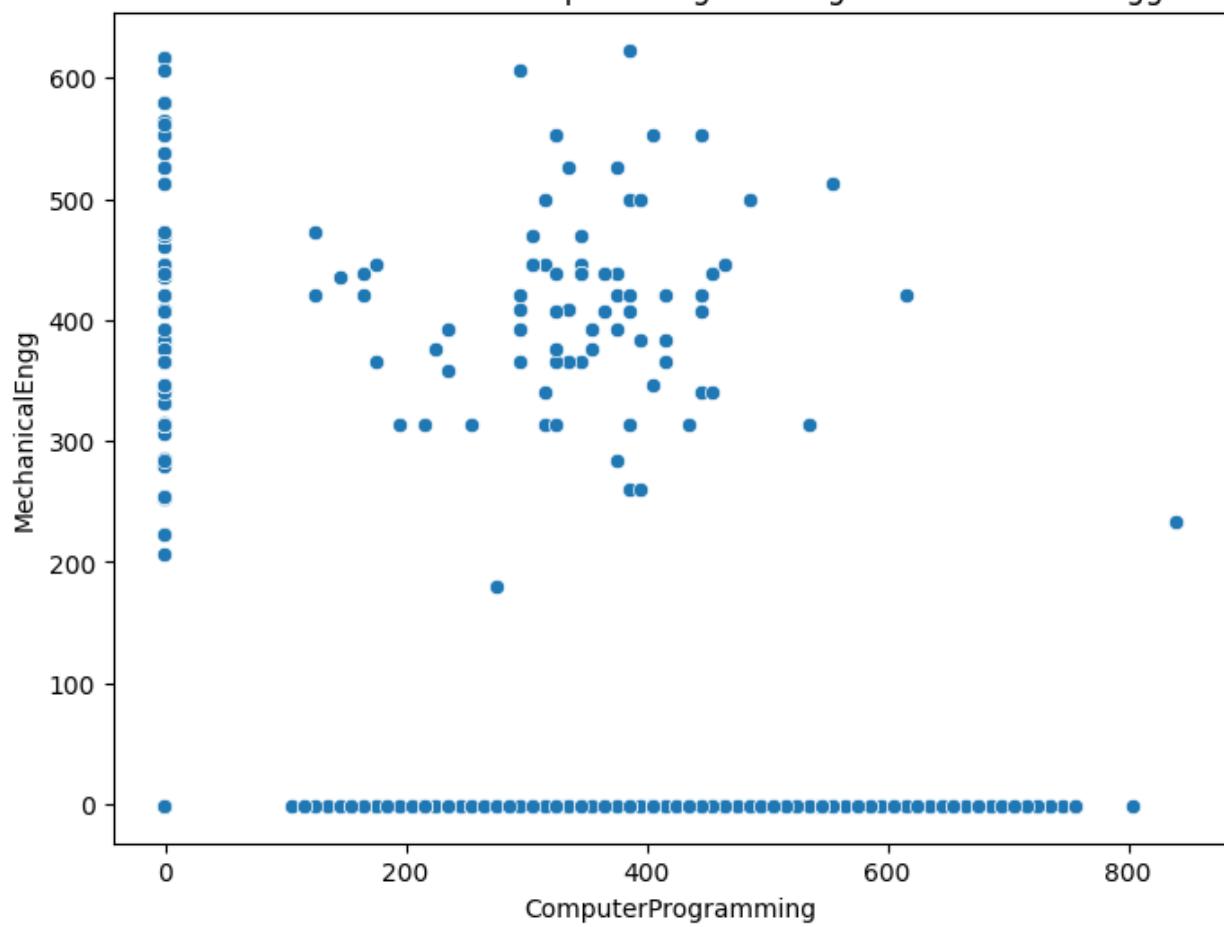
Scatter Plot between ComputerProgramming and ElectronicsAndSemicon



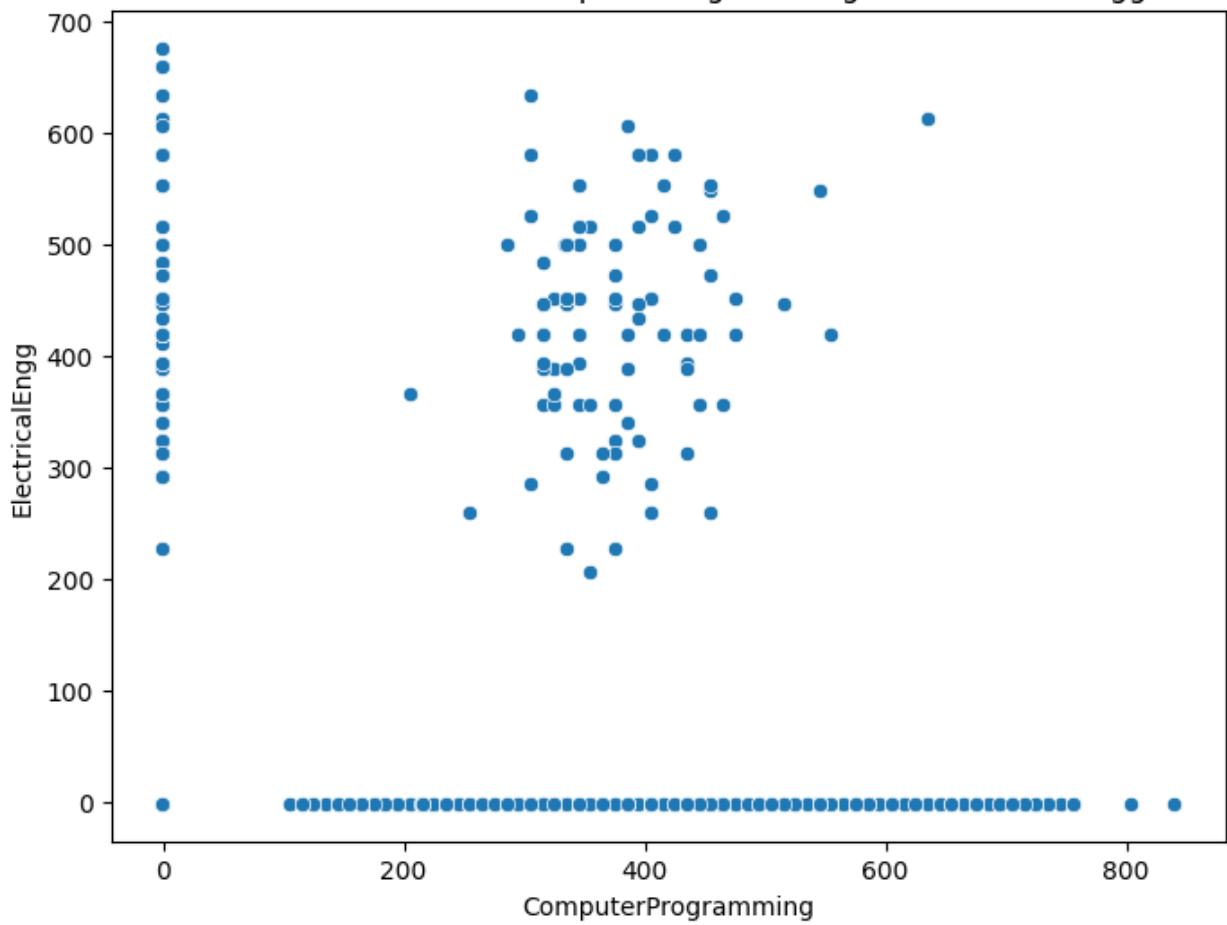
Scatter Plot between ComputerProgramming and ComputerScience



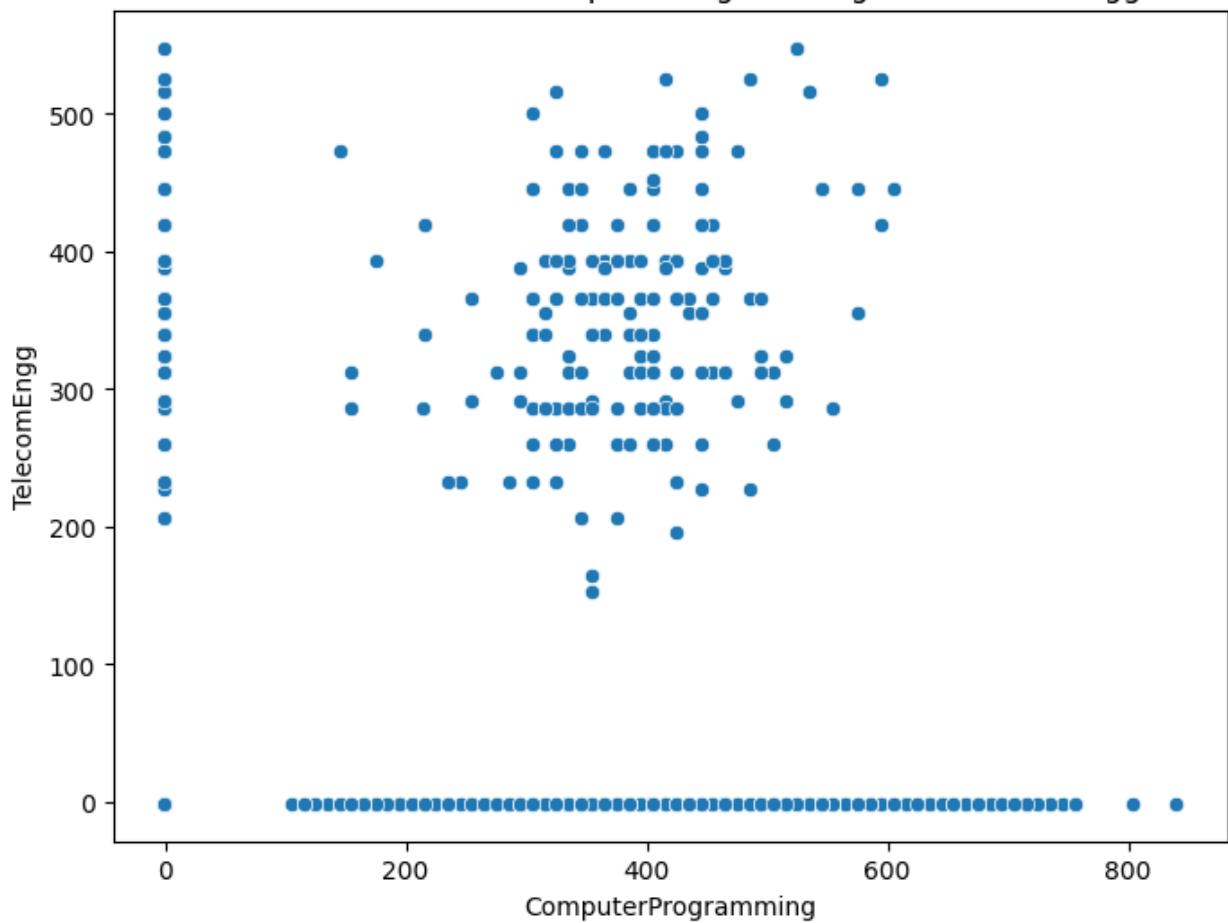
Scatter Plot between ComputerProgramming and MechanicalEngg



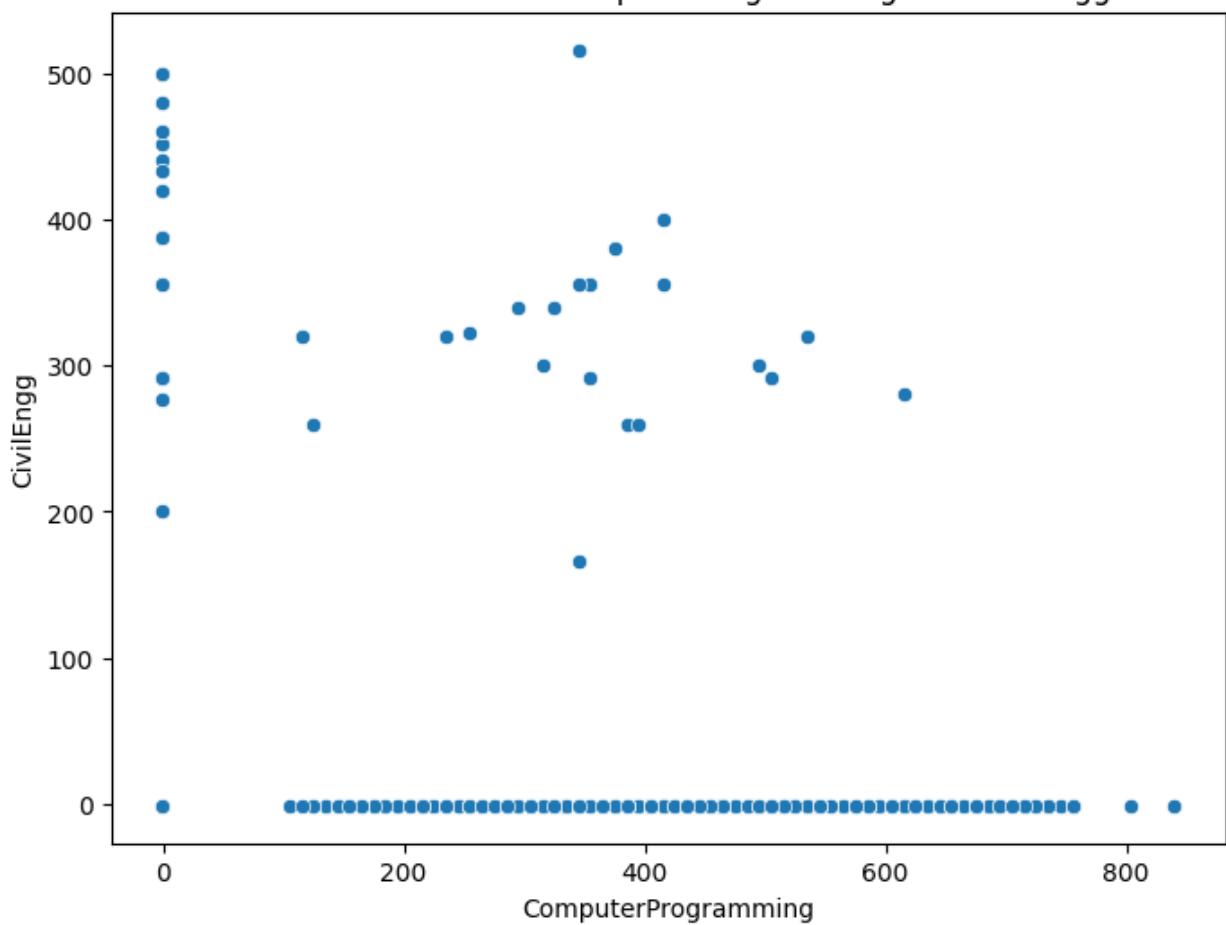
Scatter Plot between ComputerProgramming and ElectricalEngg



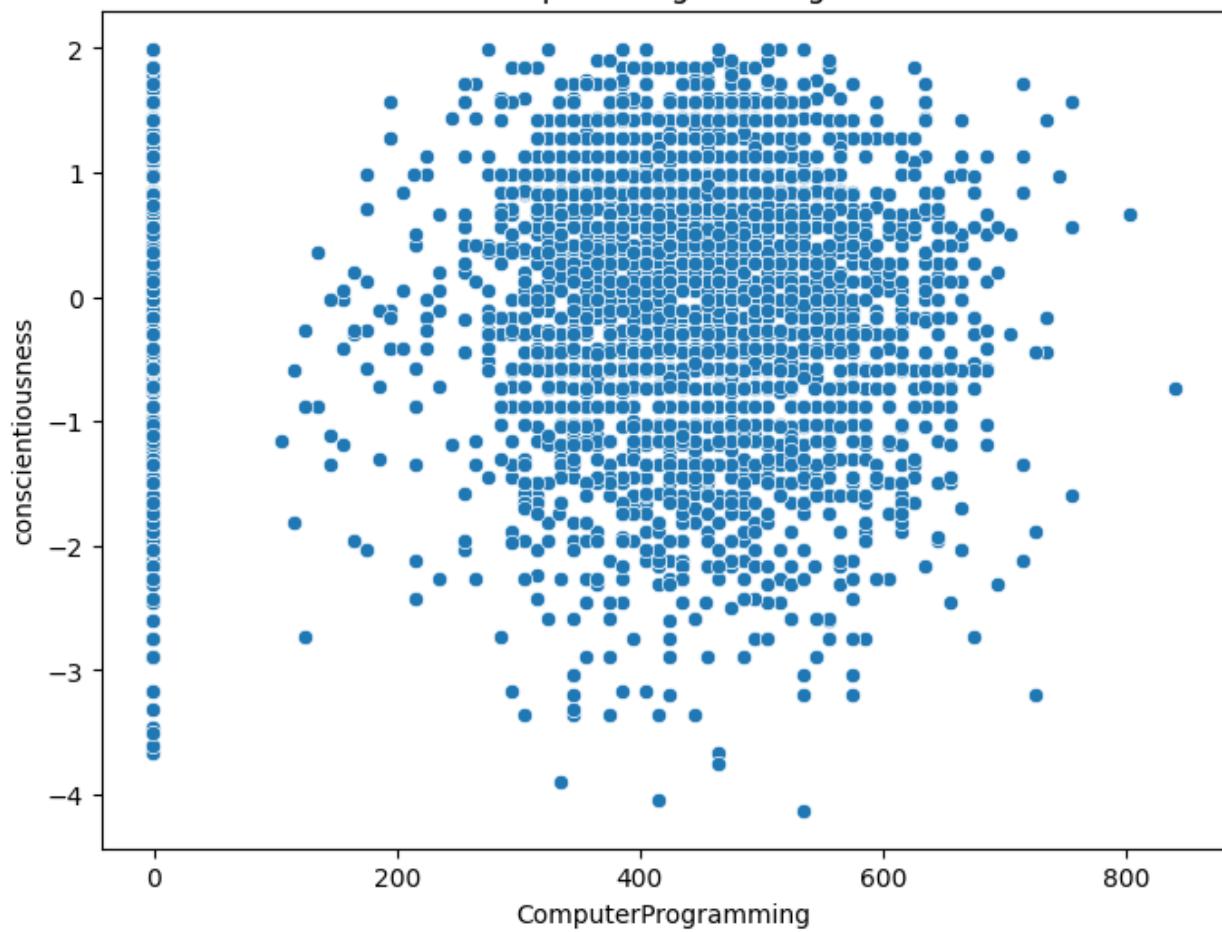
Scatter Plot between ComputerProgramming and TelecomEngg



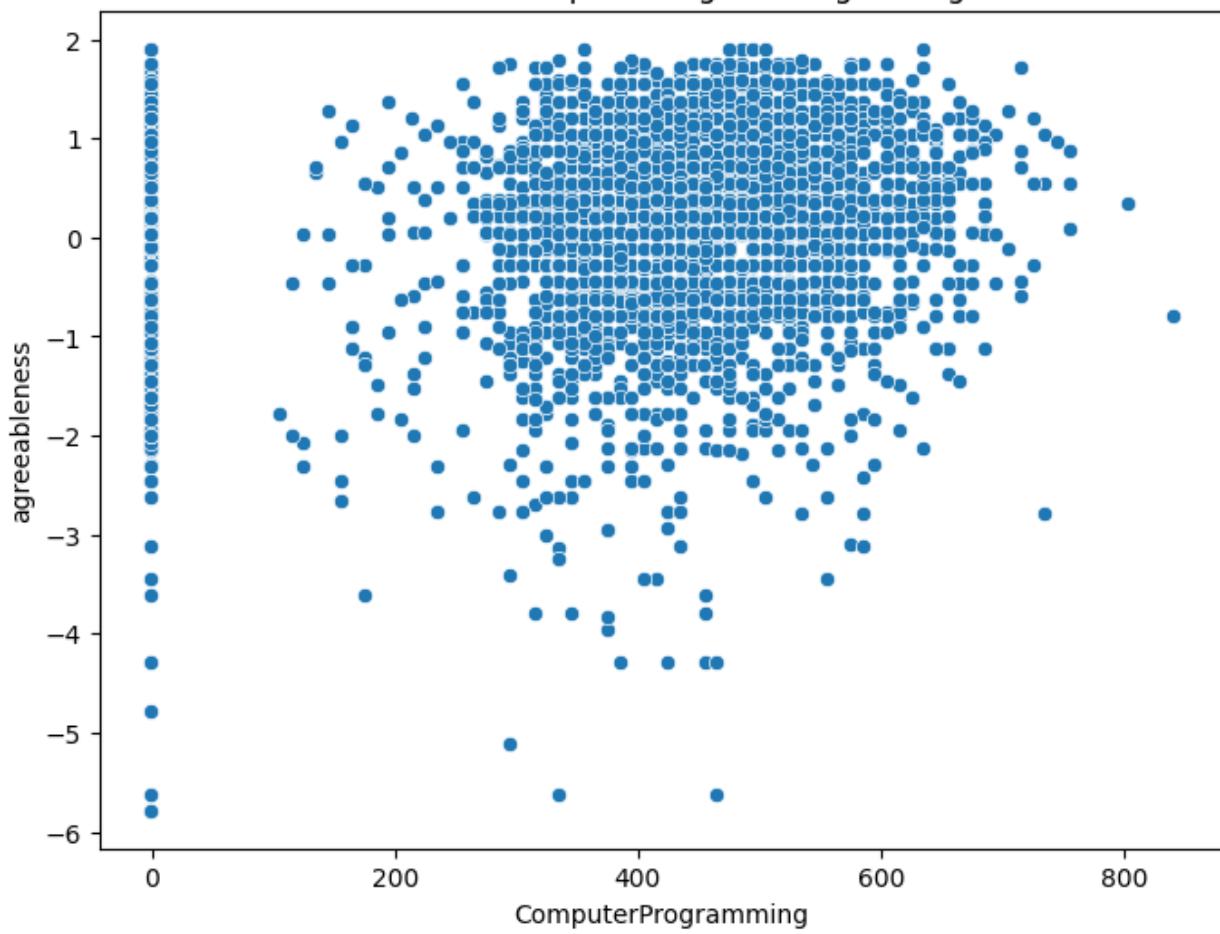
Scatter Plot between ComputerProgramming and CivilEngg



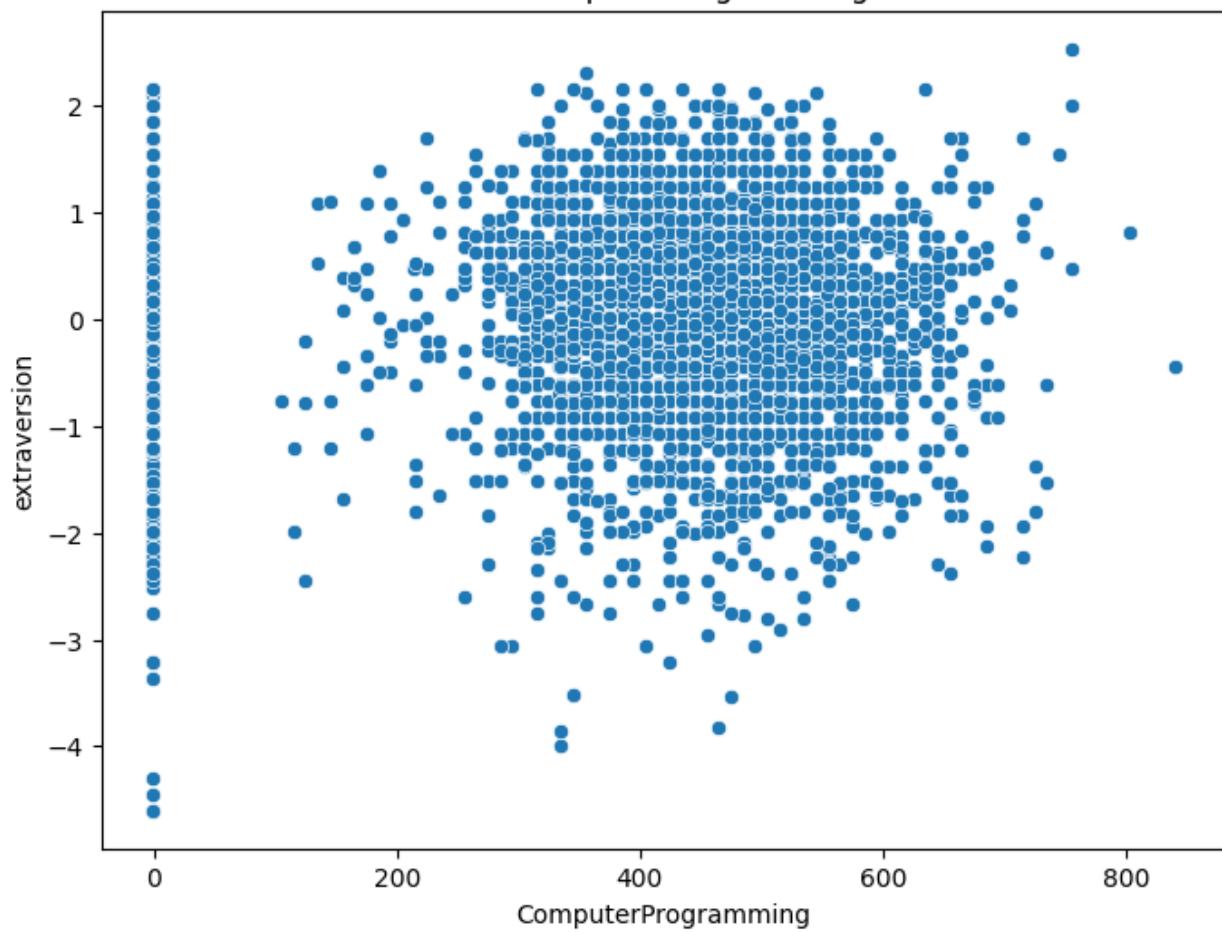
Scatter Plot between ComputerProgramming and conscientiousness



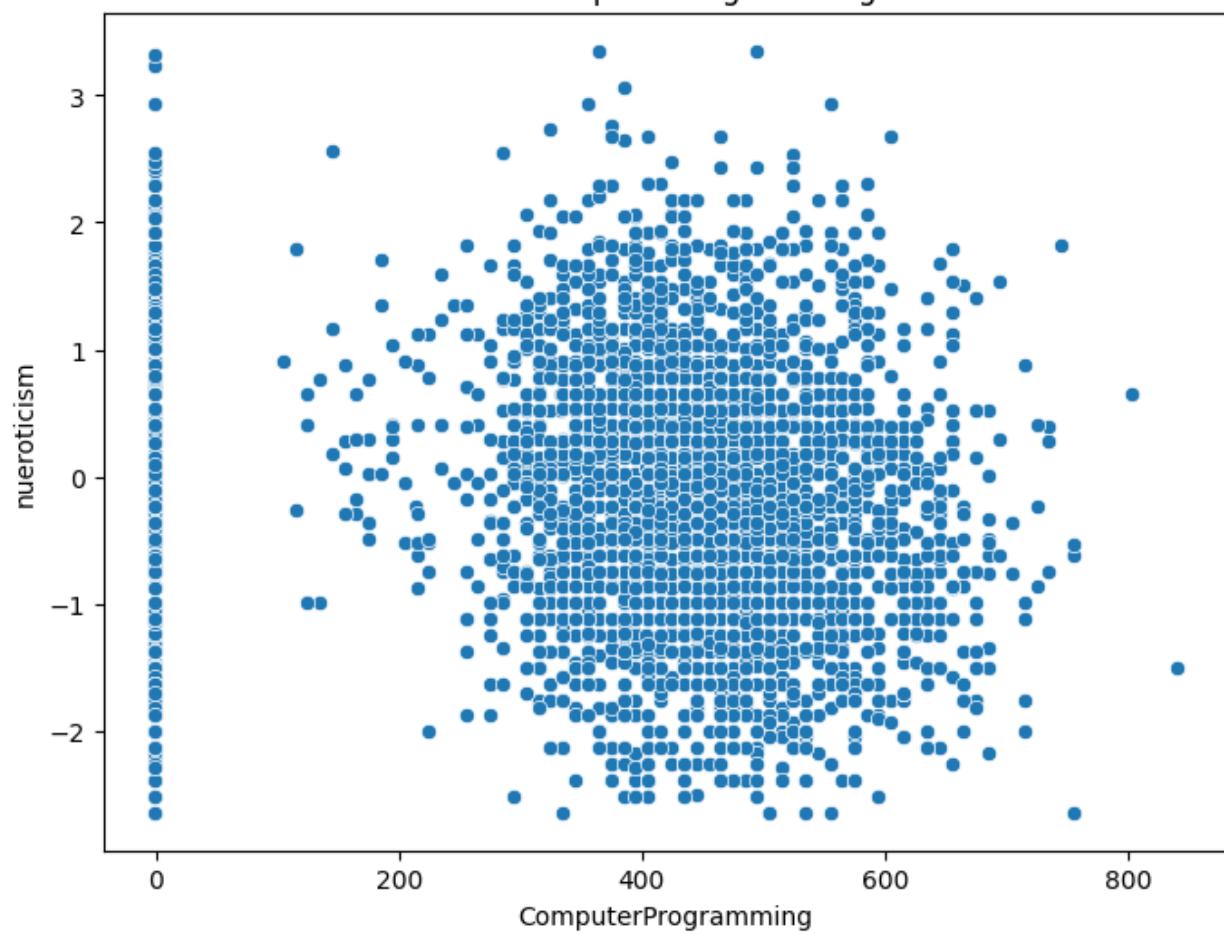
Scatter Plot between ComputerProgramming and agreeableness



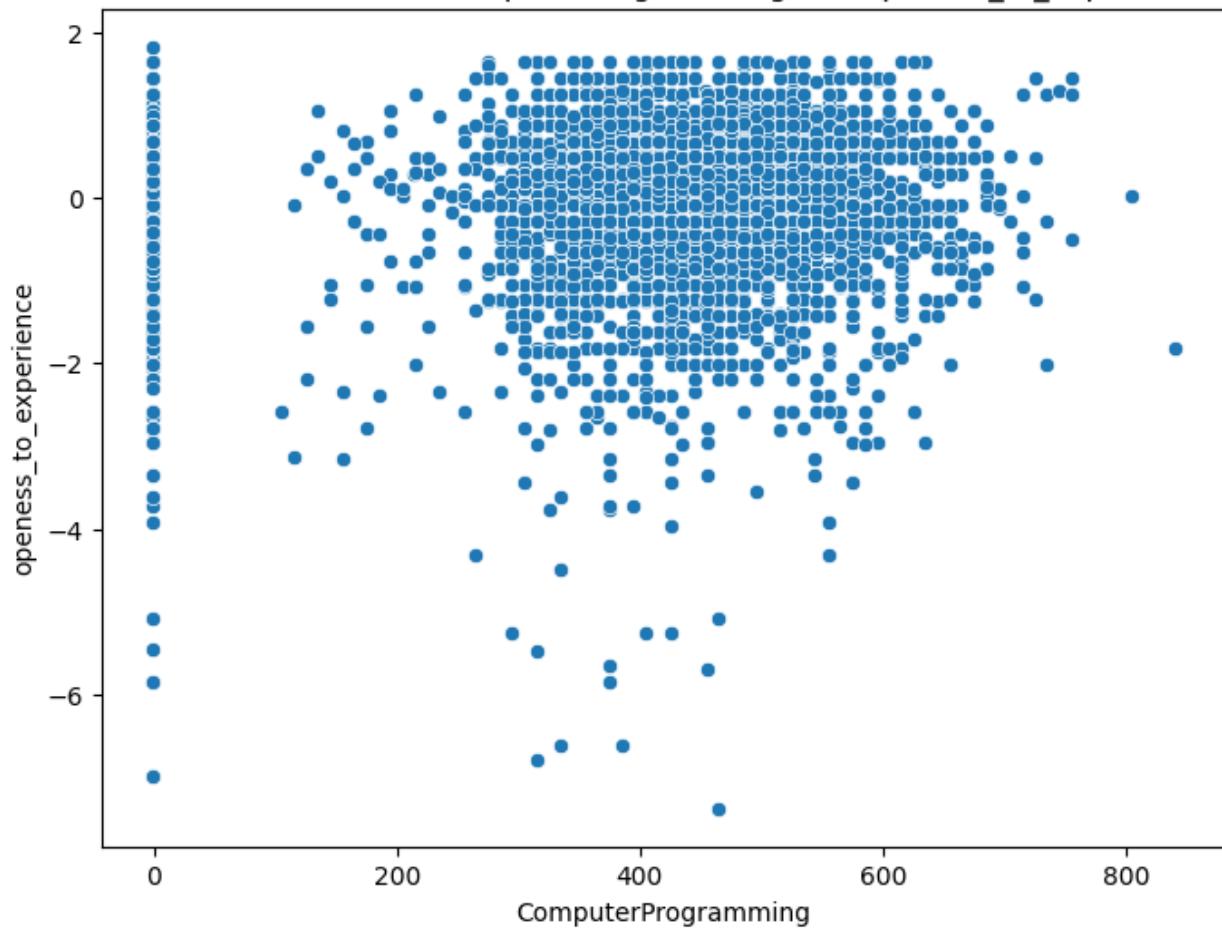
Scatter Plot between ComputerProgramming and extraversion



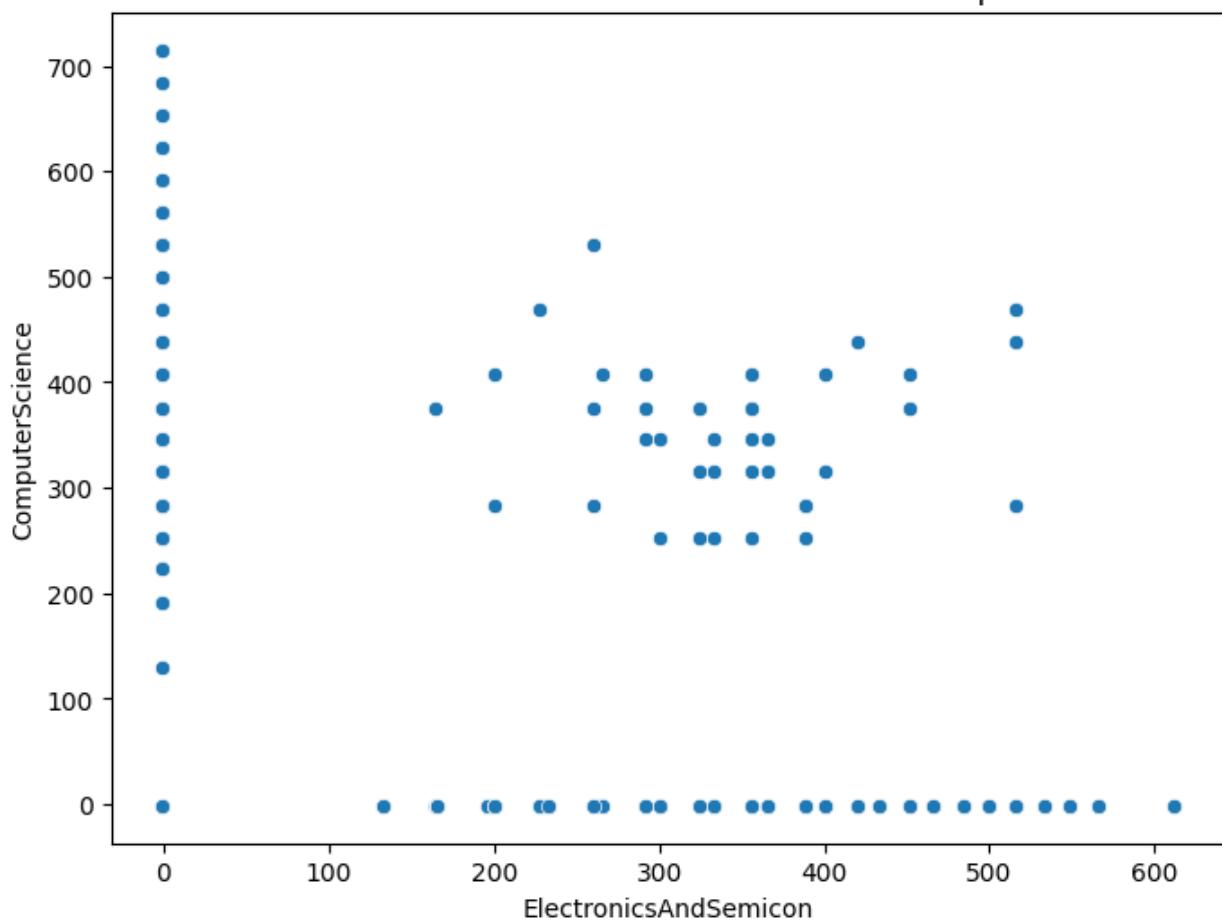
Scatter Plot between ComputerProgramming and nueroticism



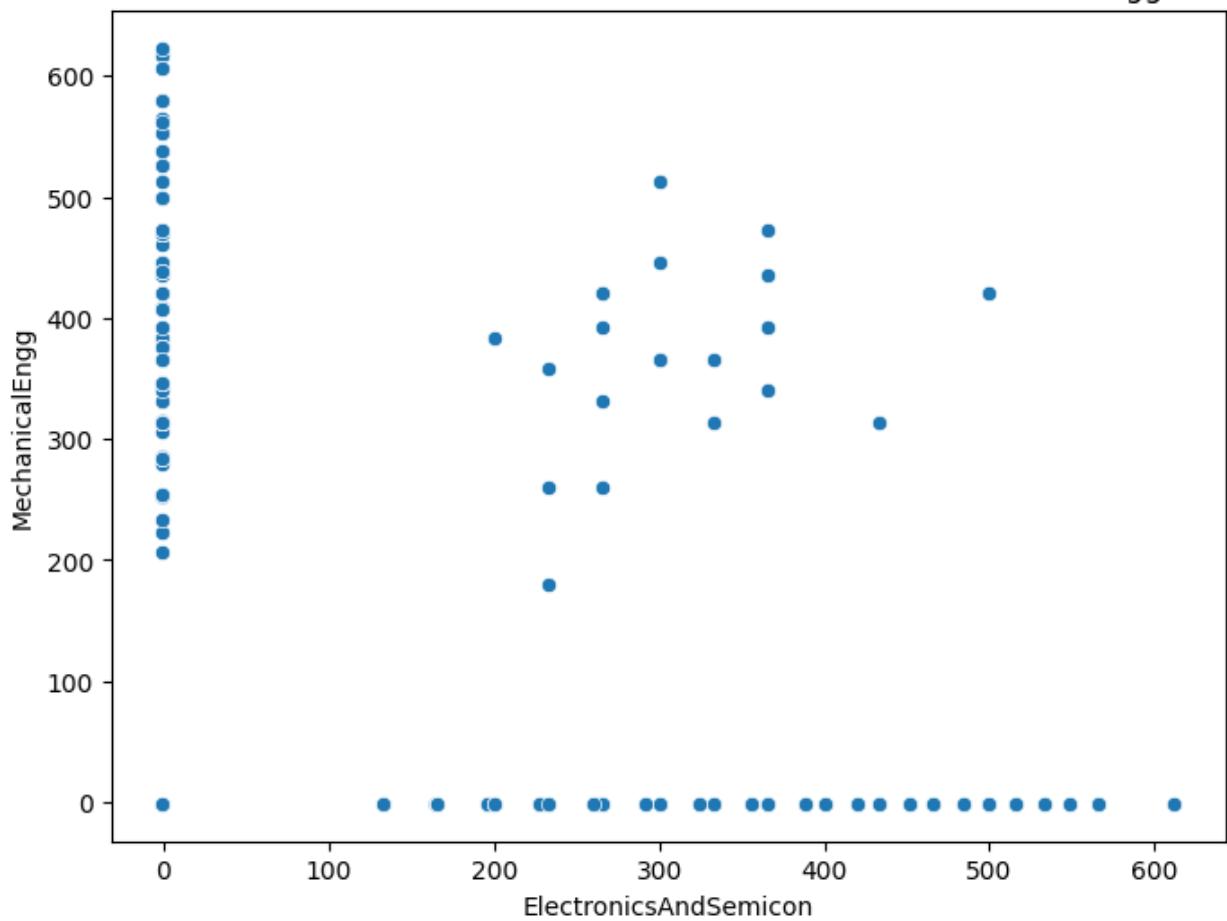
Scatter Plot between ComputerProgramming and openness_to_experience



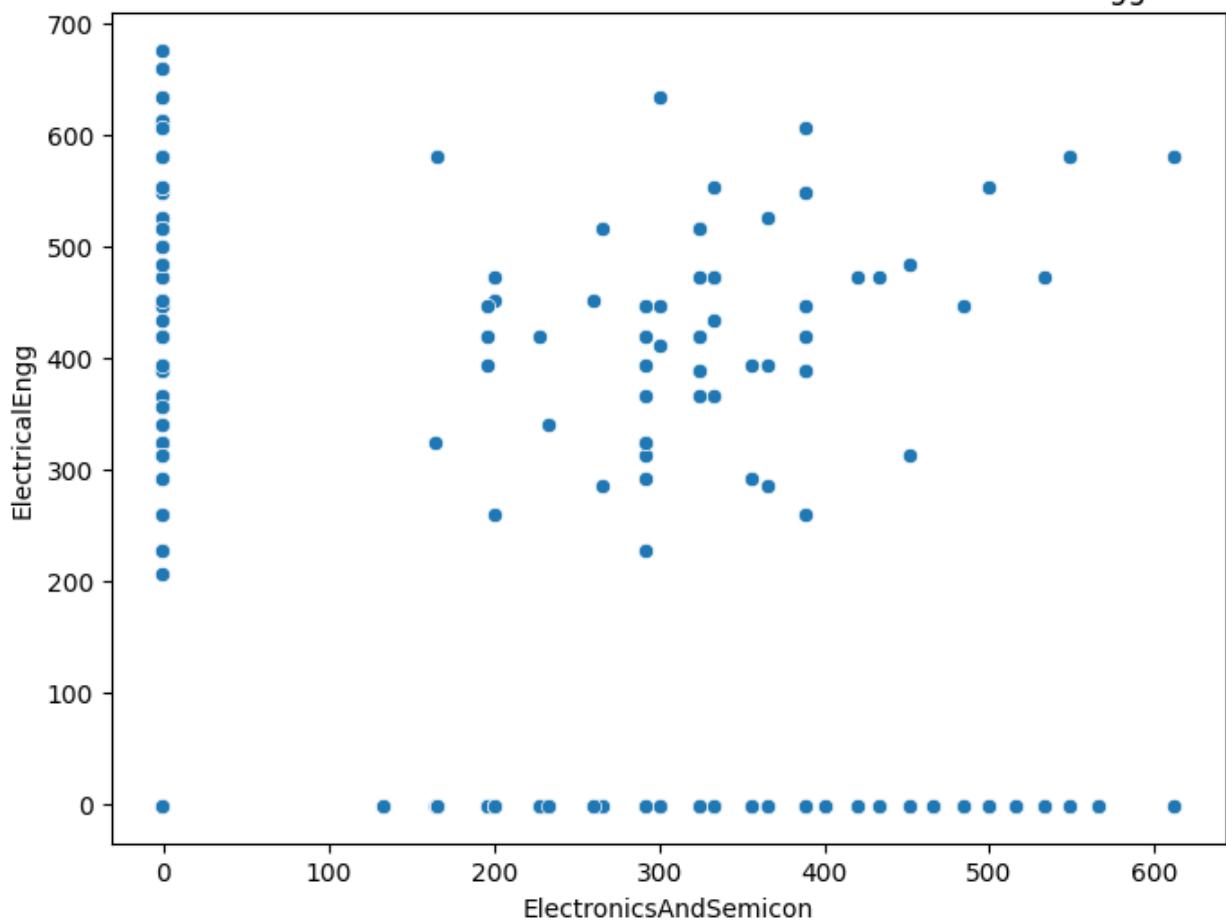
Scatter Plot between ElectronicsAndSemicon and ComputerScience



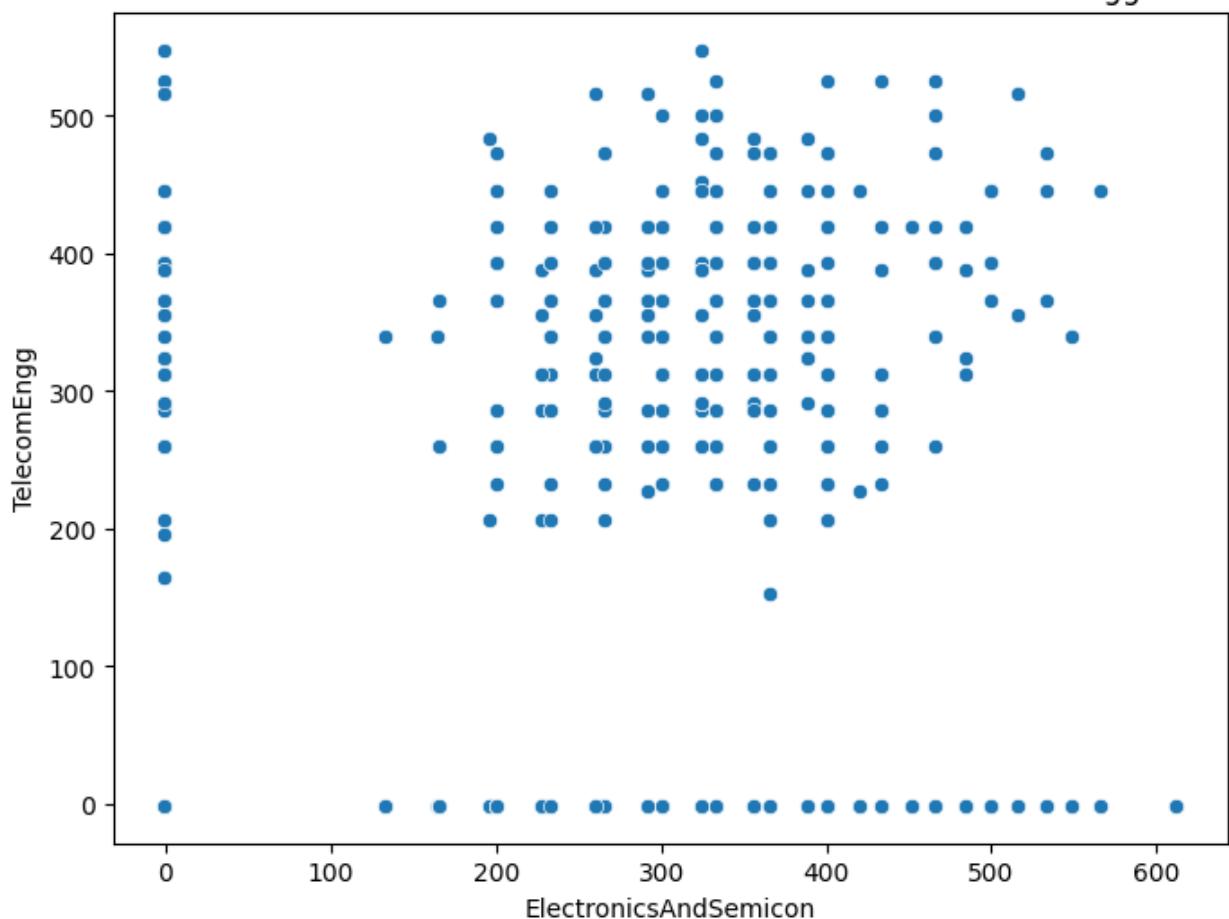
Scatter Plot between ElectronicsAndSemicon and MechanicalEngg



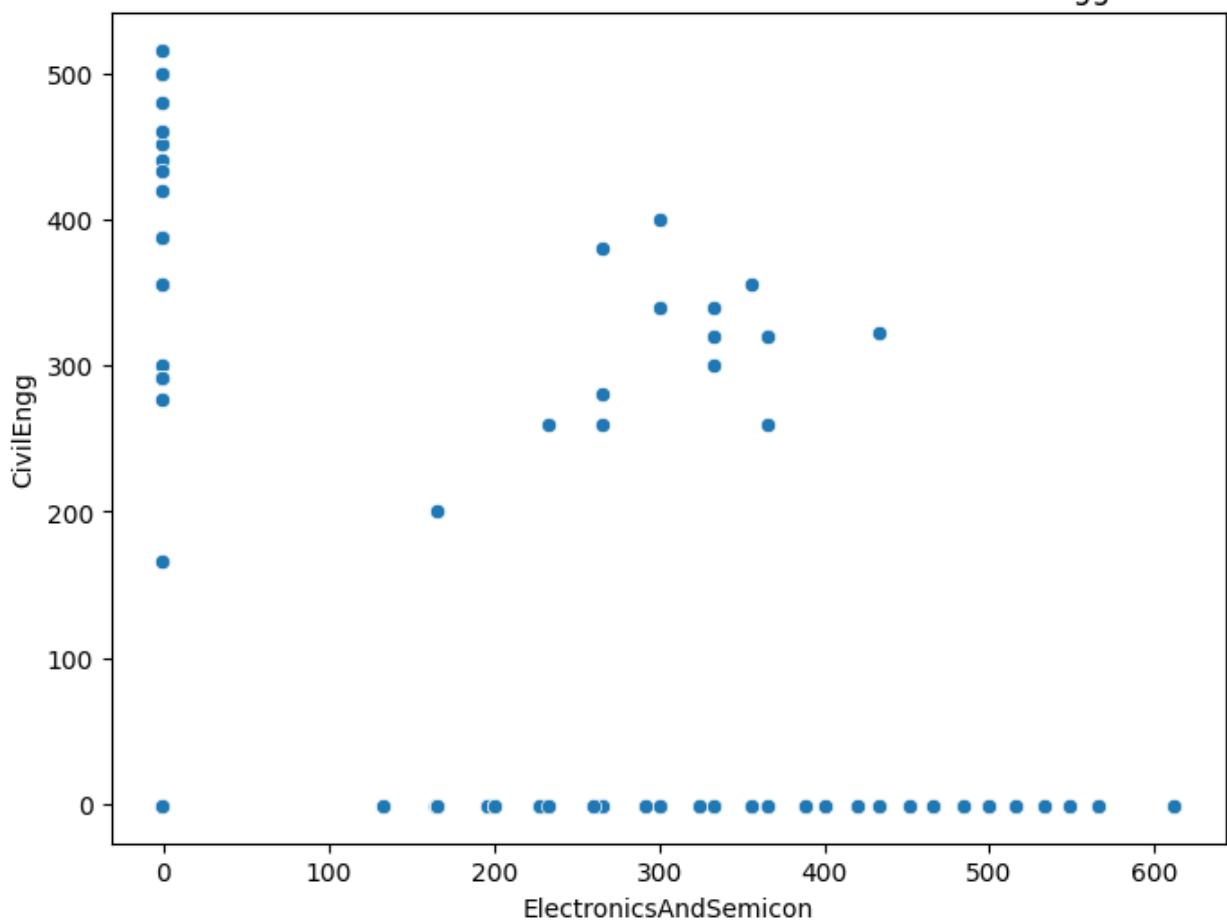
Scatter Plot between ElectronicsAndSemicon and ElectricalEngg



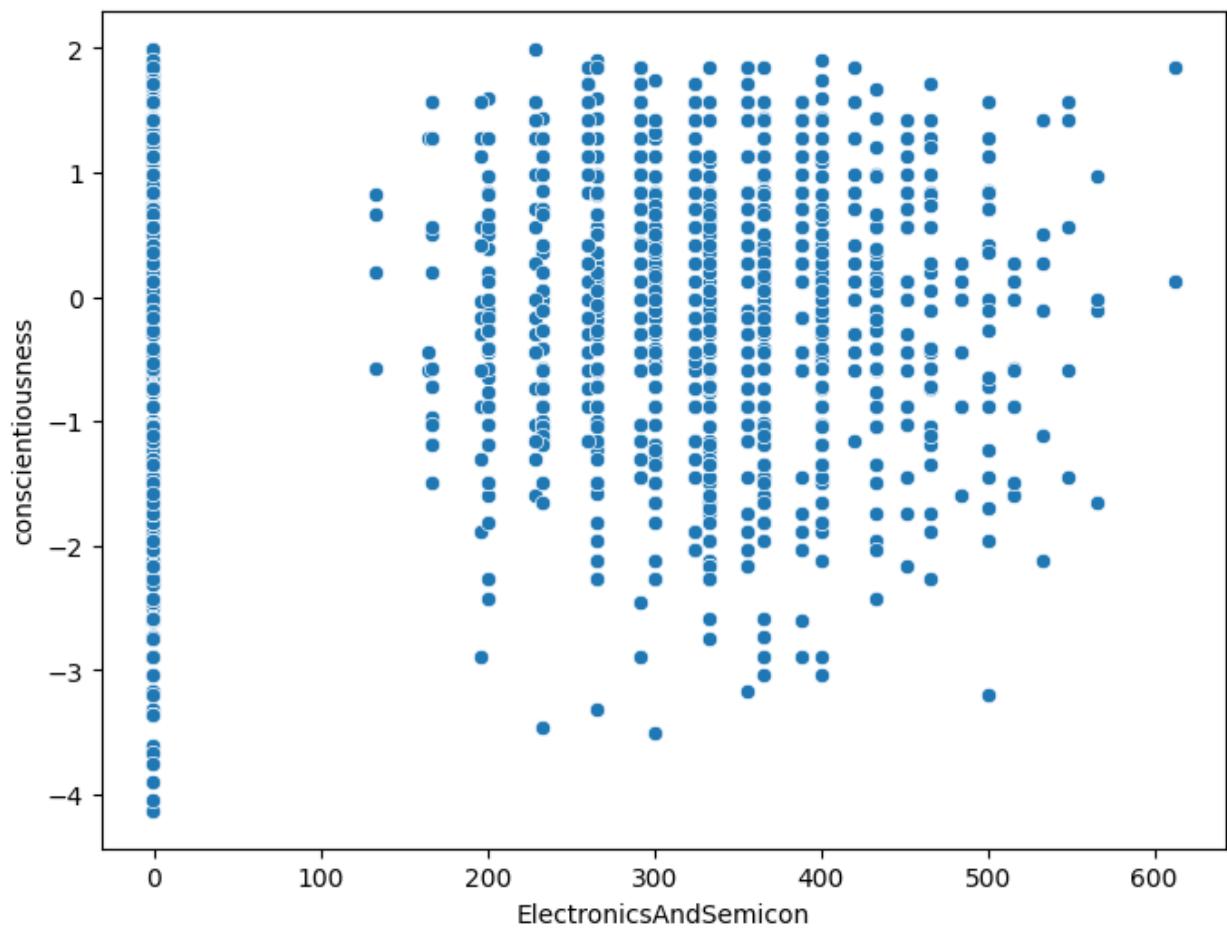
Scatter Plot between ElectronicsAndSemicon and TelecomEngg



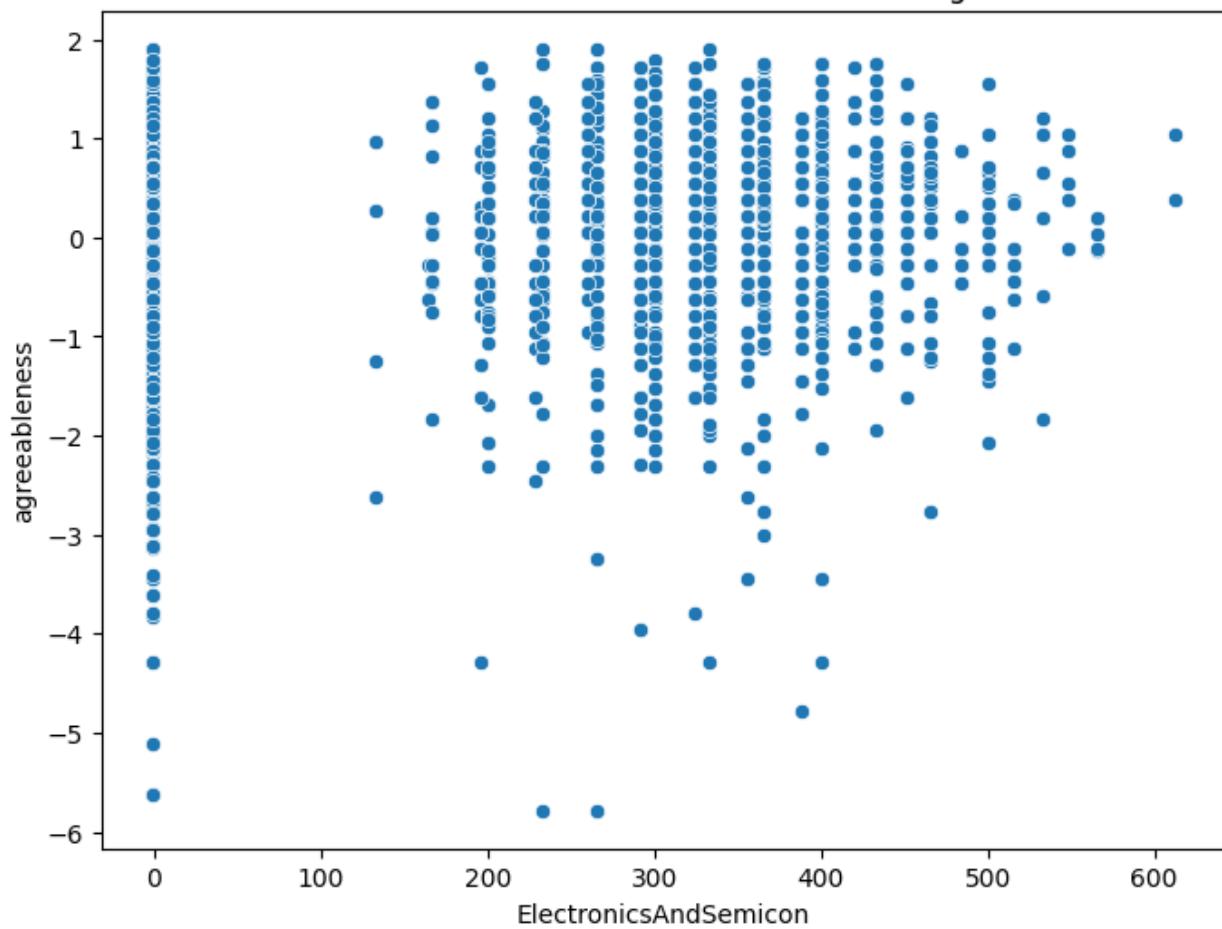
Scatter Plot between ElectronicsAndSemicon and CivilEngg



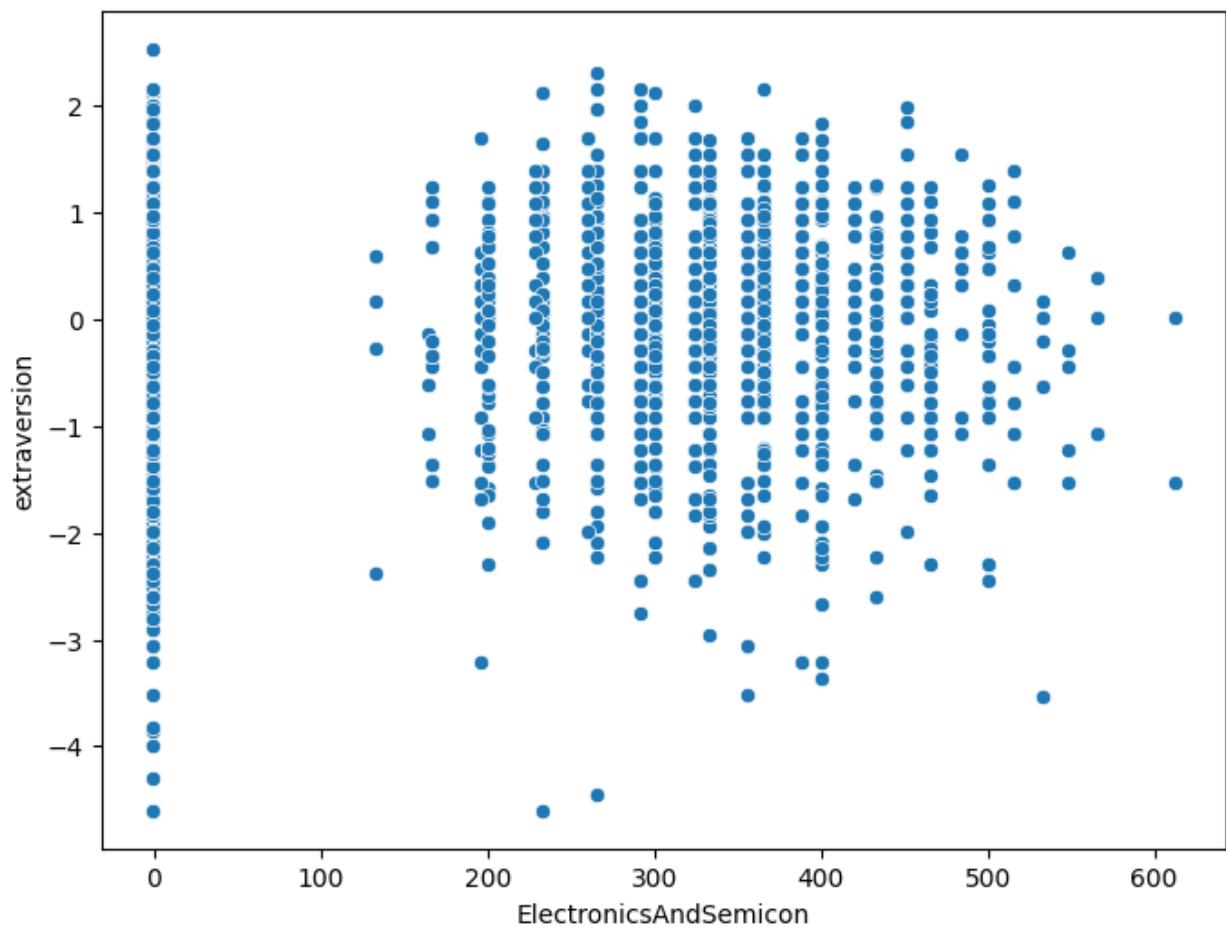
Scatter Plot between ElectronicsAndSemicon and conscientiousness



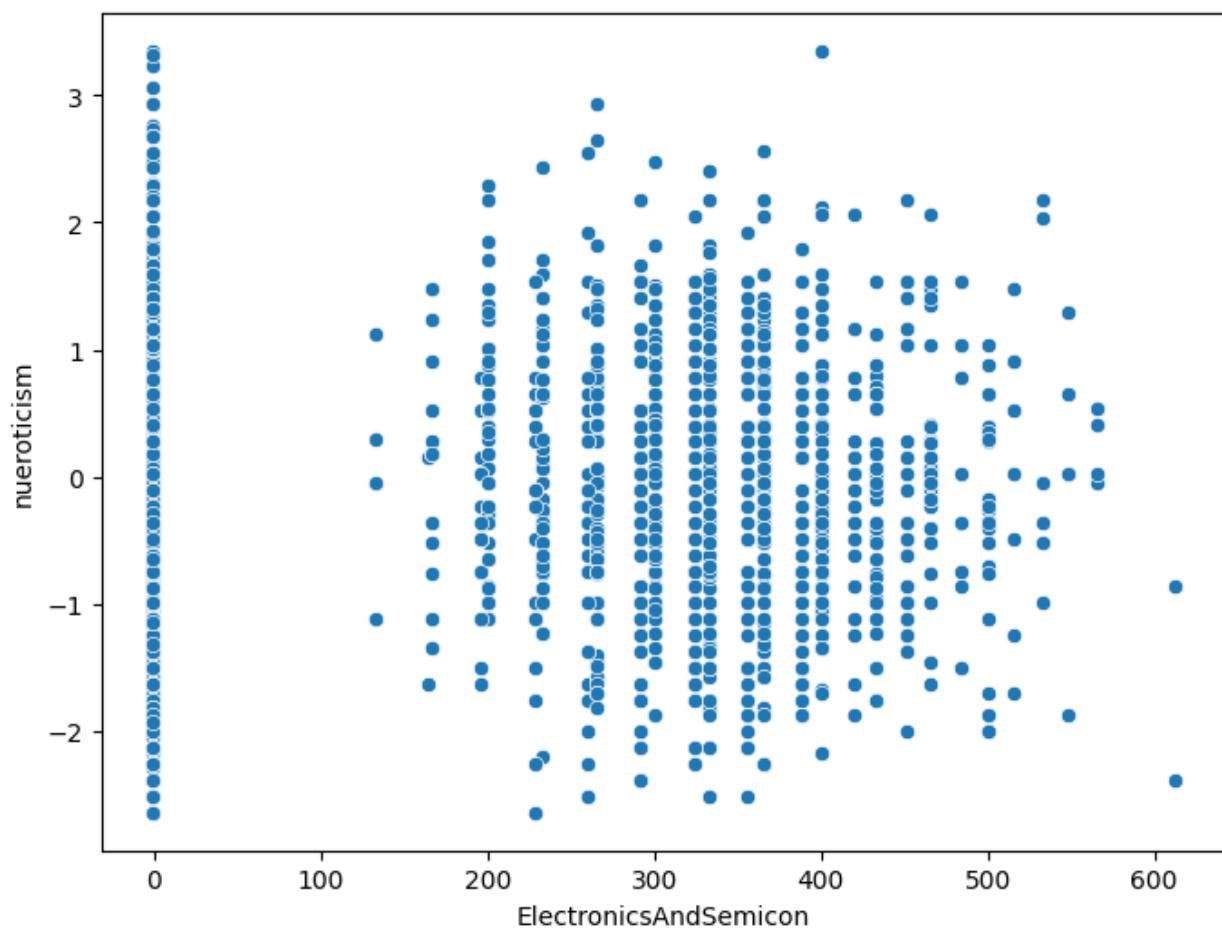
Scatter Plot between ElectronicsAndSemicon and agreeableness



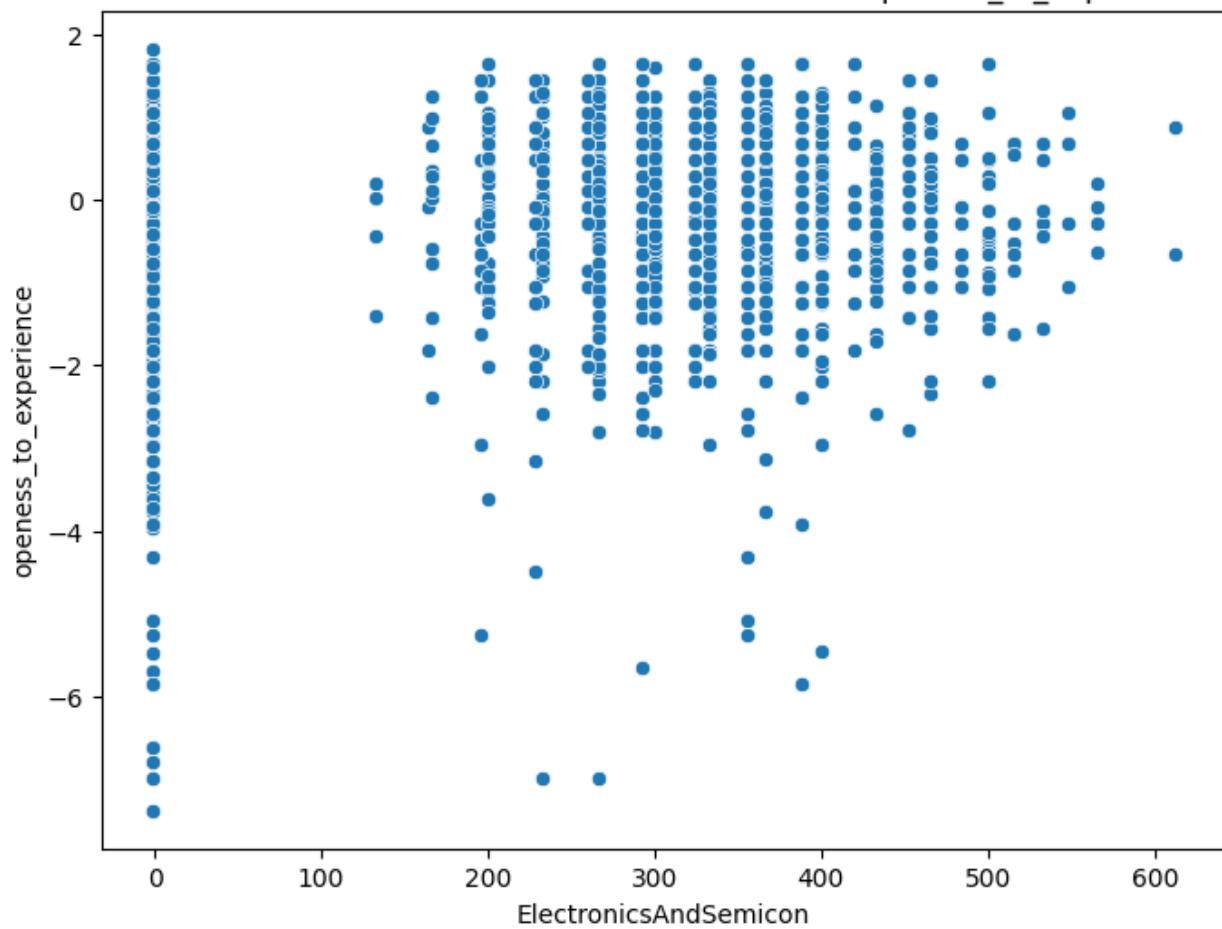
Scatter Plot between ElectronicsAndSemicon and extraversion



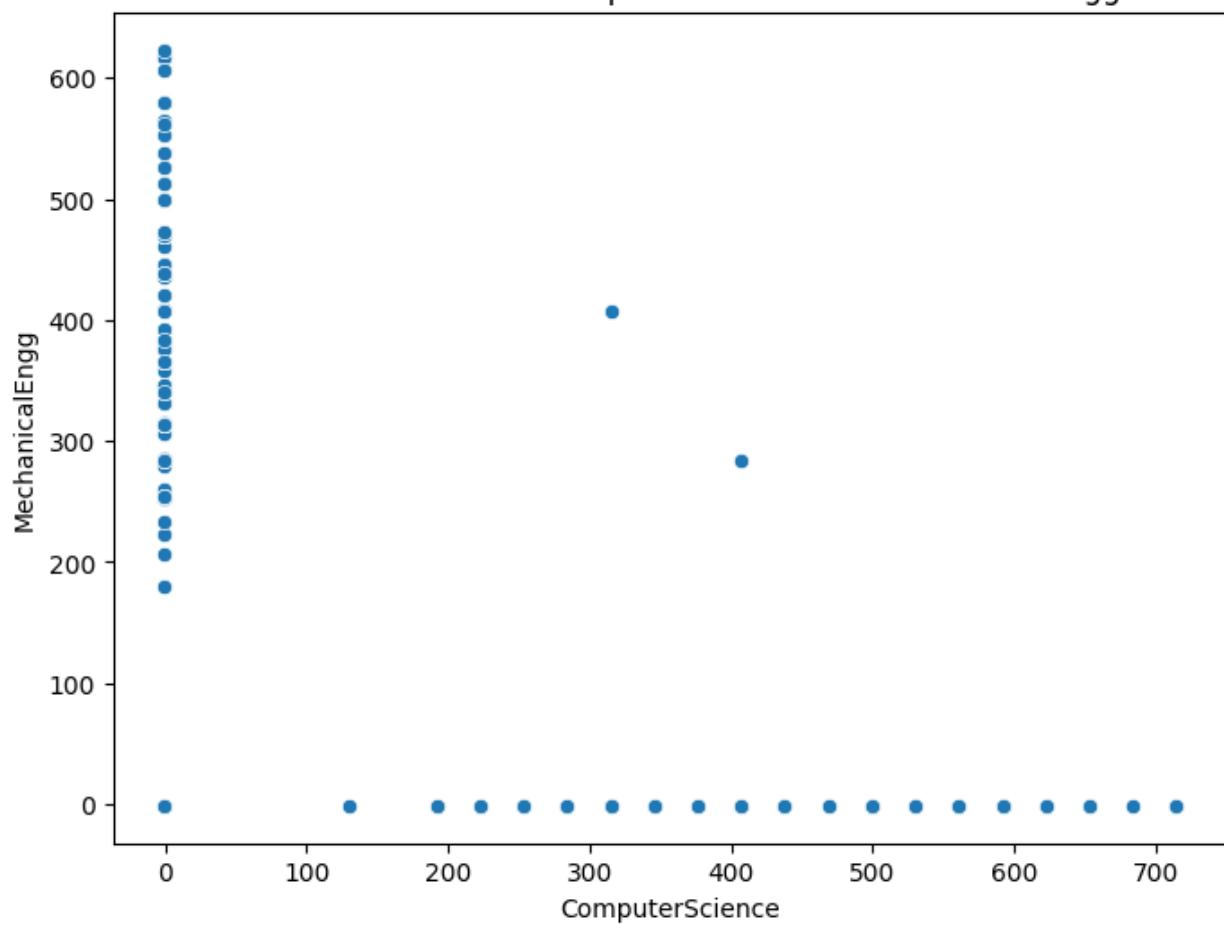
Scatter Plot between ElectronicsAndSemicon and nueroticism



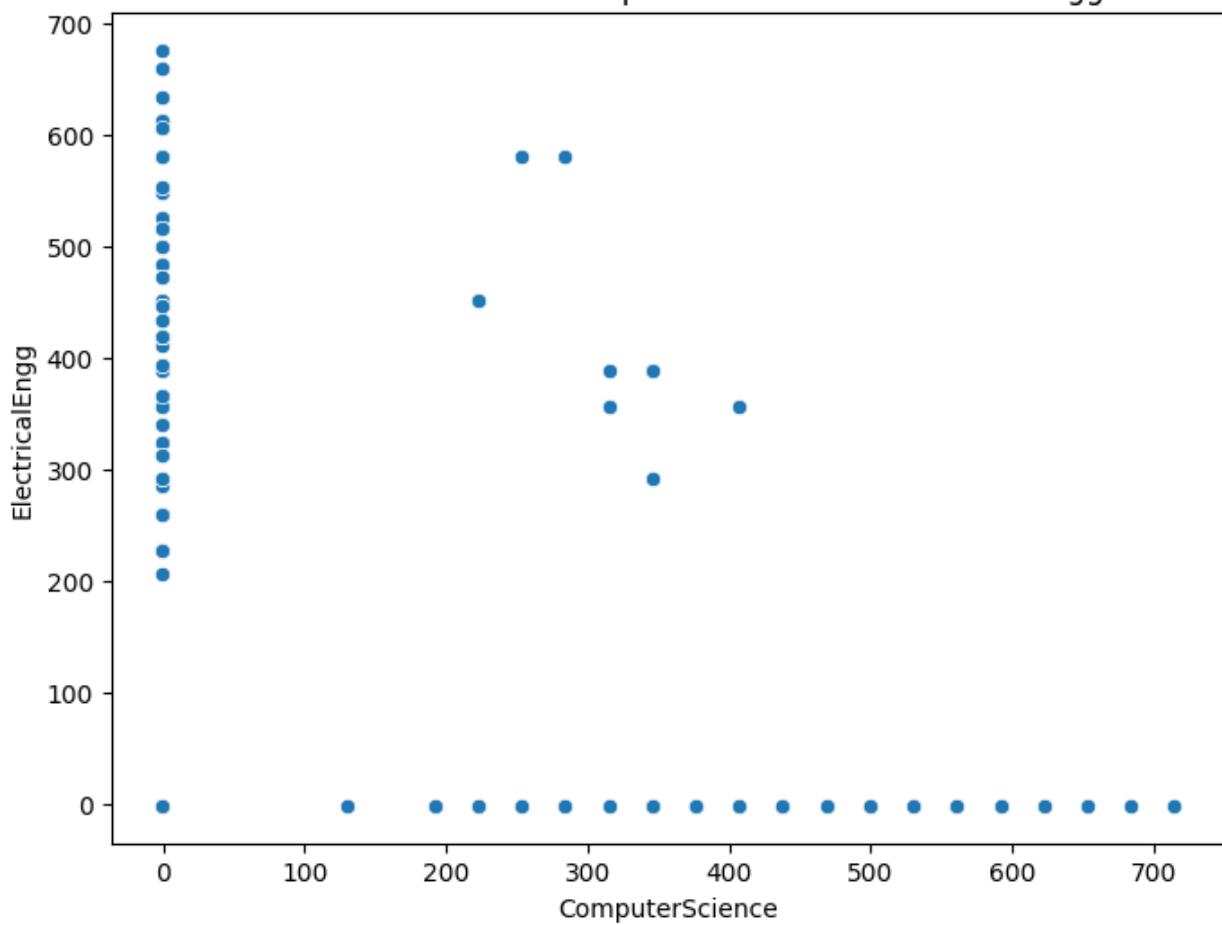
Scatter Plot between ElectronicsAndSemicon and openness_to_experience



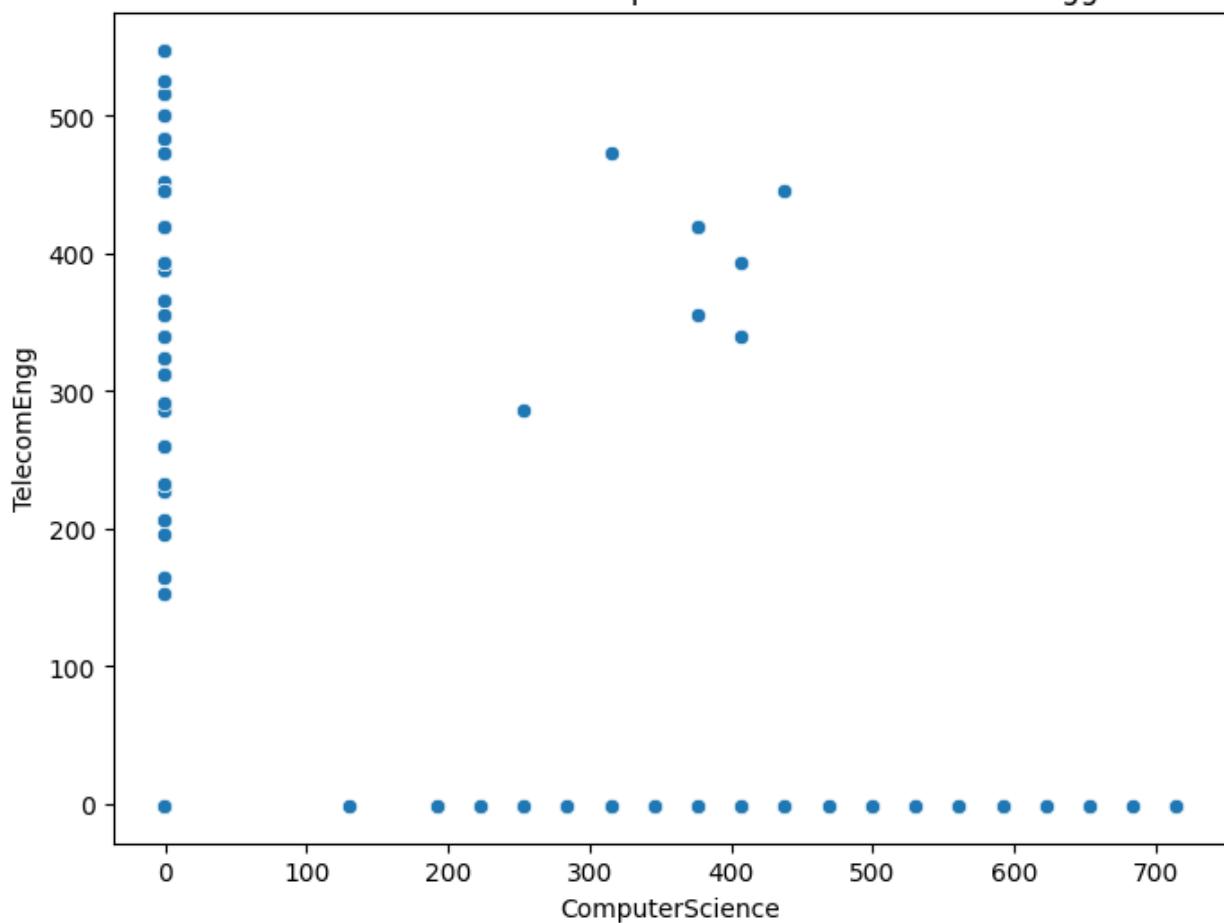
Scatter Plot between ComputerScience and MechanicalEngg



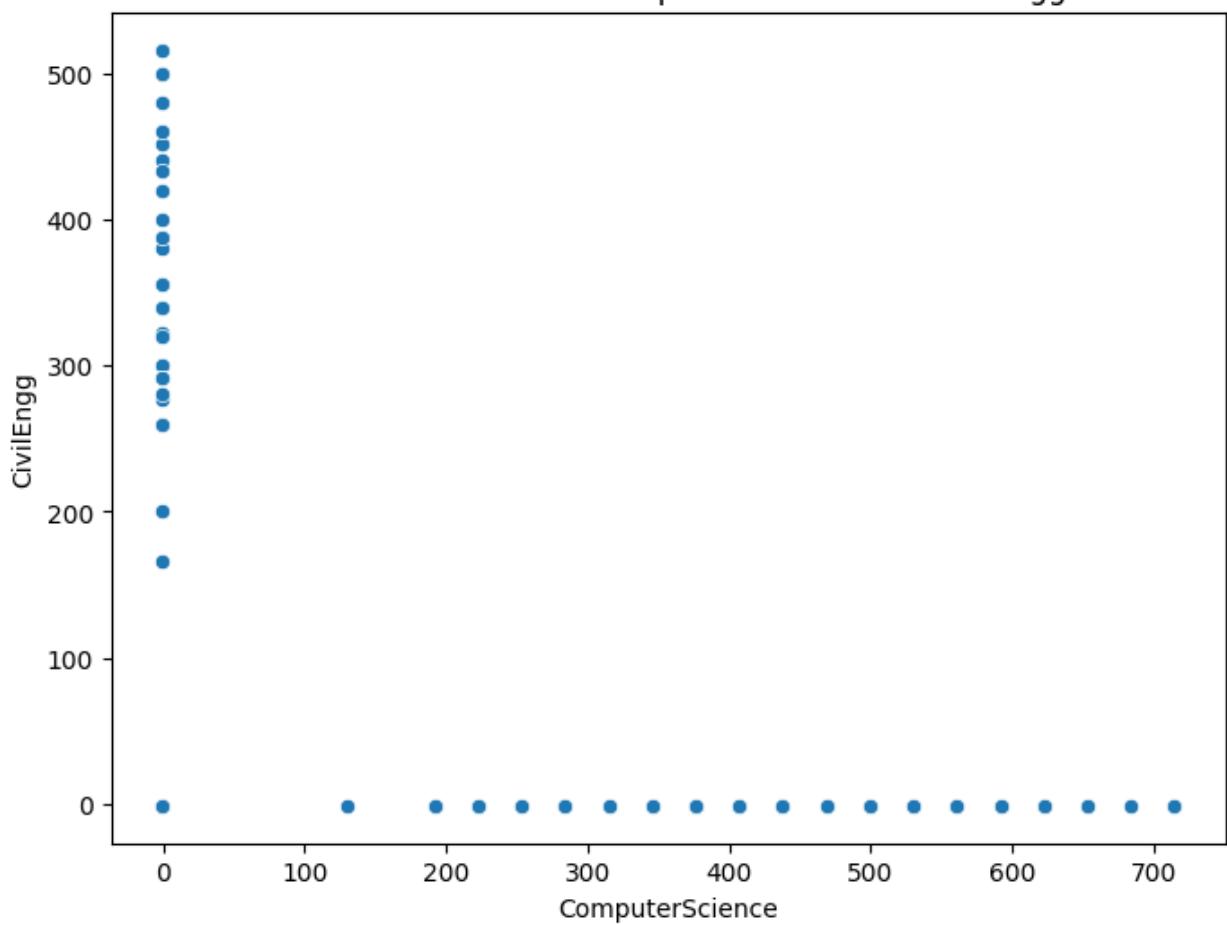
Scatter Plot between ComputerScience and ElectricalEngg



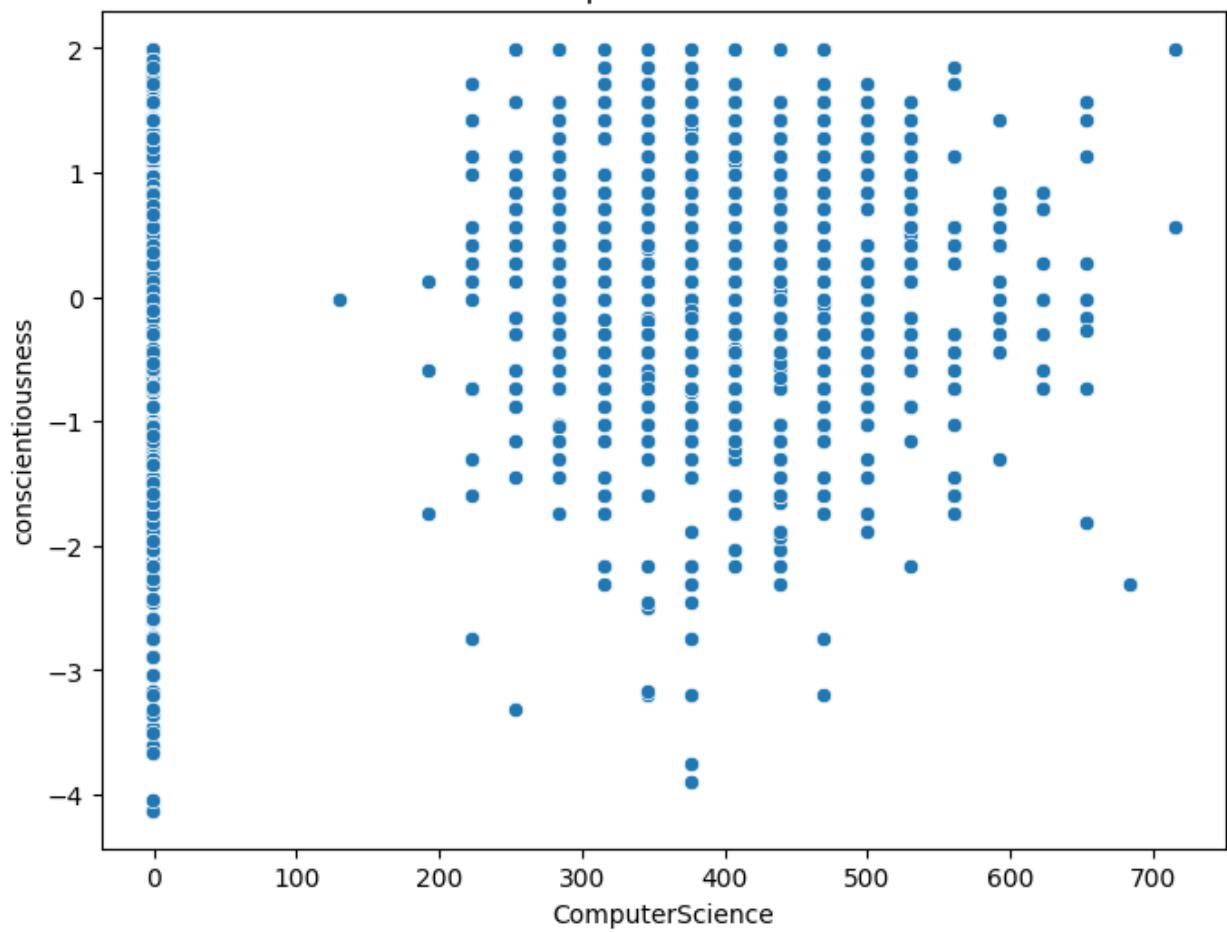
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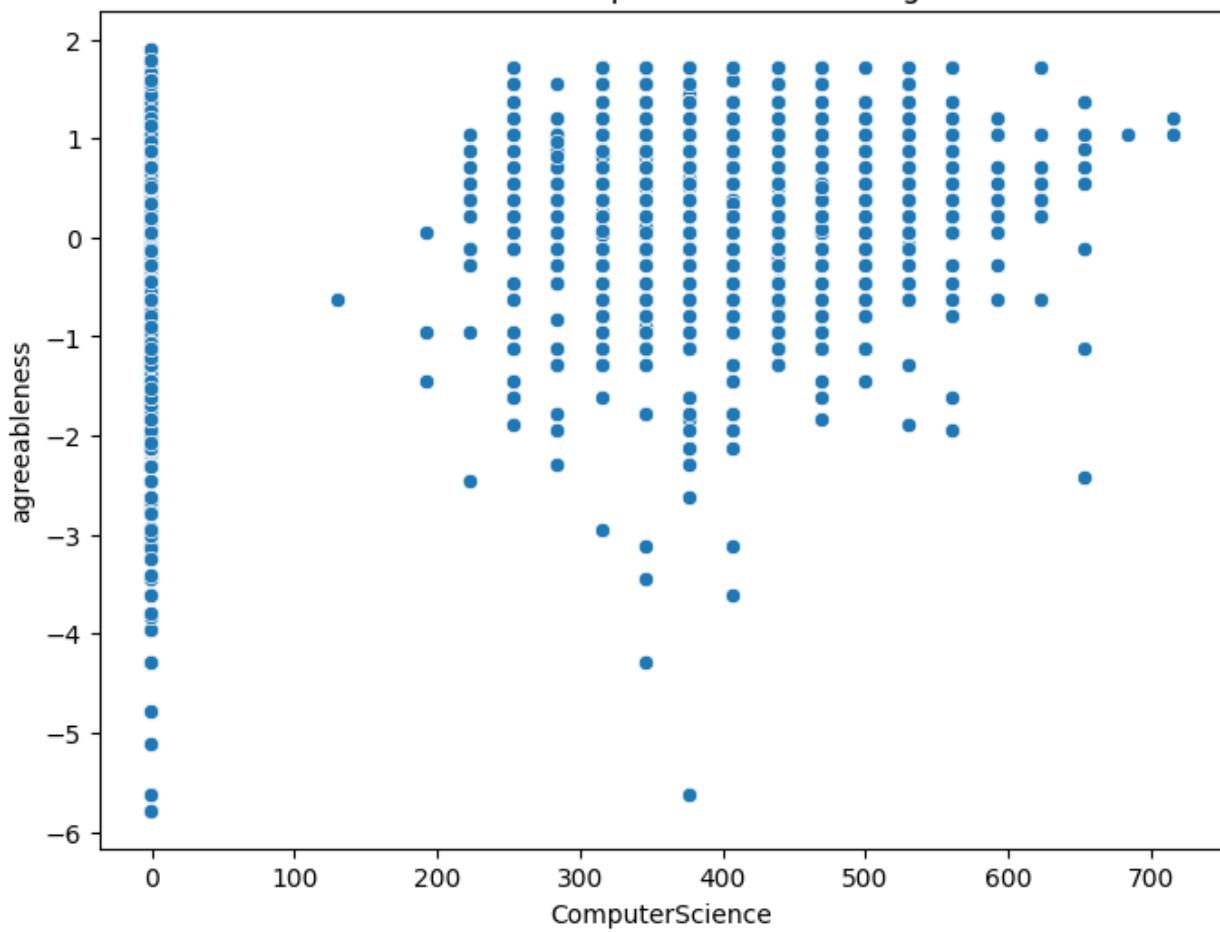
Scatter Plot between ComputerScience and CivilEngg



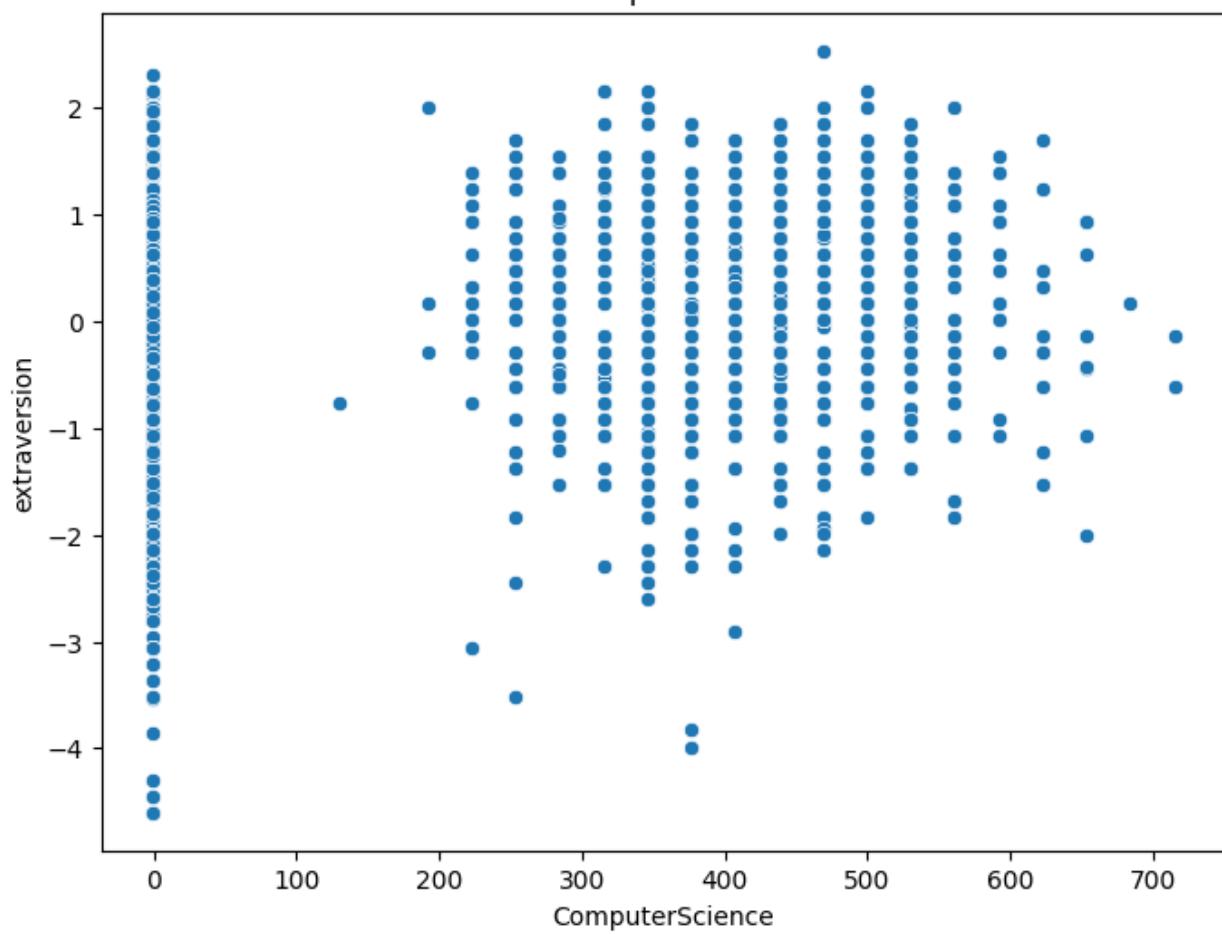
Scatter Plot between ComputerScience and conscientiousness



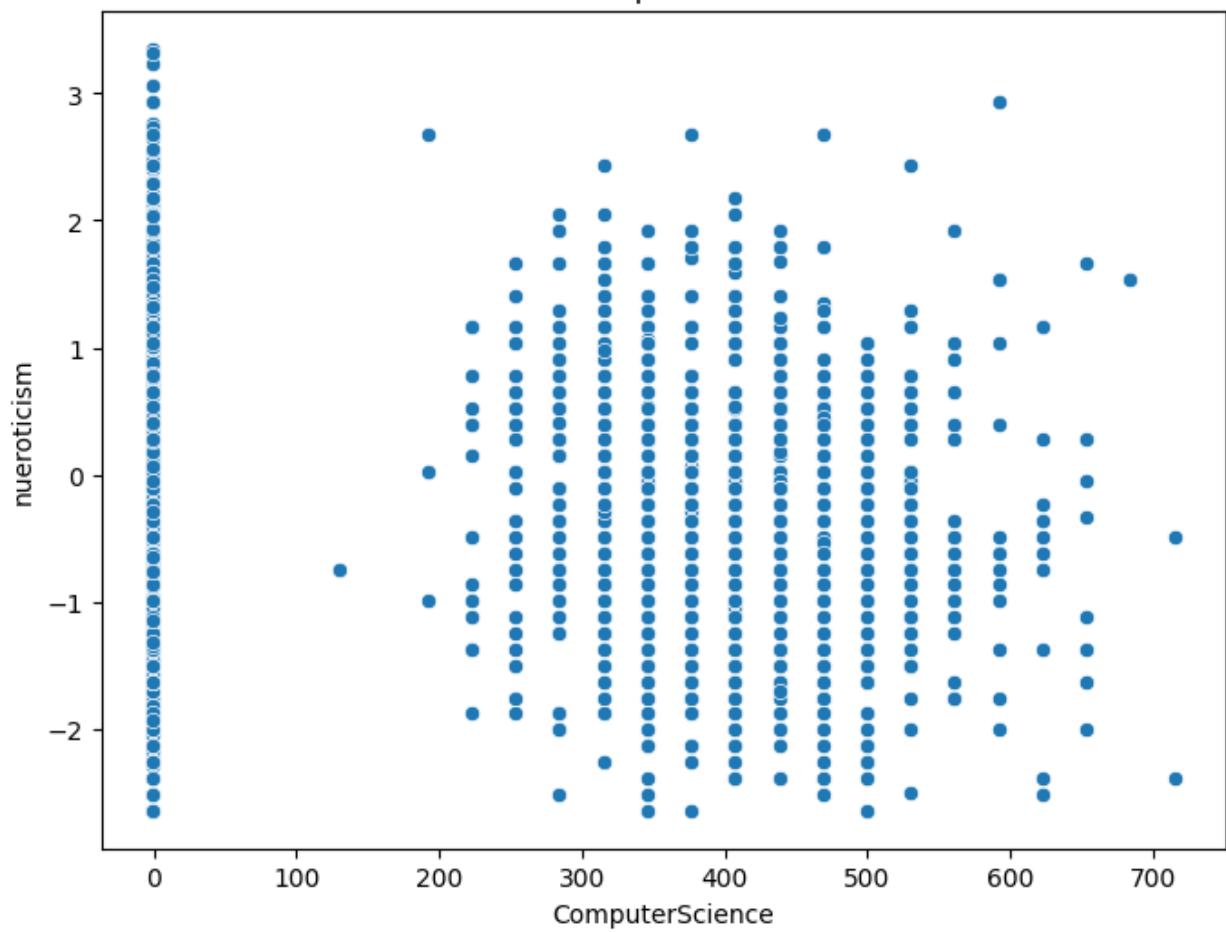
Scatter Plot between ComputerScience and agreeableness



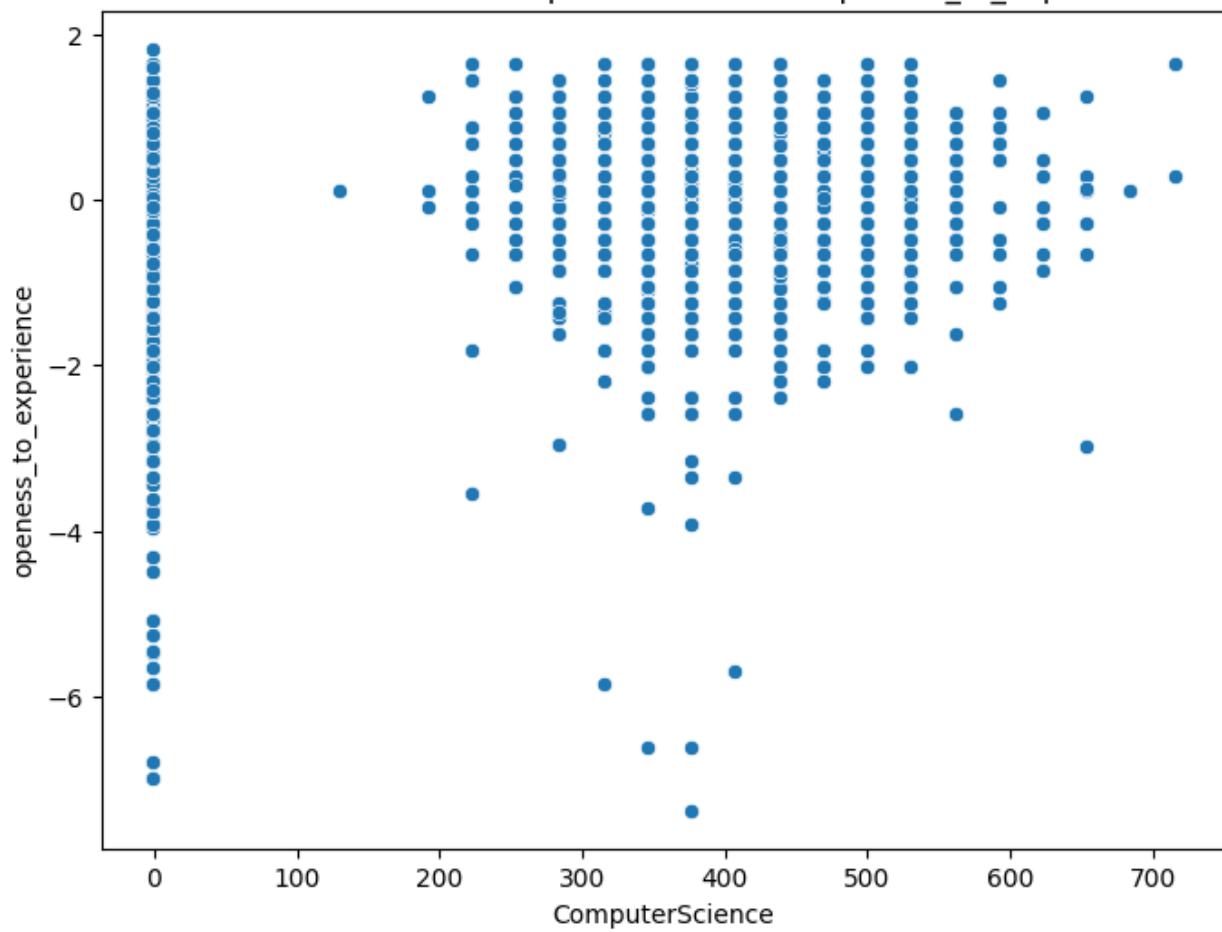
Scatter Plot between ComputerScience and extraversion



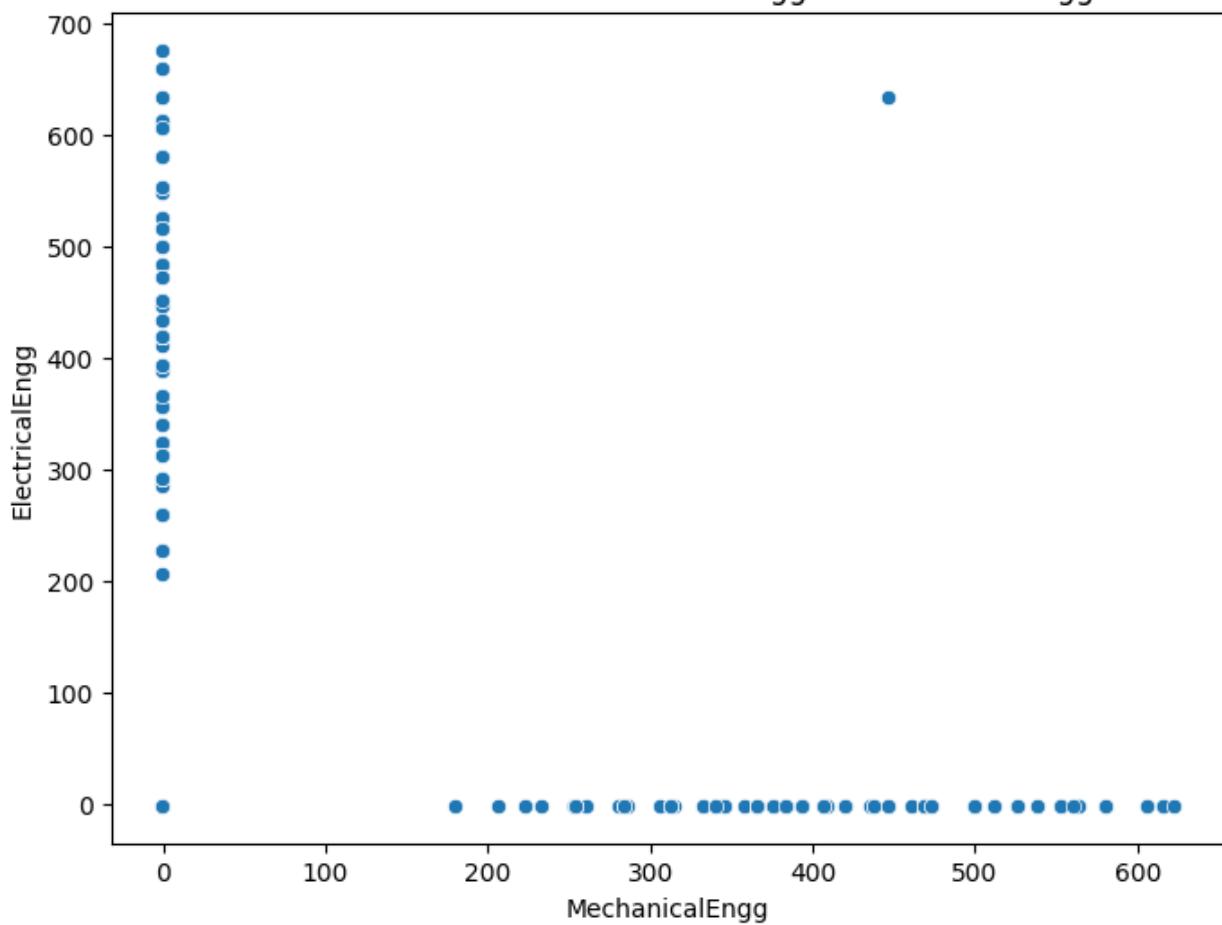
Scatter Plot between ComputerScience and nueroticism



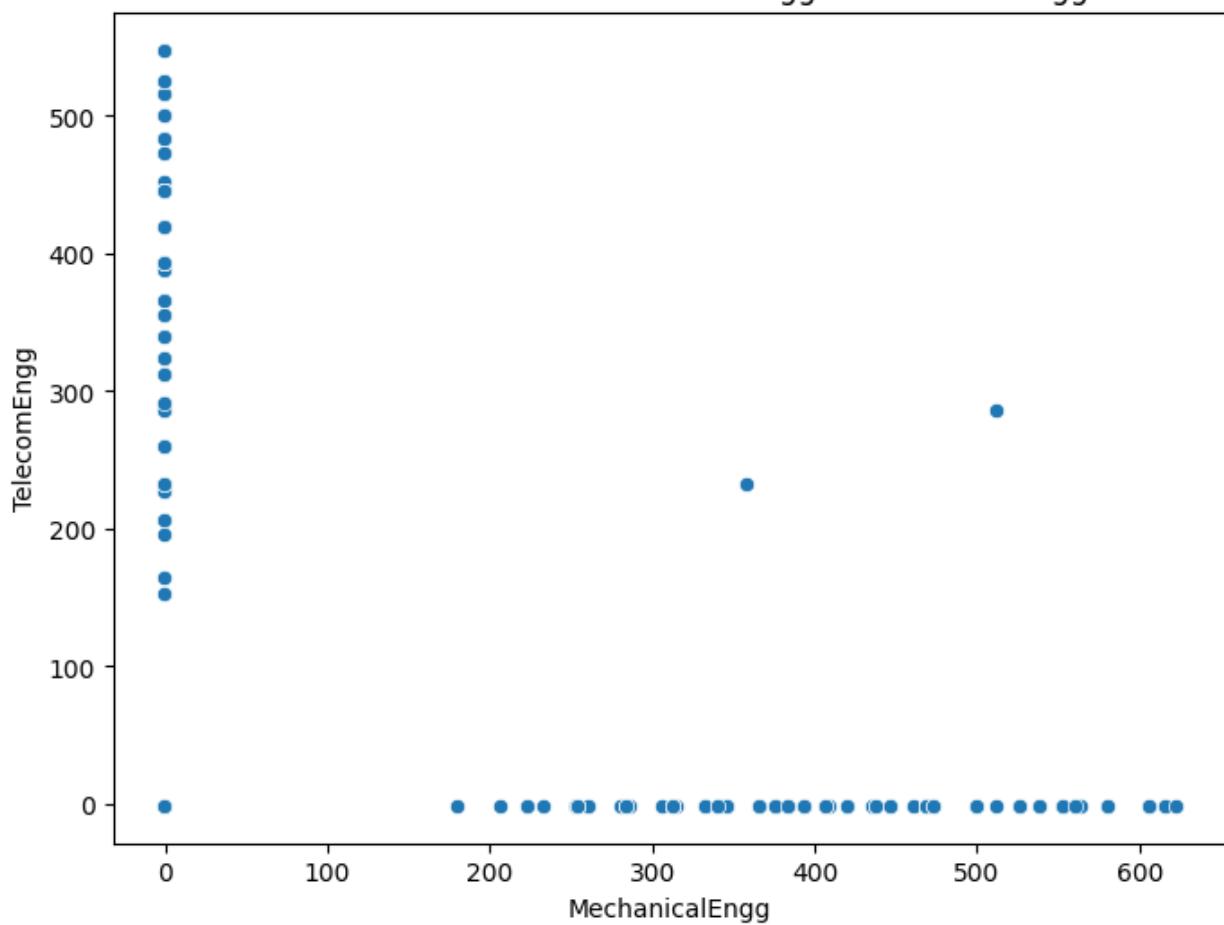
Scatter Plot between ComputerScience and openness_to_experience



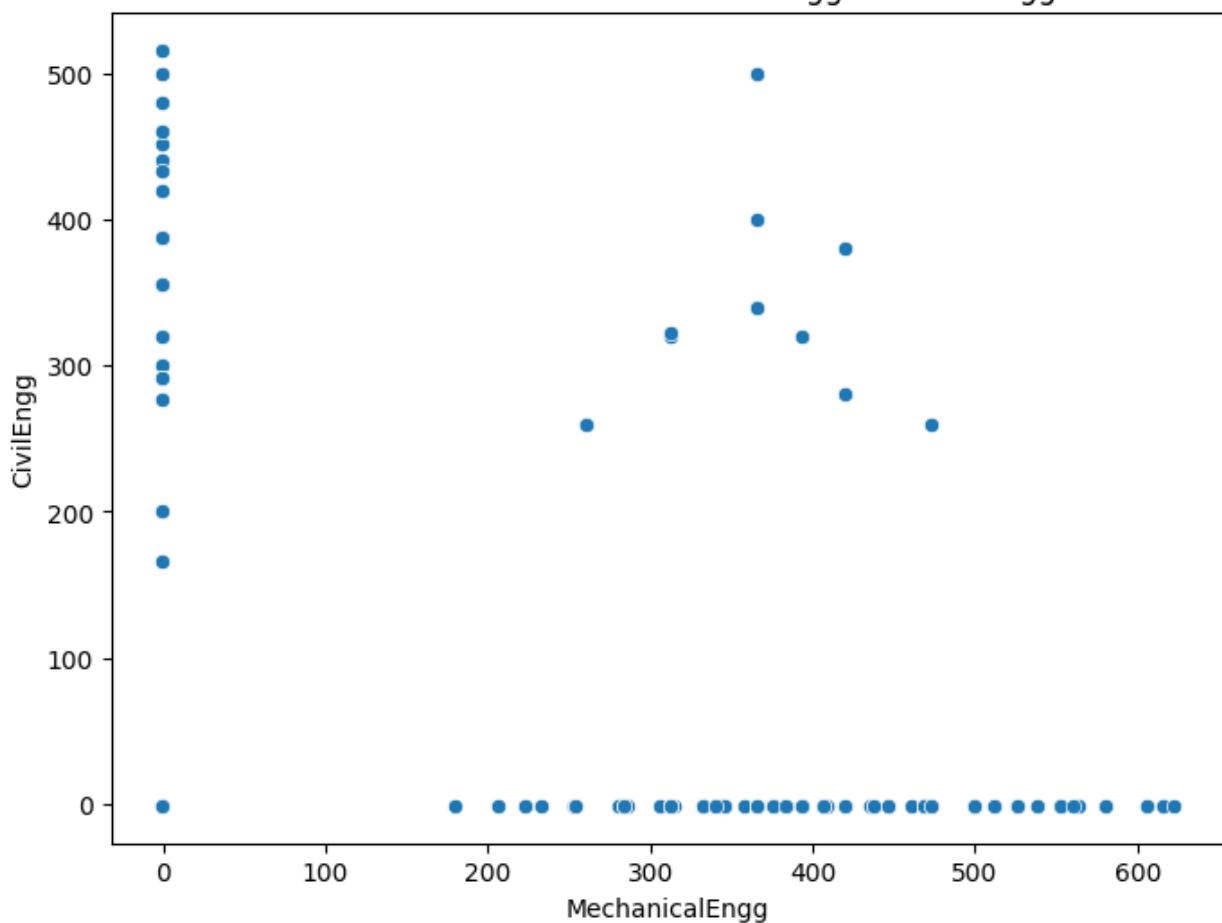
Scatter Plot between MechanicalEngg and ElectricalEngg



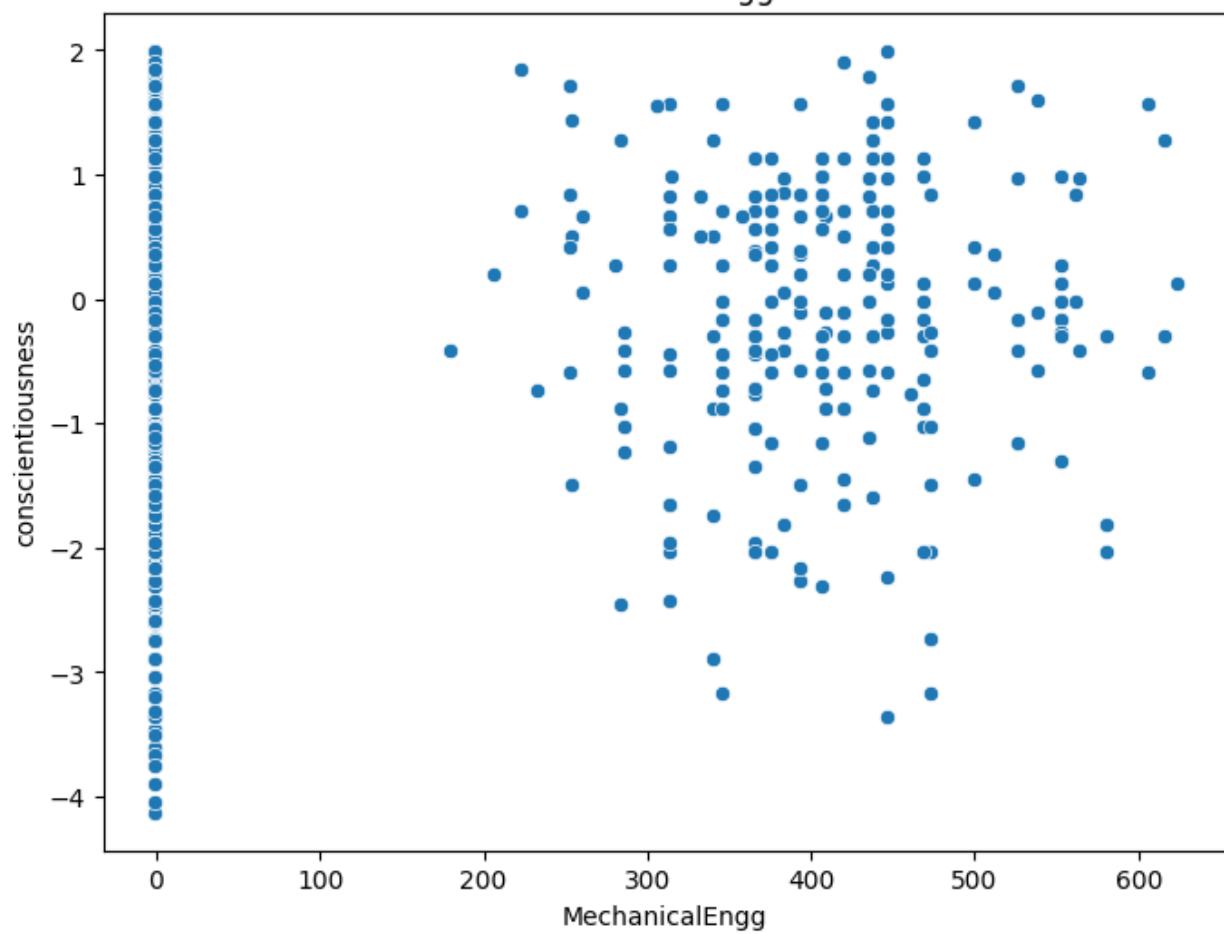
Scatter Plot between MechanicalEngg and TelecomEngg



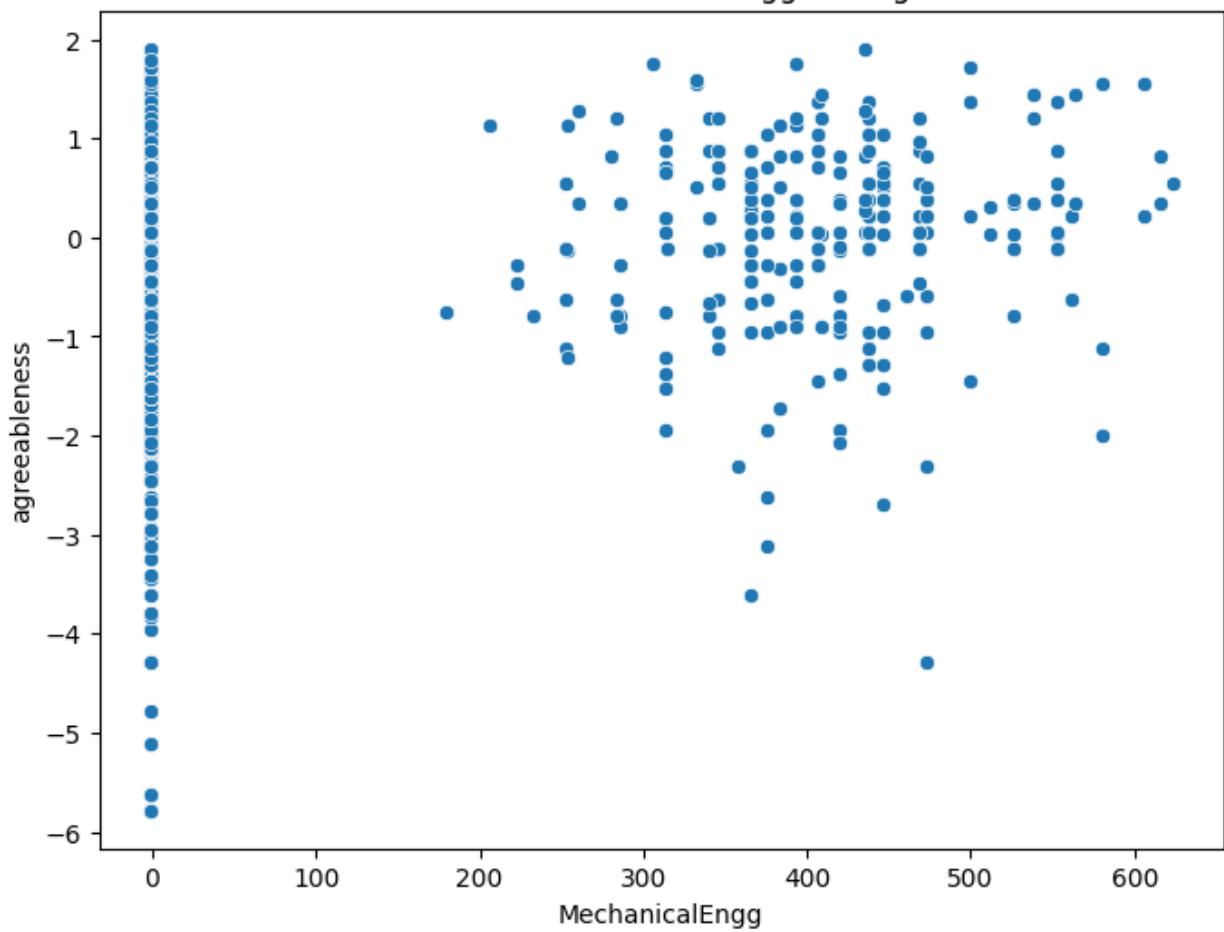
Scatter Plot between MechanicalEngg and CivilEngg



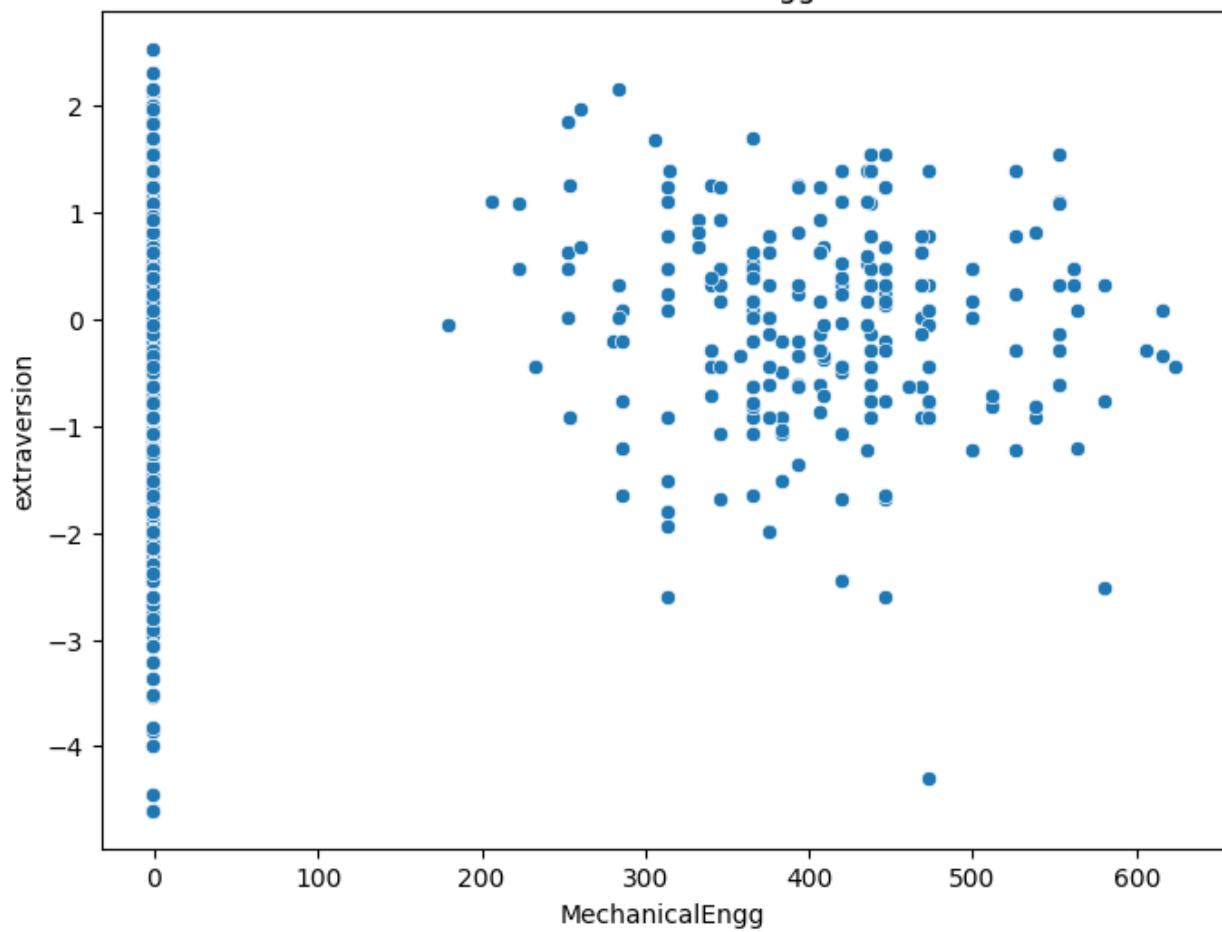
Scatter Plot between MechanicalEngg and conscientiousness



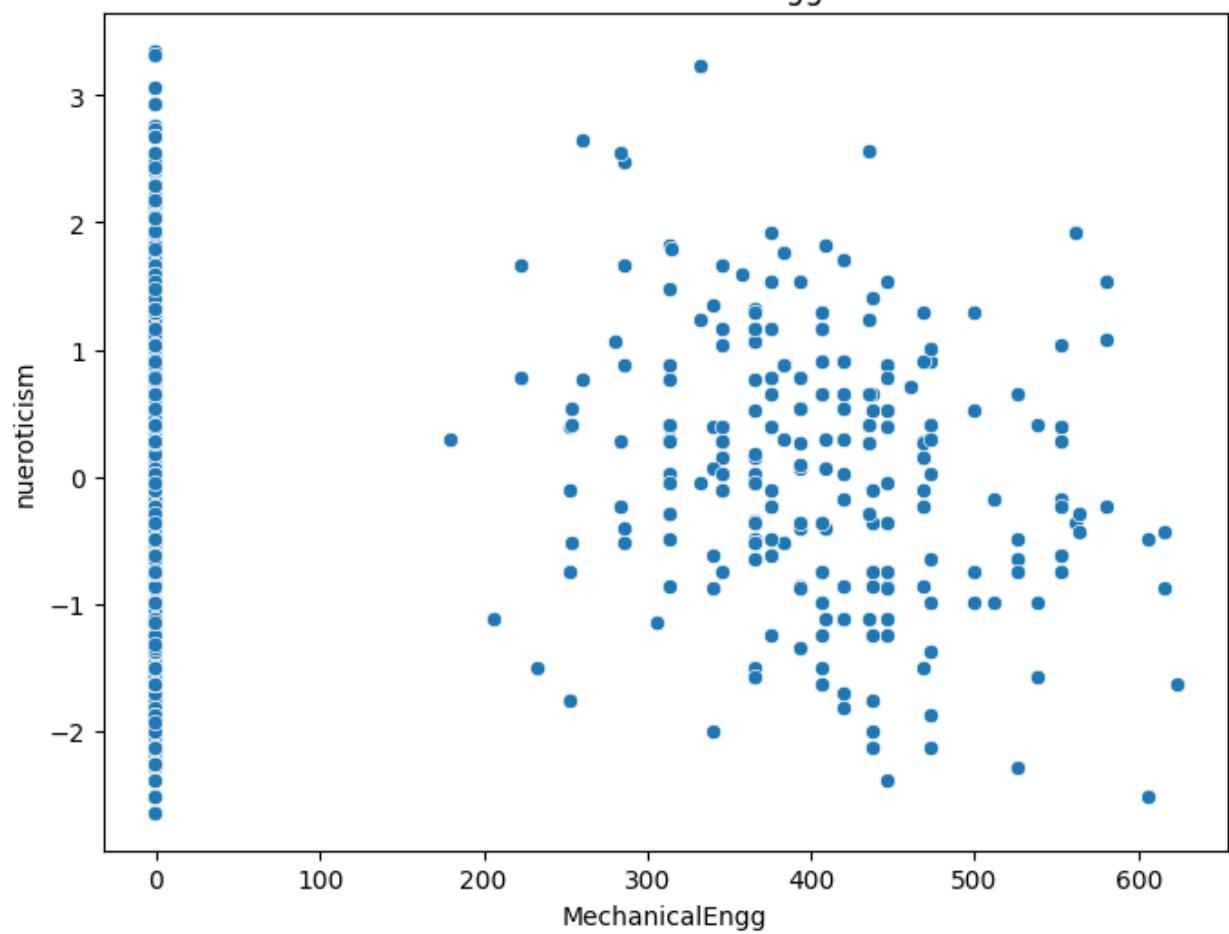
Scatter Plot between MechanicalEngg and agreeableness



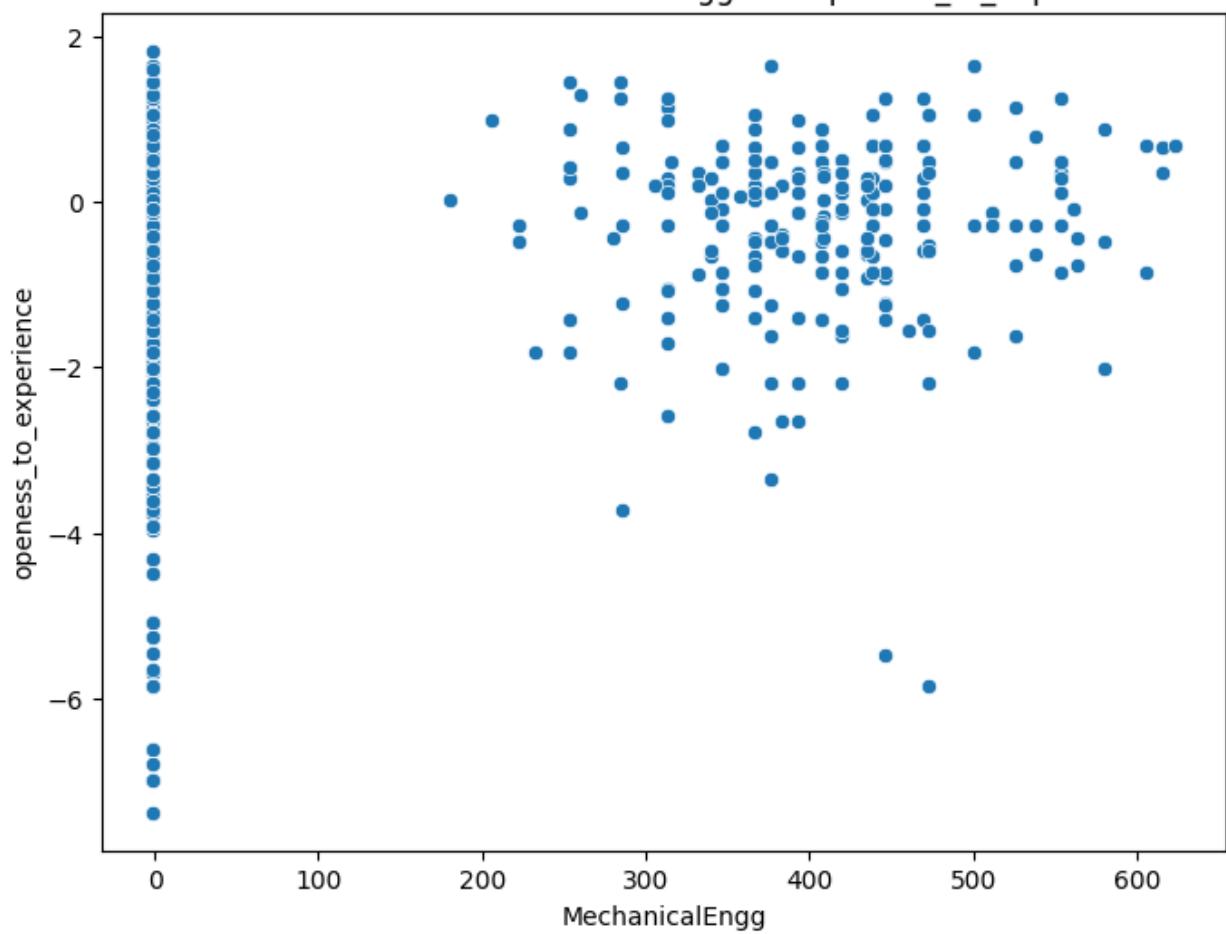
Scatter Plot between MechanicalEngg and extraversion



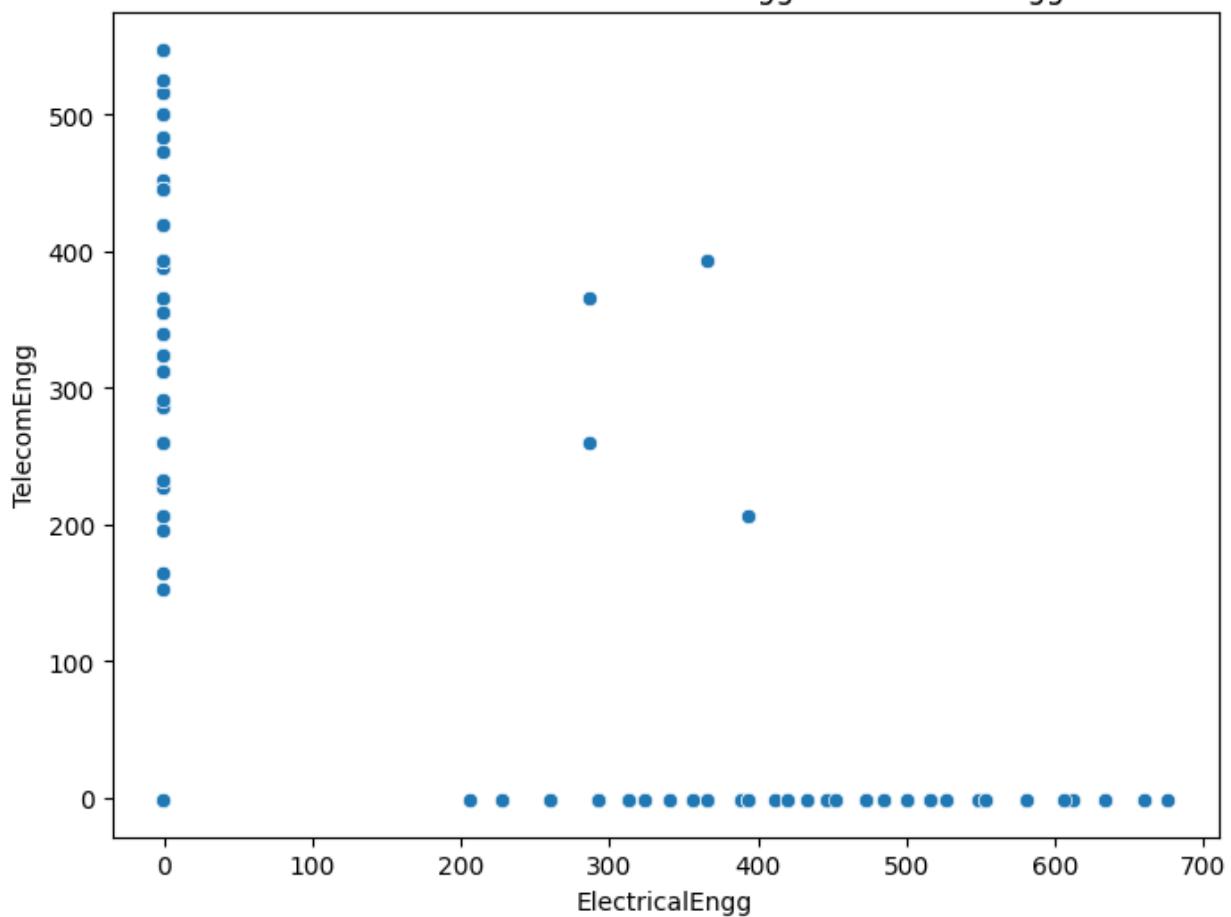
Scatter Plot between MechanicalEngg and nueroticism



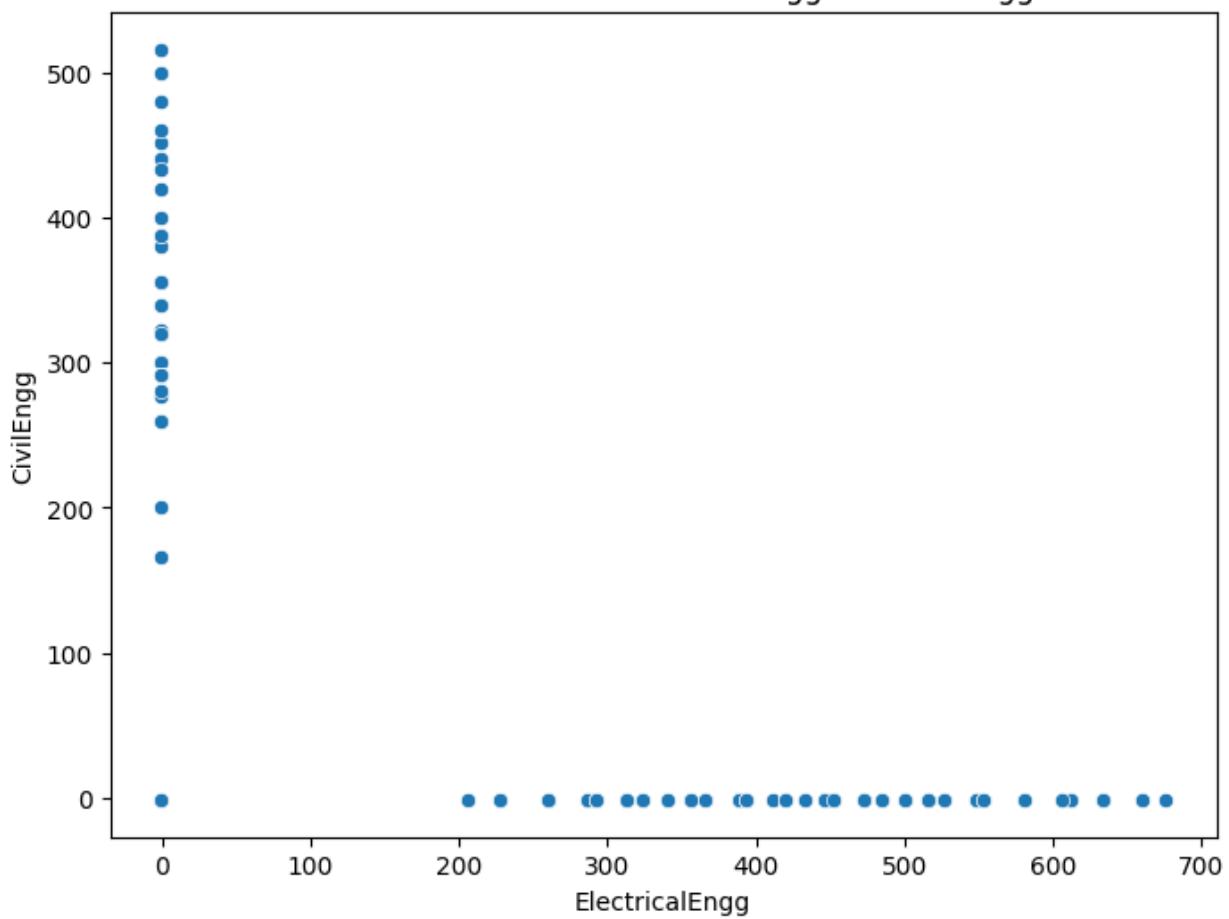
Scatter Plot between MechanicalEngg and openness_to_experience



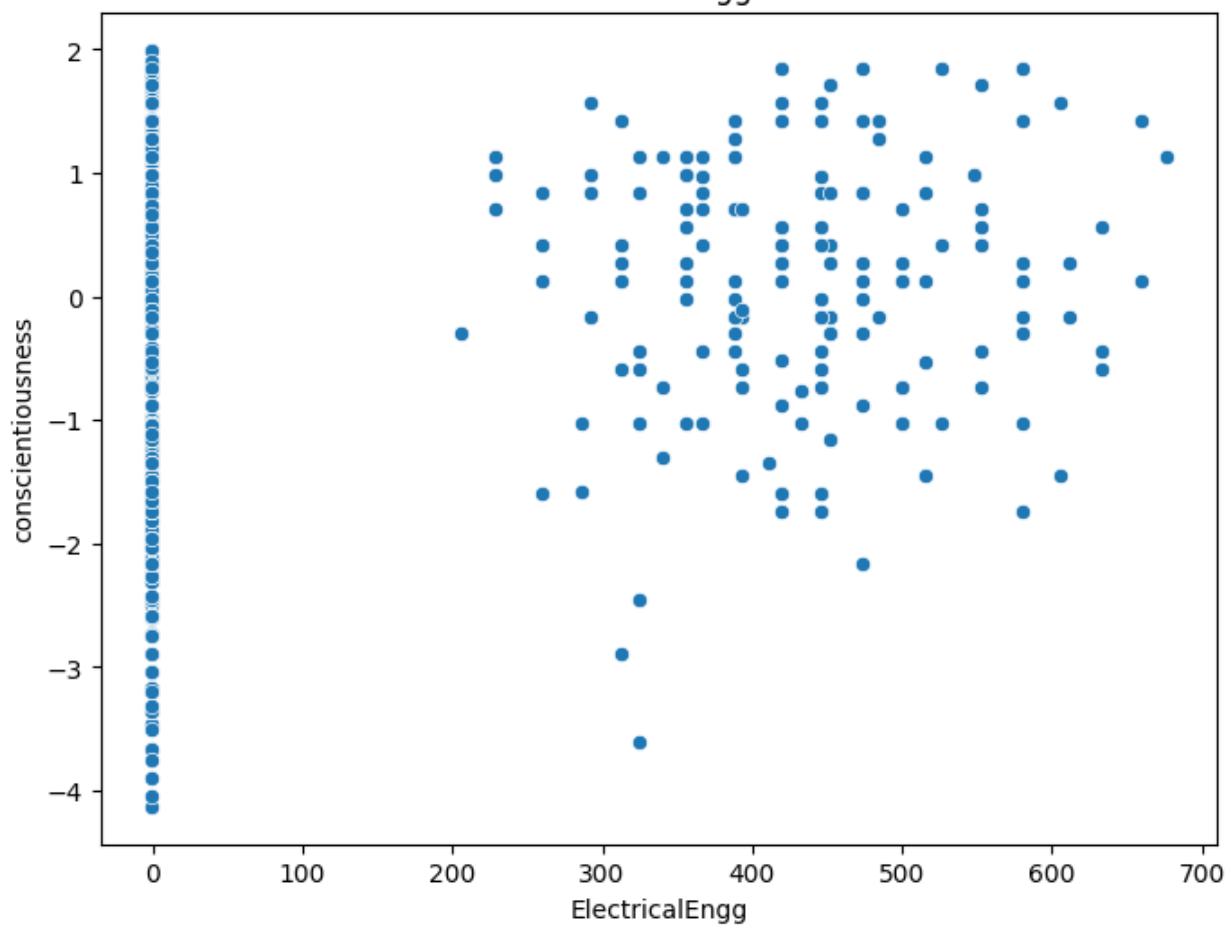
Scatter Plot between ElectricalEngg and TelecomEngg



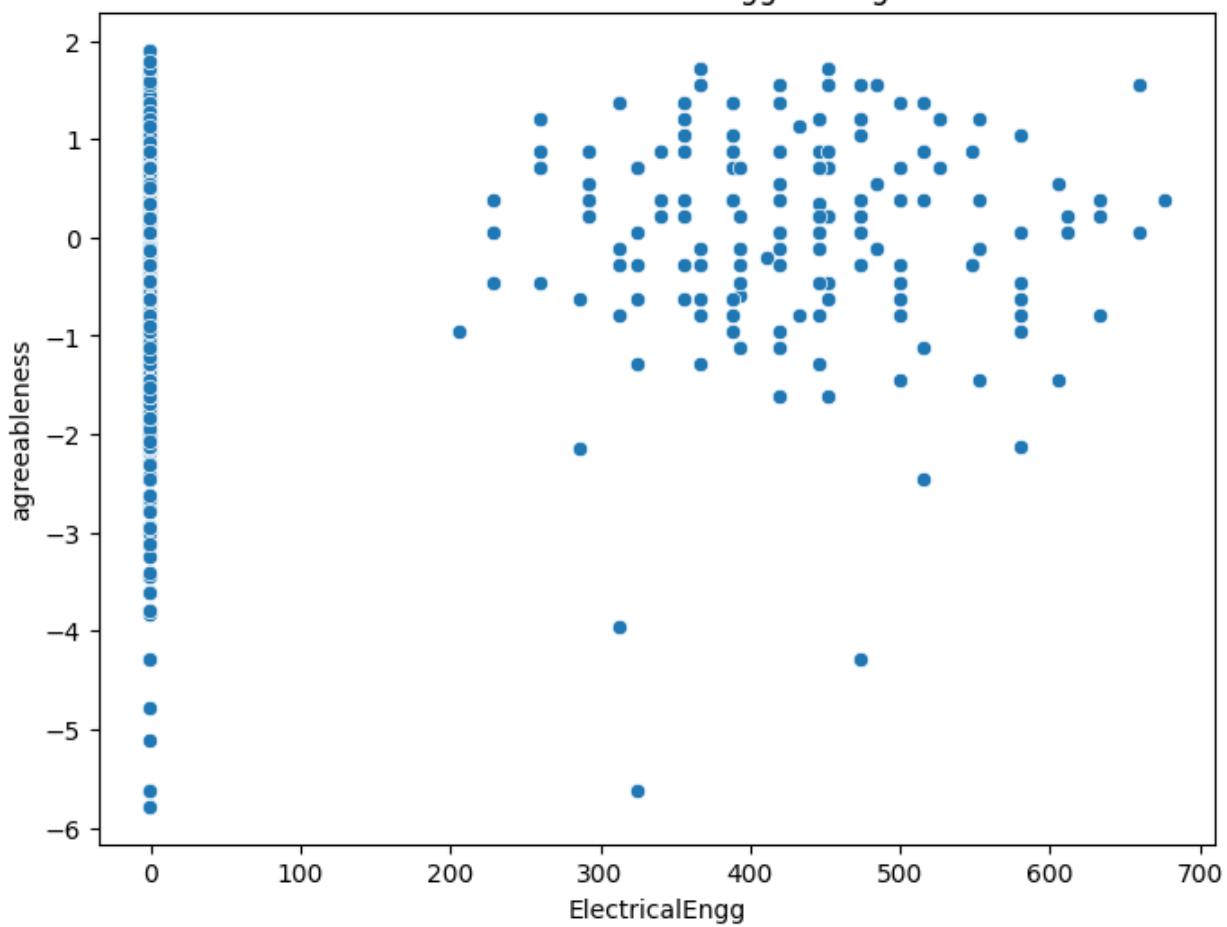
Scatter Plot between ElectricalEngg and CivilEngg



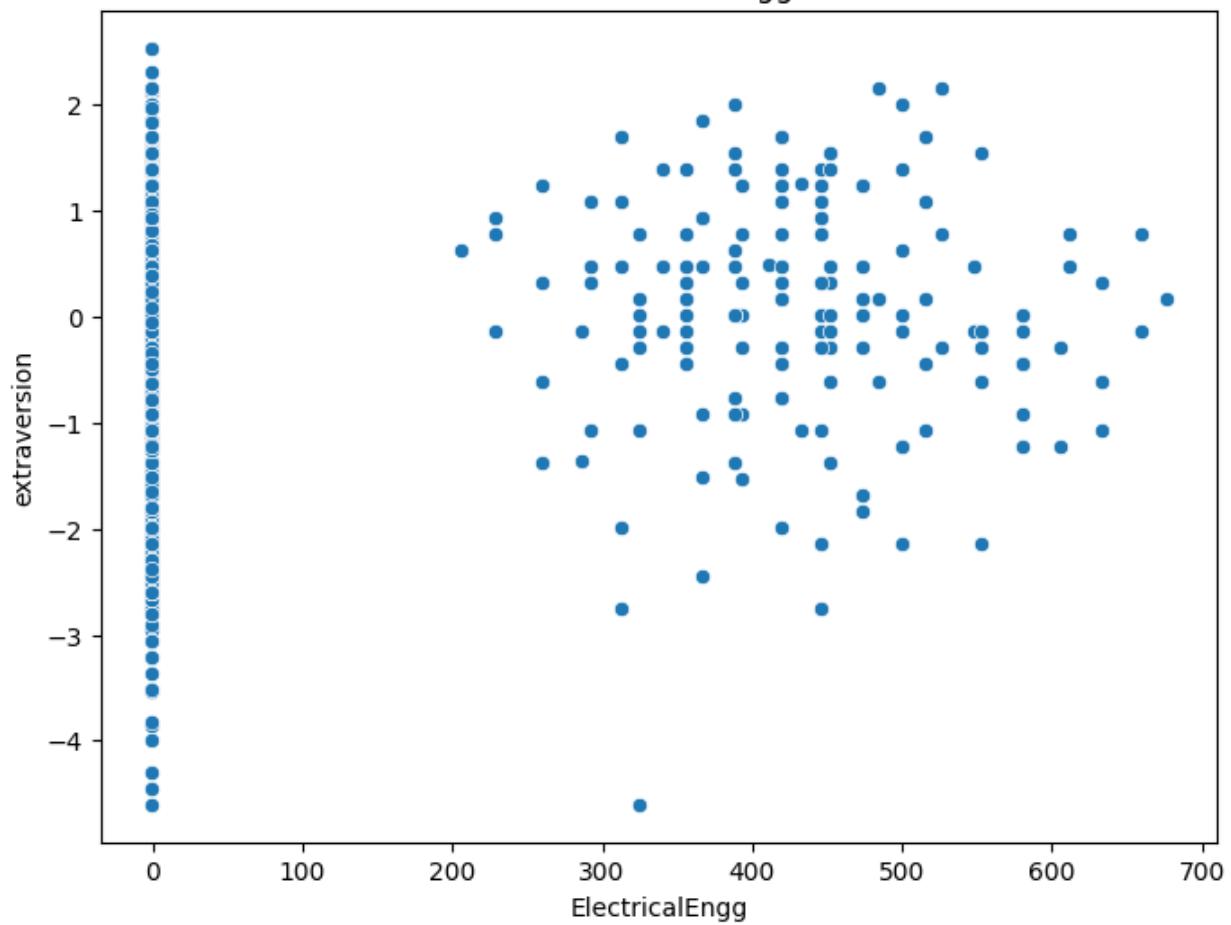
Scatter Plot between ElectricalEngg and conscientiousness



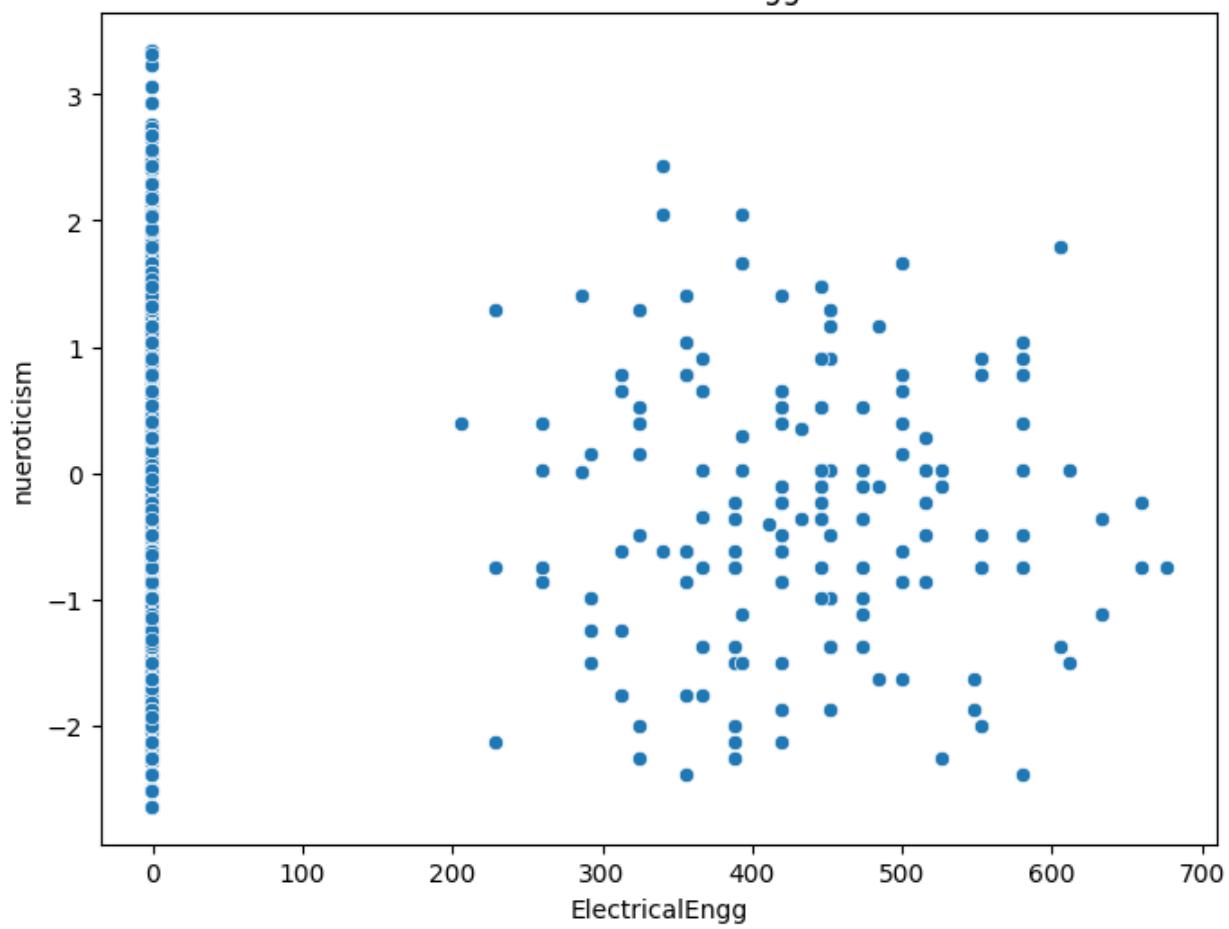
Scatter Plot between ElectricalEngg and agreeableness



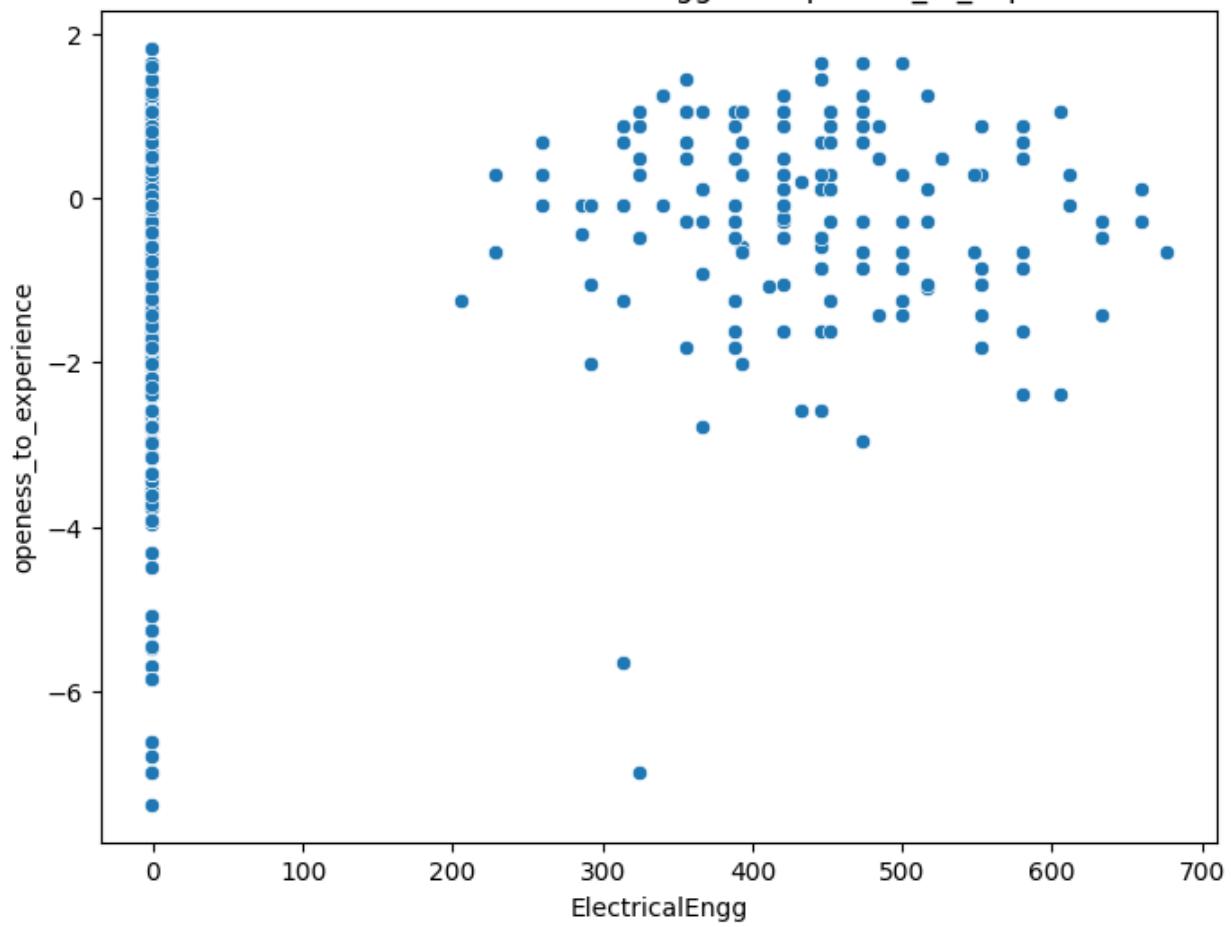
Scatter Plot between ElectricalEngg and extraversion



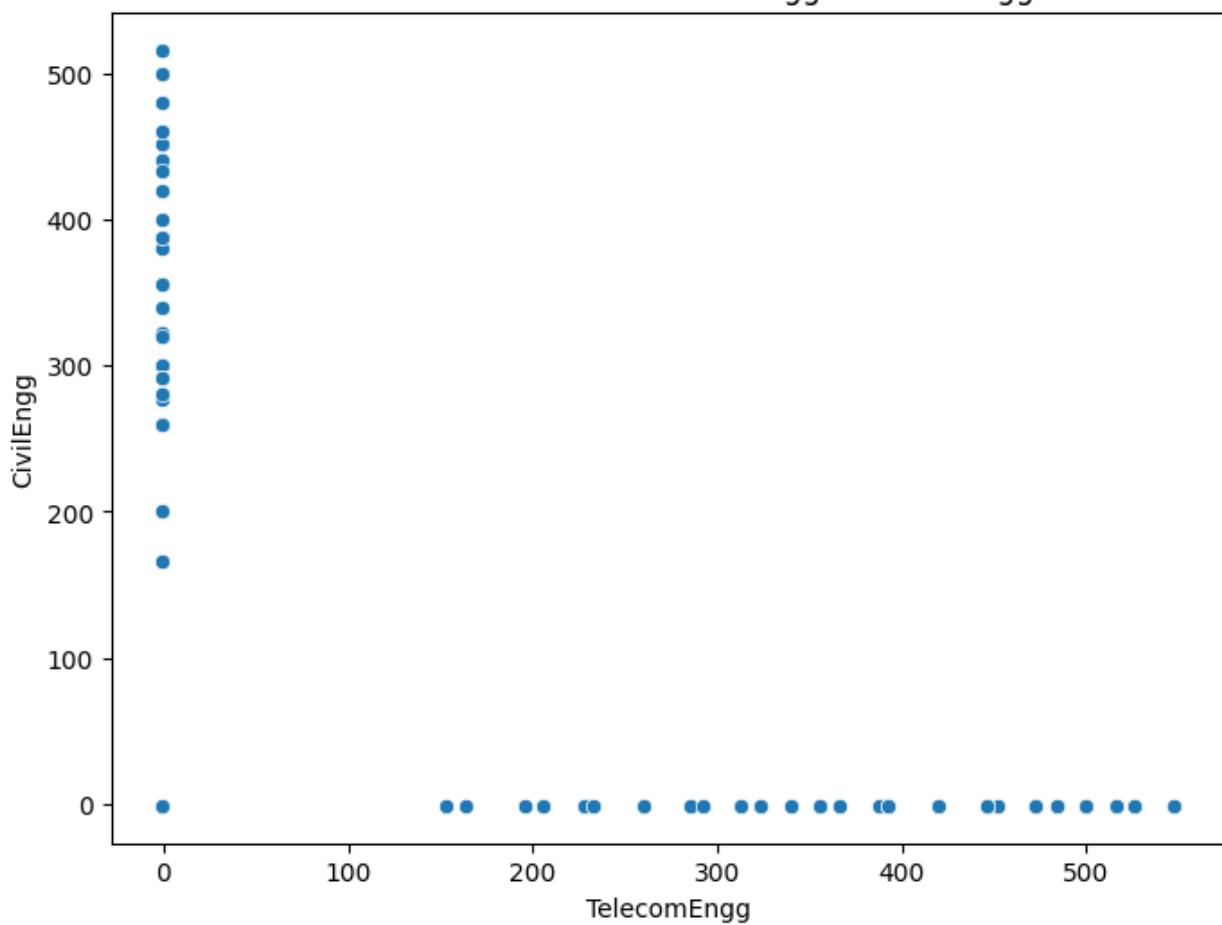
Scatter Plot between ElectricalEngg and nueroticism



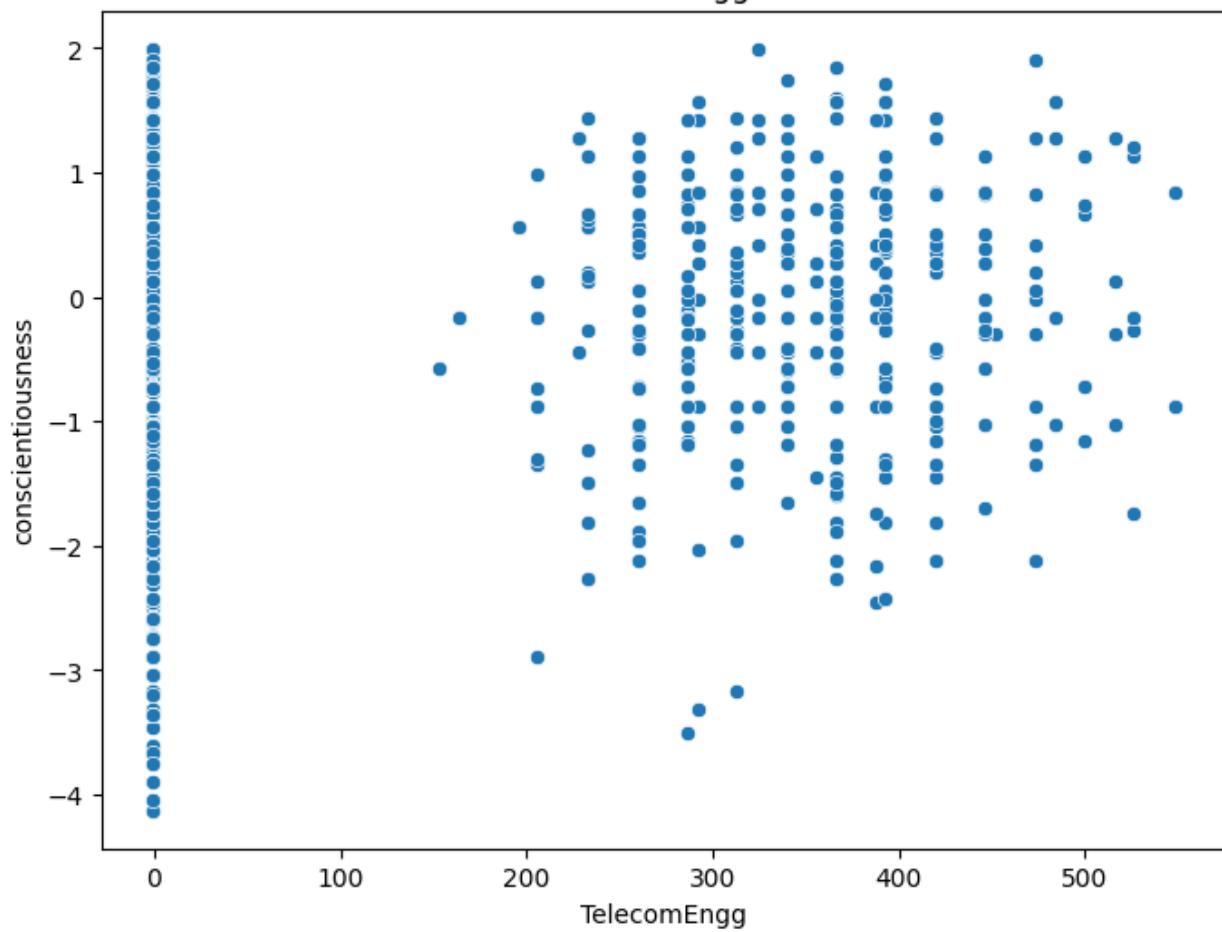
Scatter Plot between ElectricalEngg and openness_to_experience



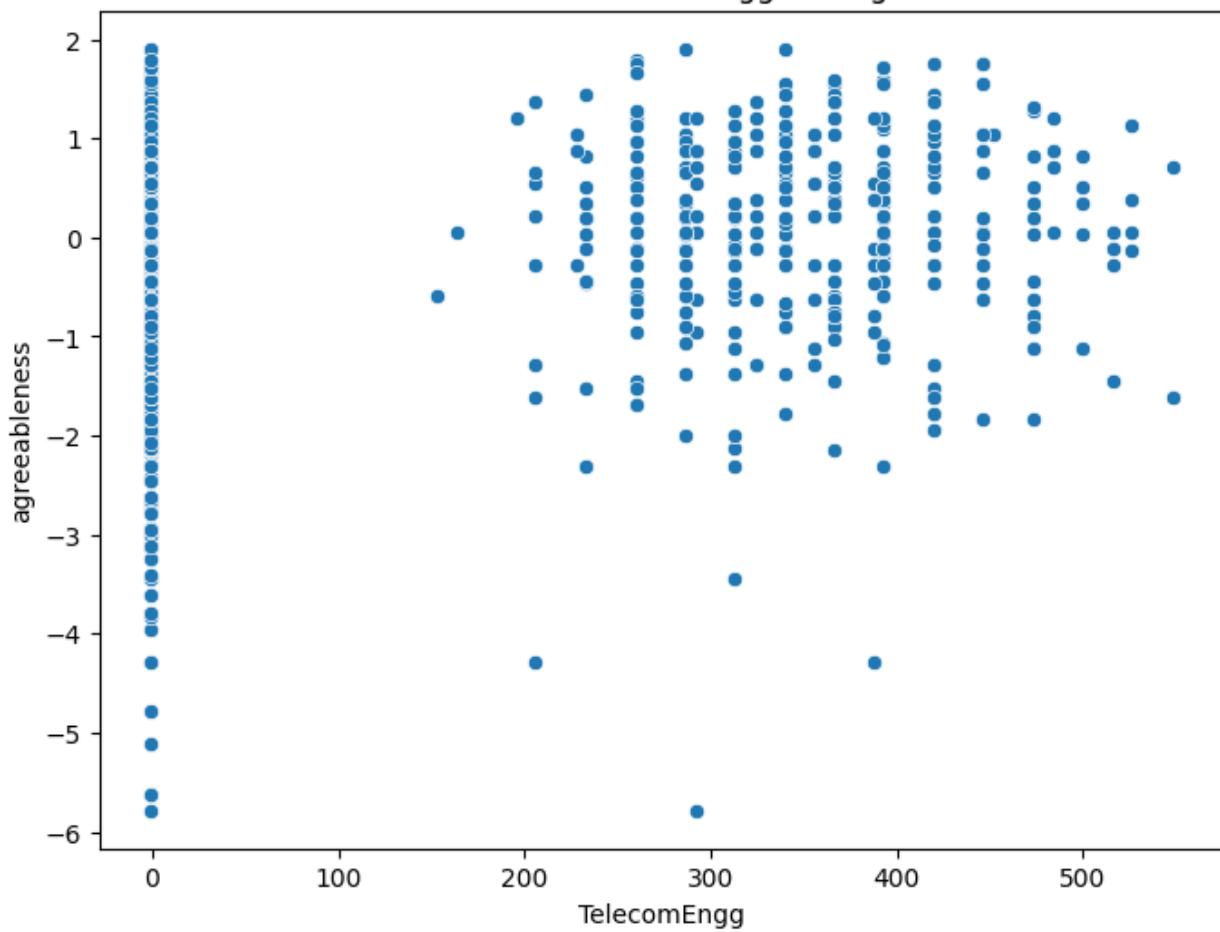
Scatter Plot between TelecomEngg and CivilEngg



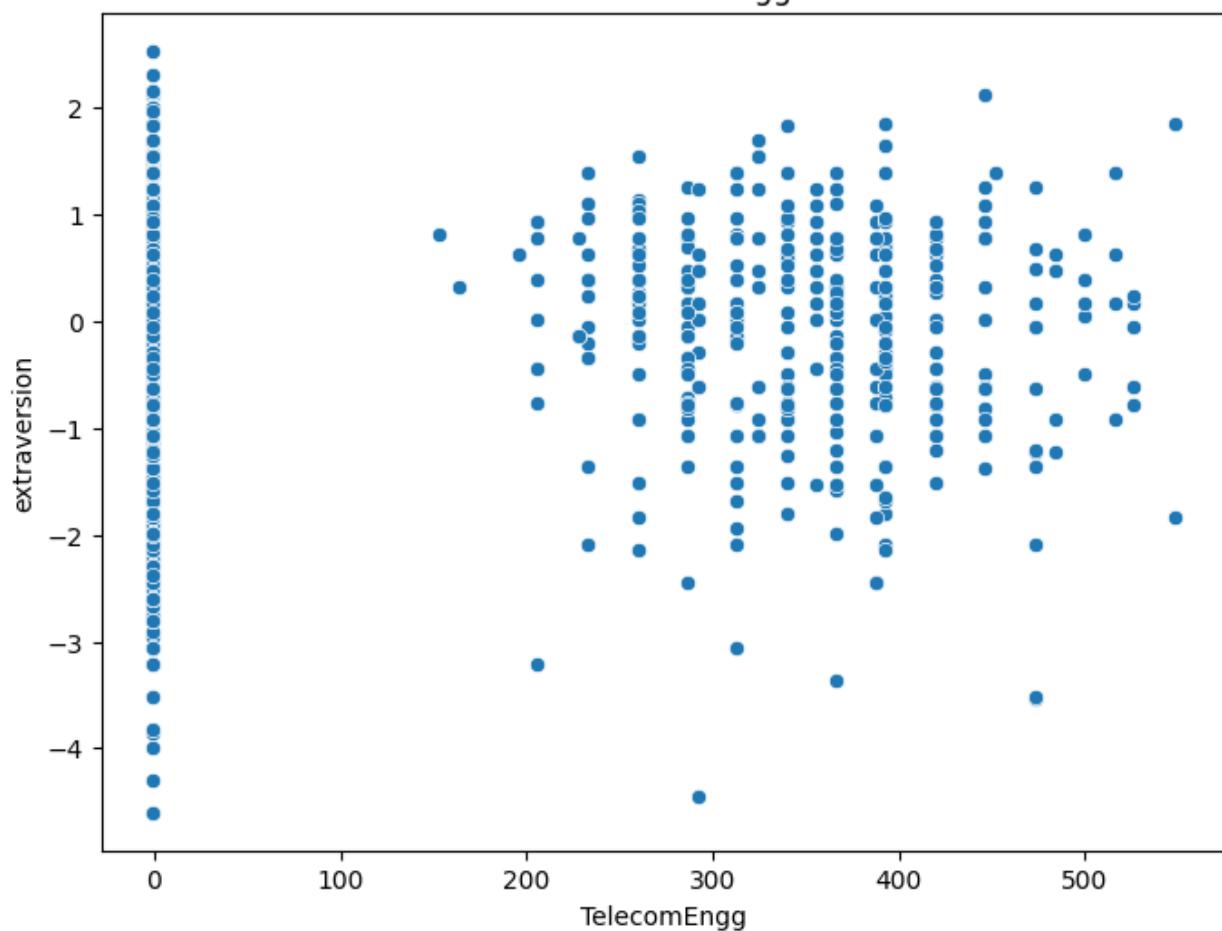
Scatter Plot between TelecomEngg and conscientiousness



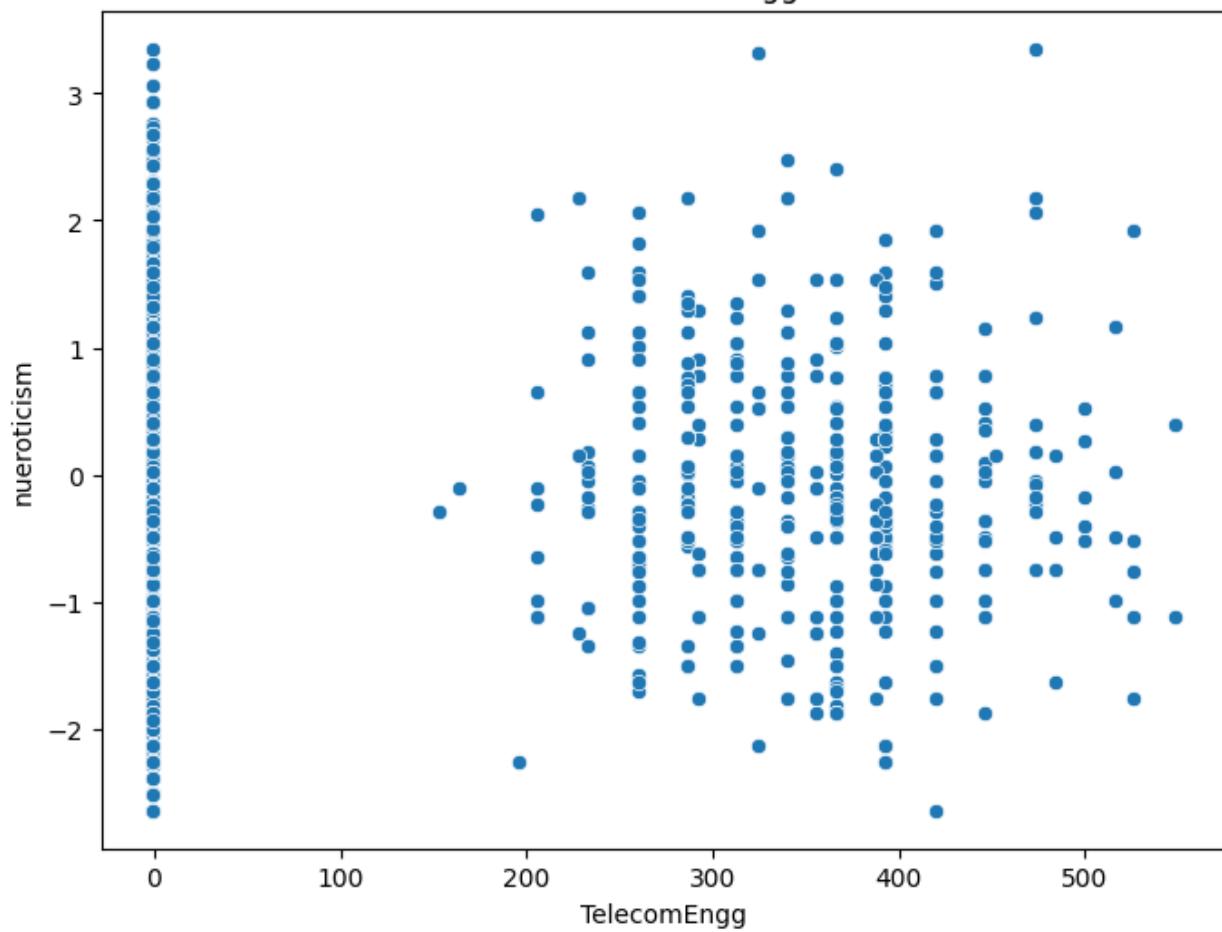
Scatter Plot between TelecomEngg and agreeableness



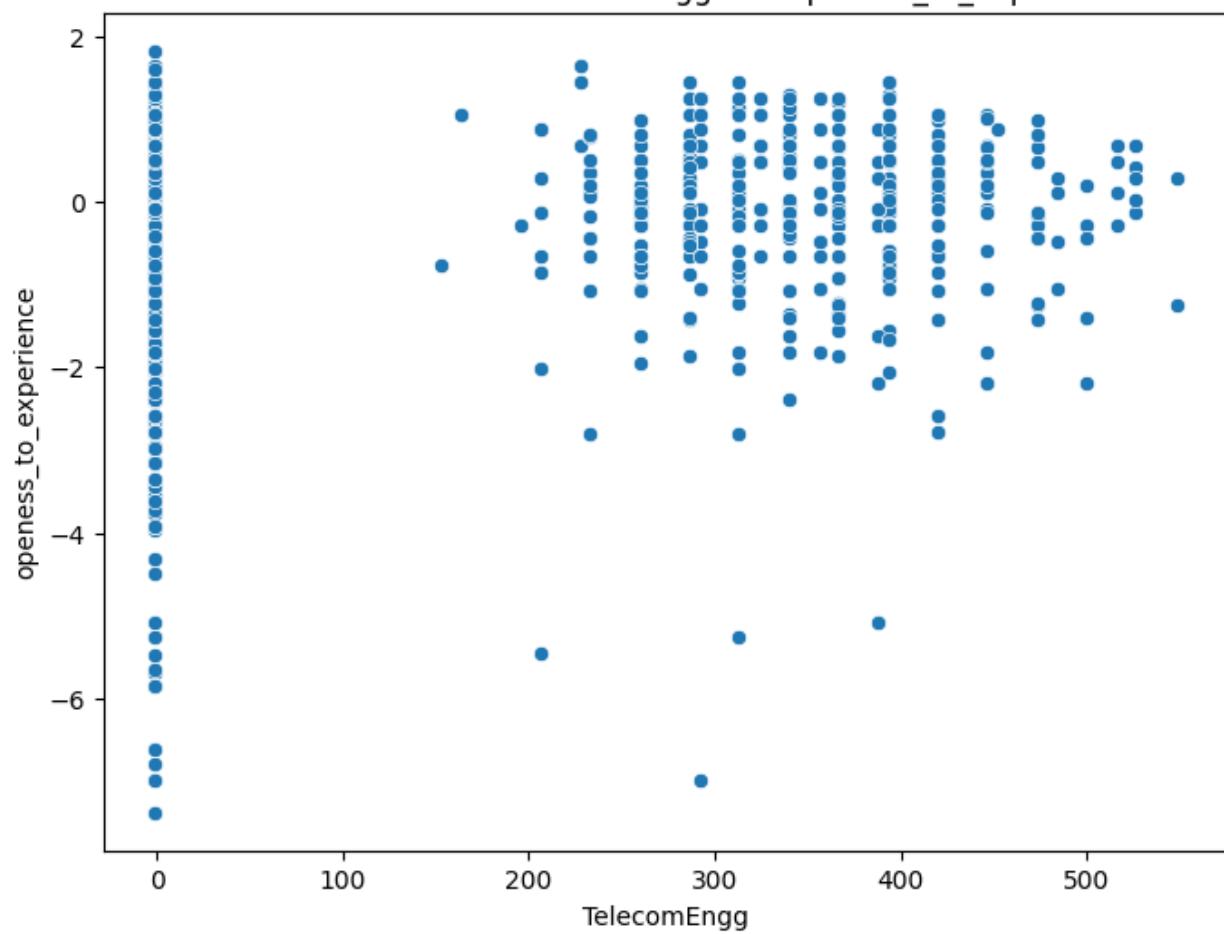
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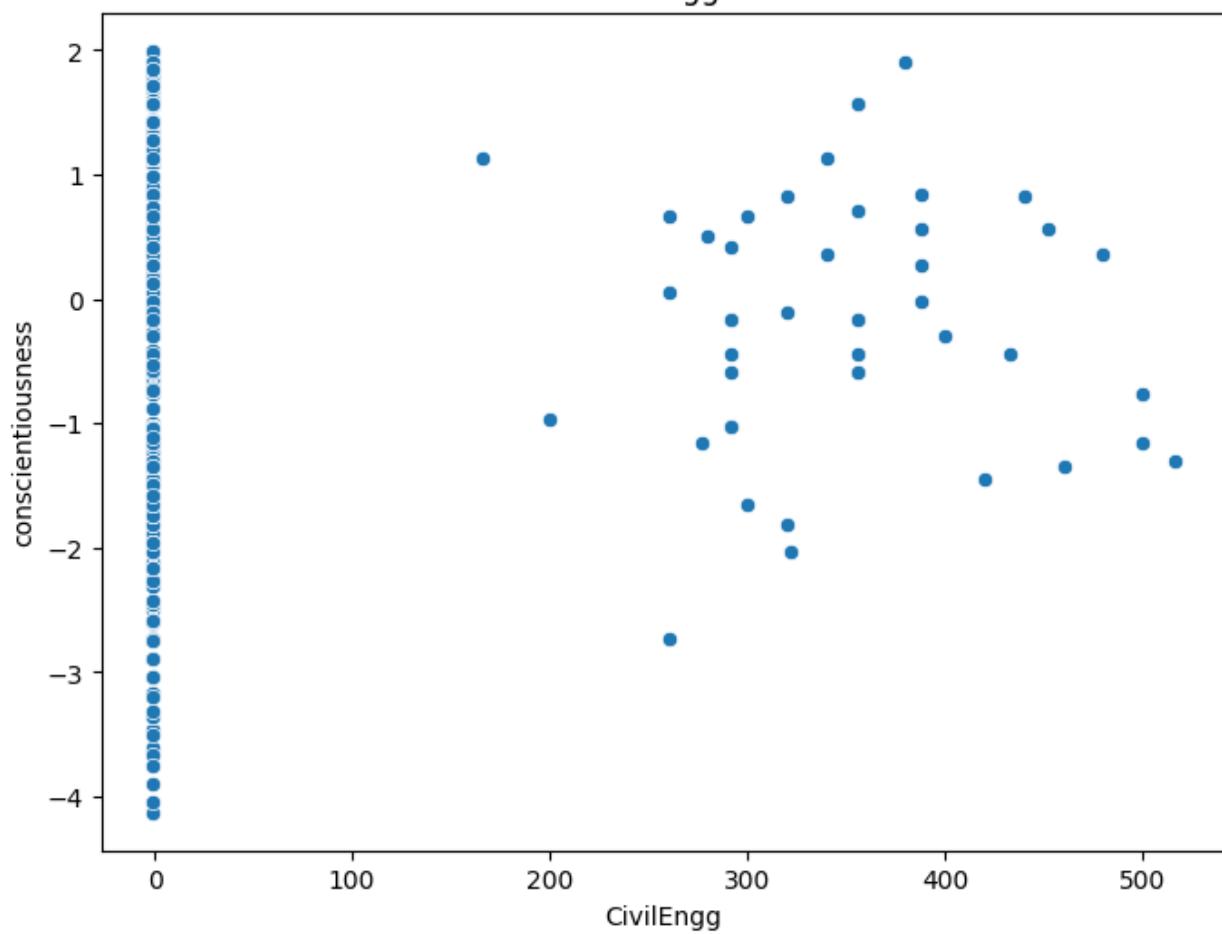
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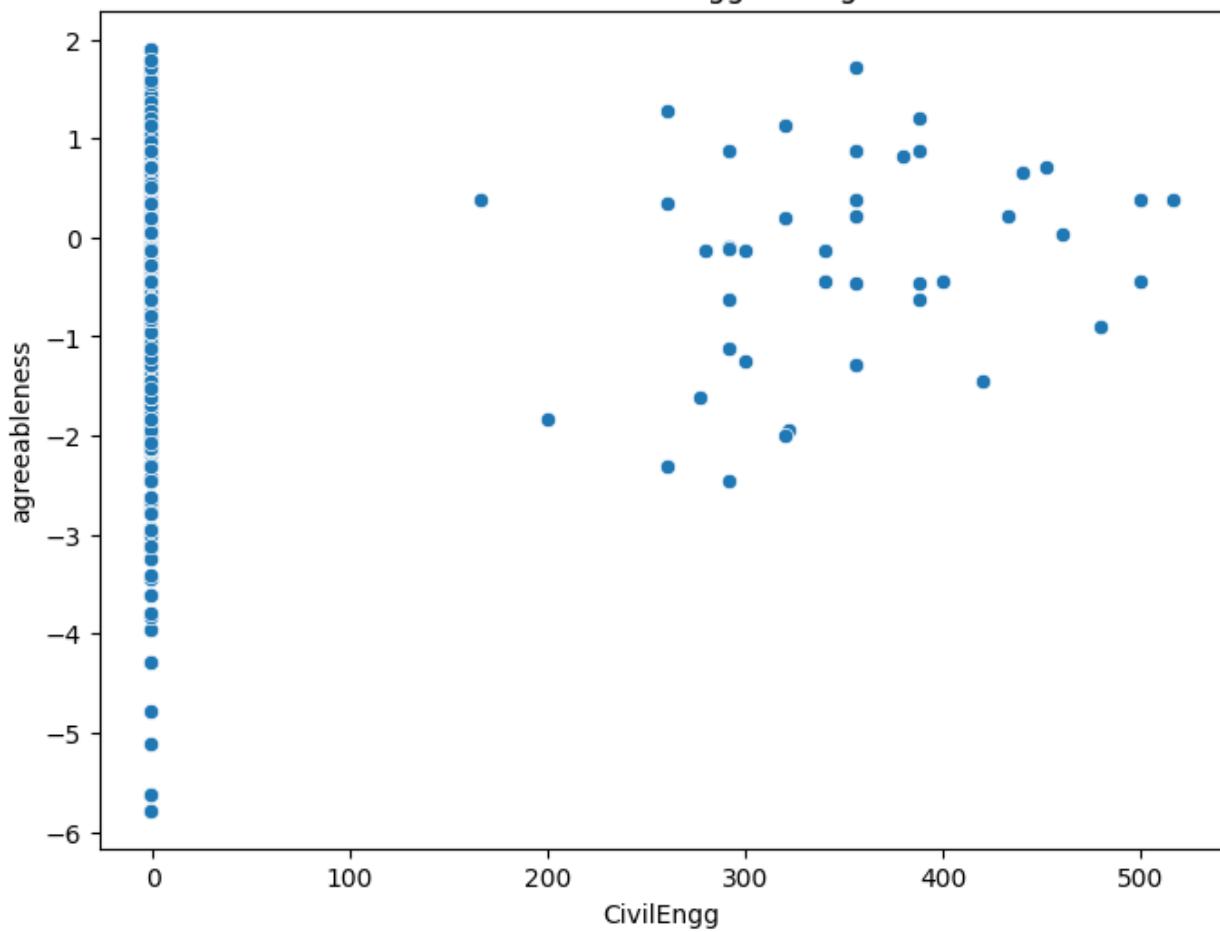
Scatter Plot between TelecomEngg and openness_to_experience



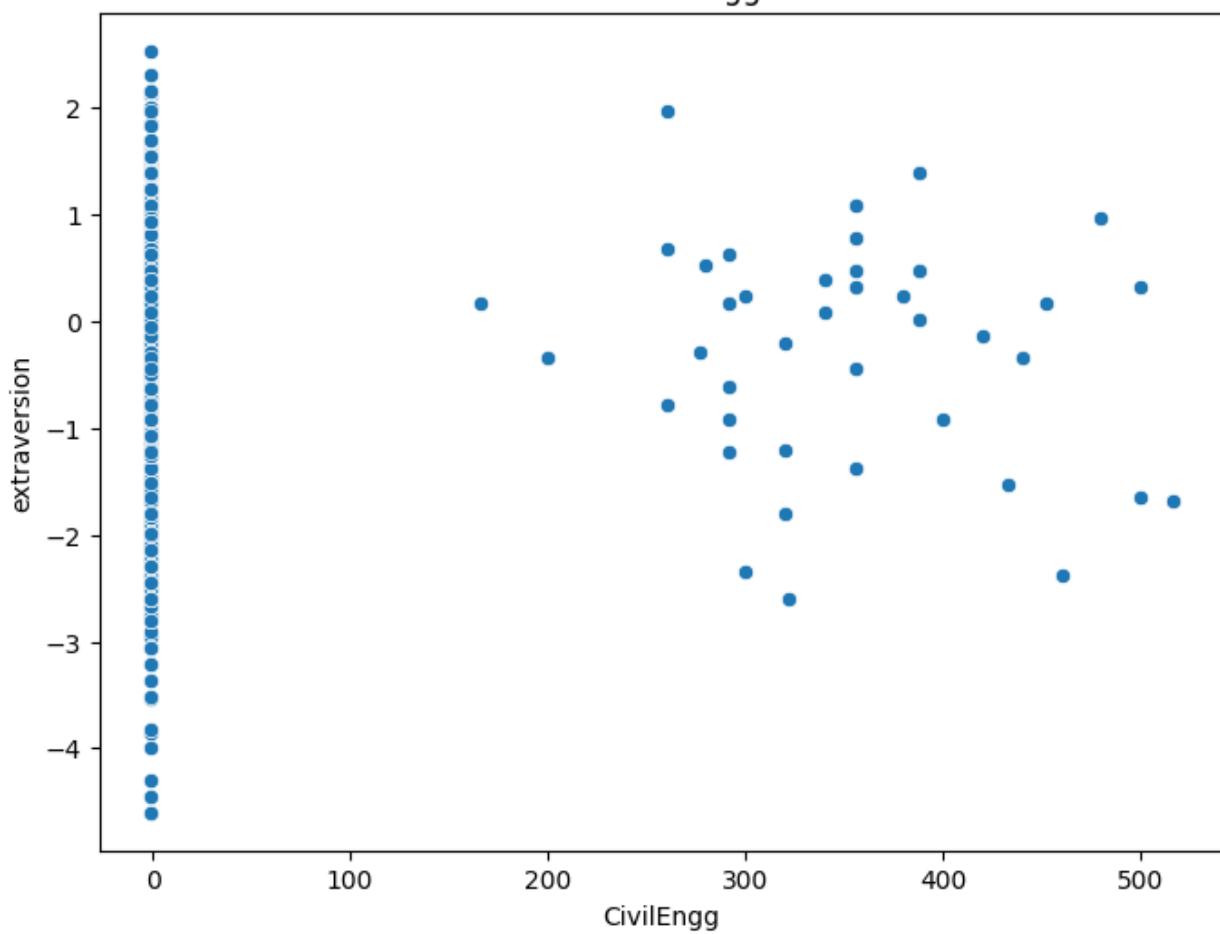
Scatter Plot between CivilEngg and conscientiousness



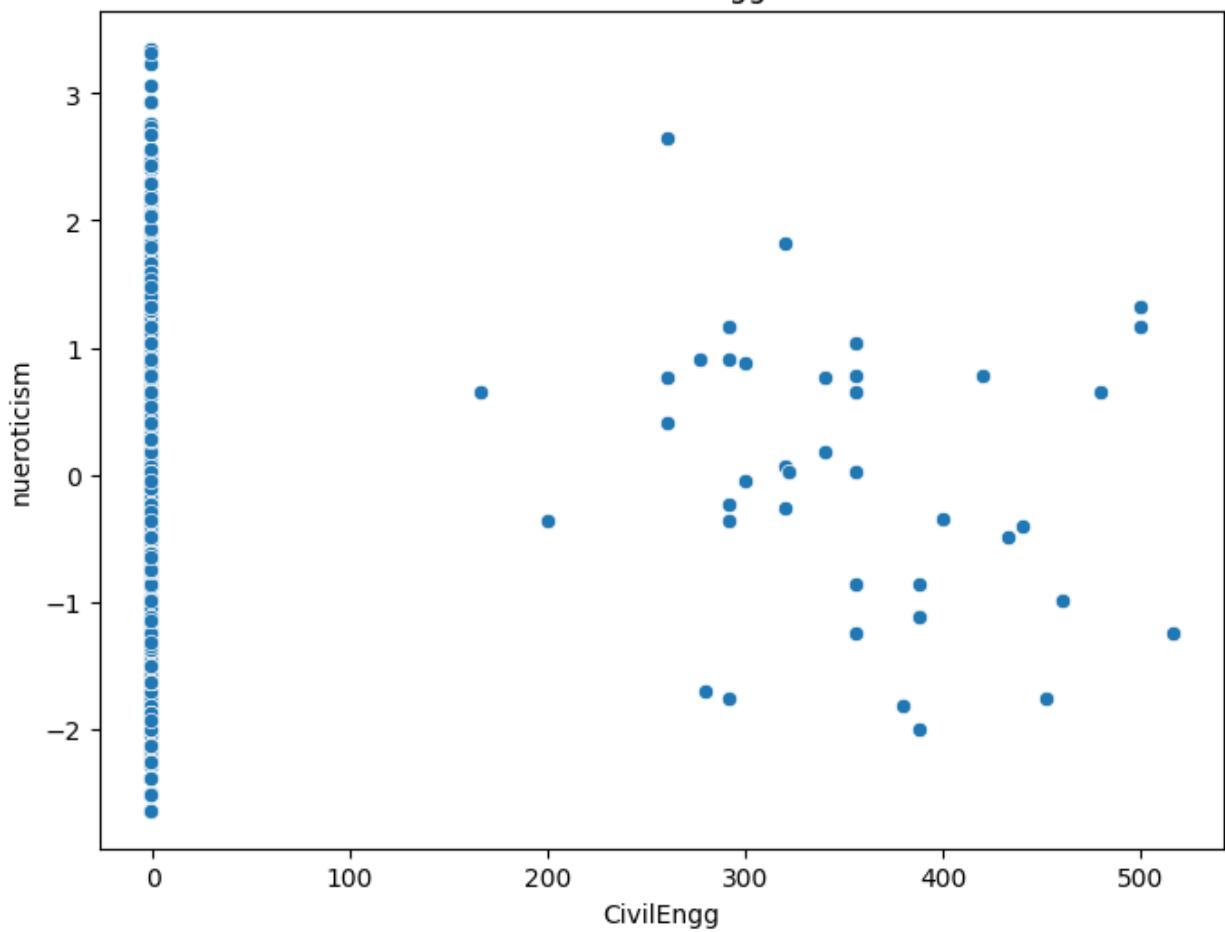
Scatter Plot between CivilEngg and agreeableness



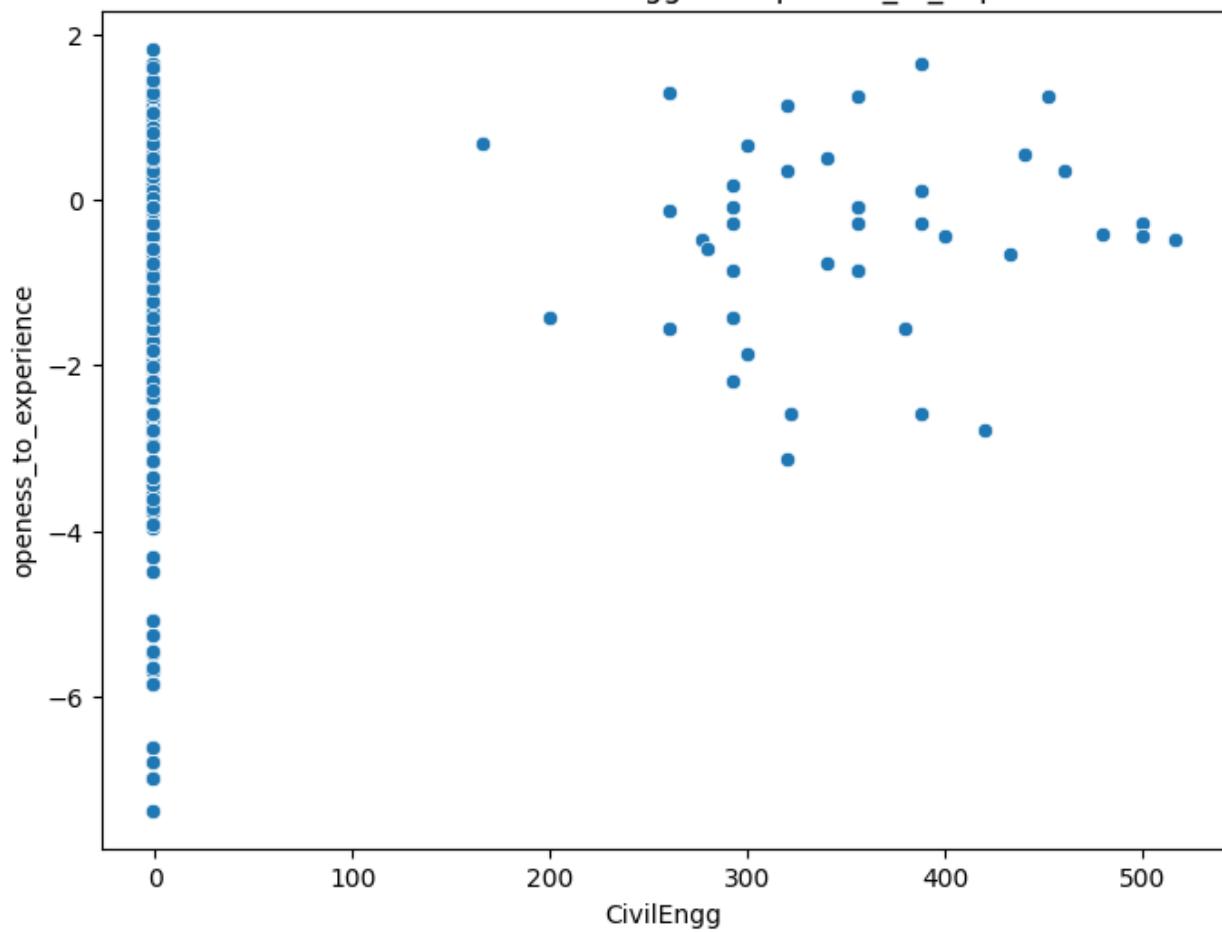
Scatter Plot between CivilEngg and extraversion



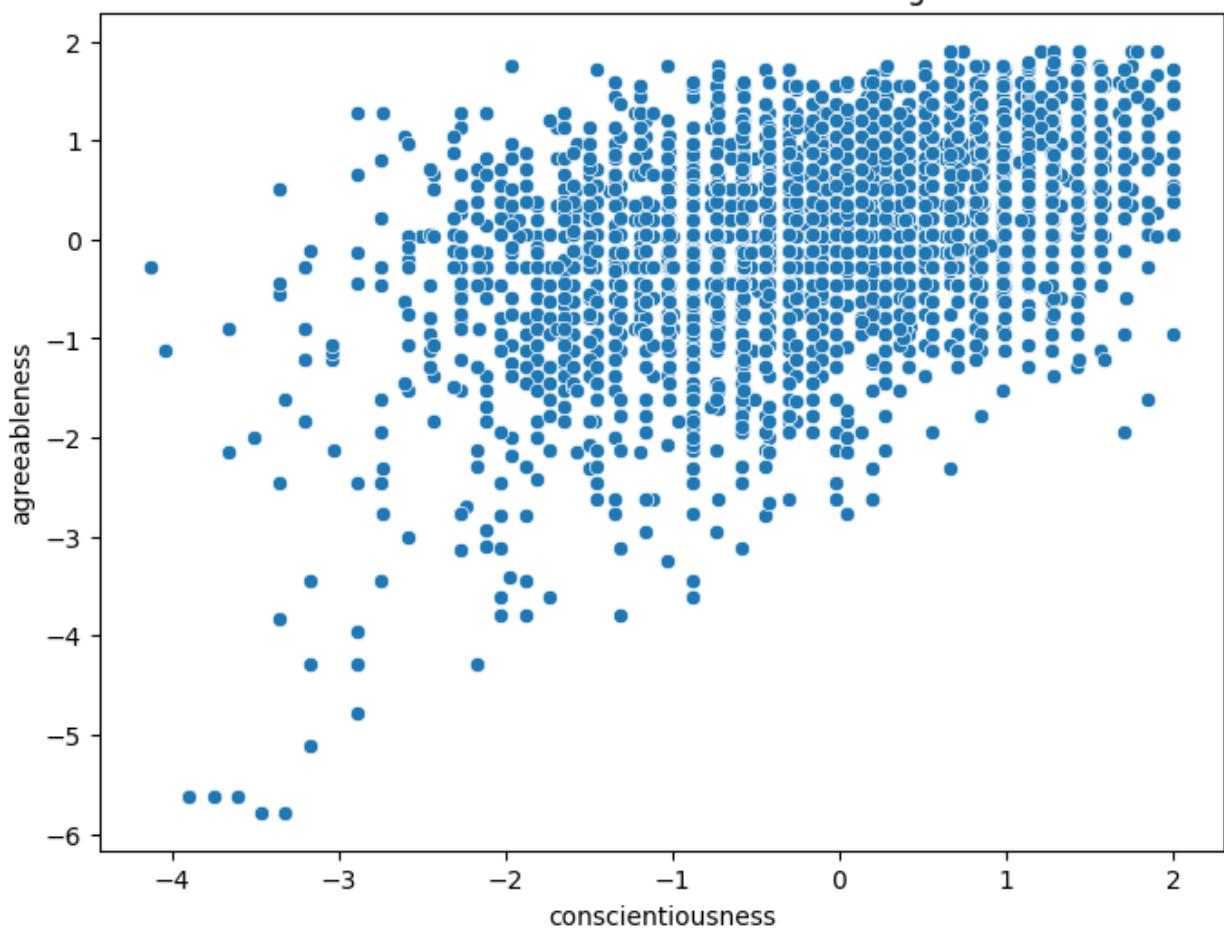
Scatter Plot between CivilEngg and nueroticism



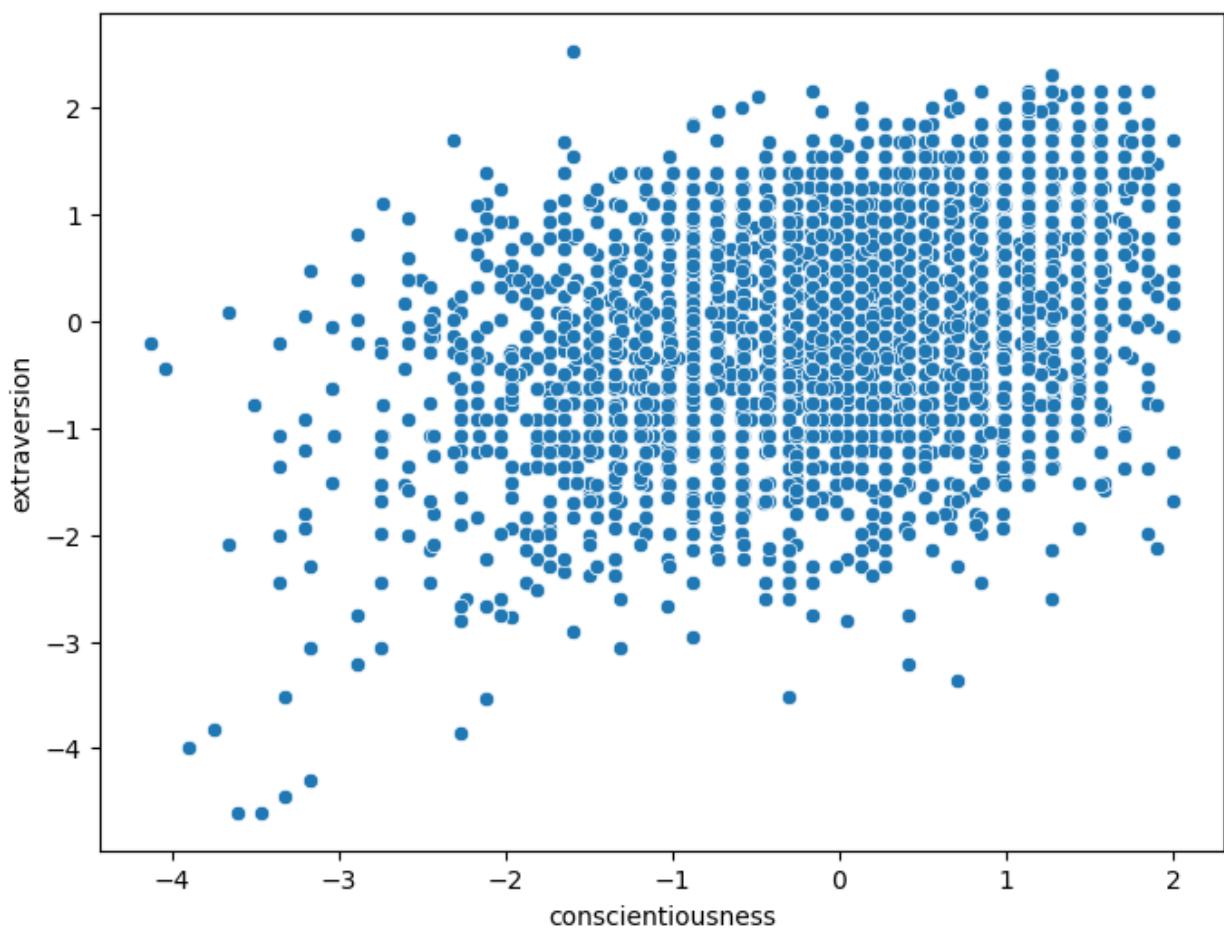
Scatter Plot between CivilEngg and openness_to_experience



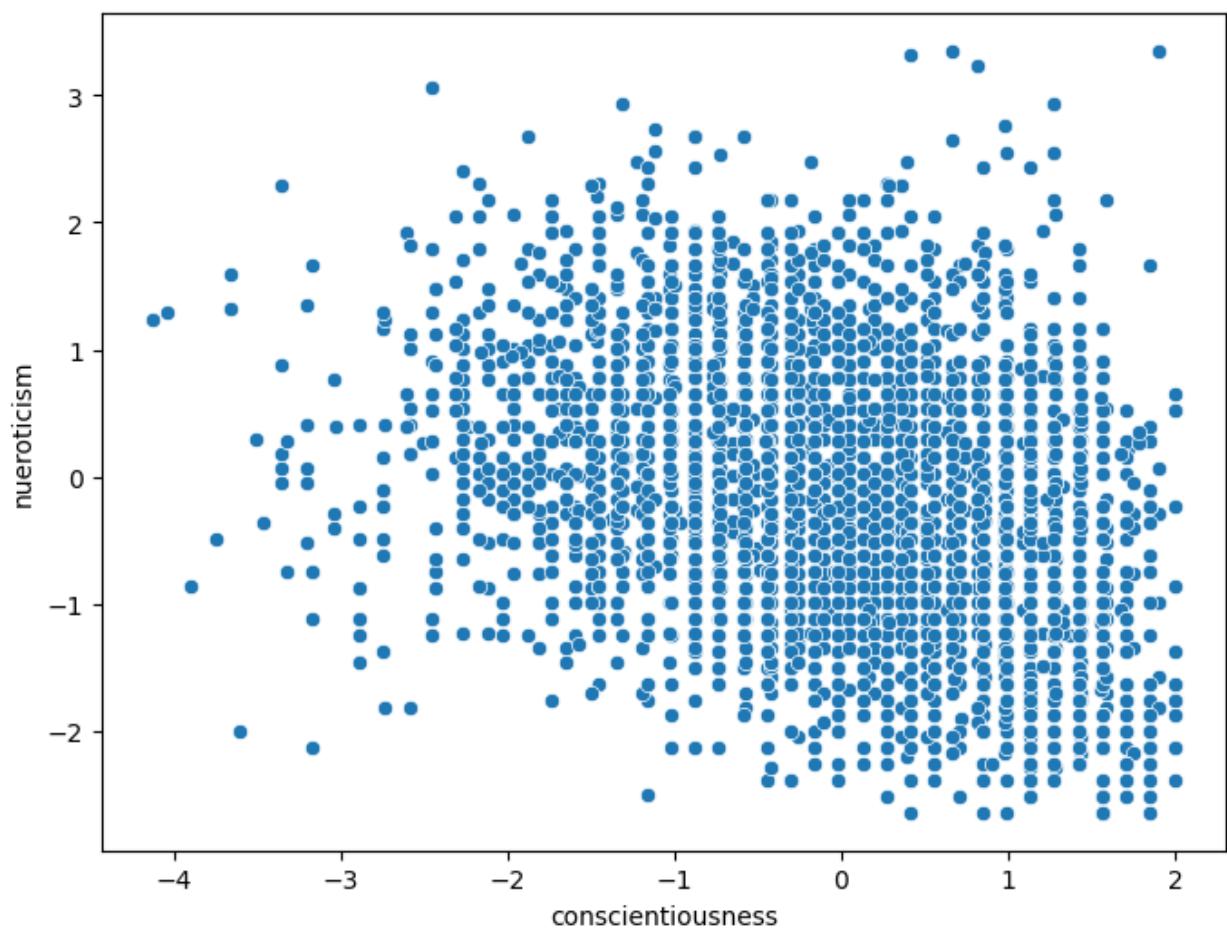
Scatter Plot between conscientiousness and agreeableness



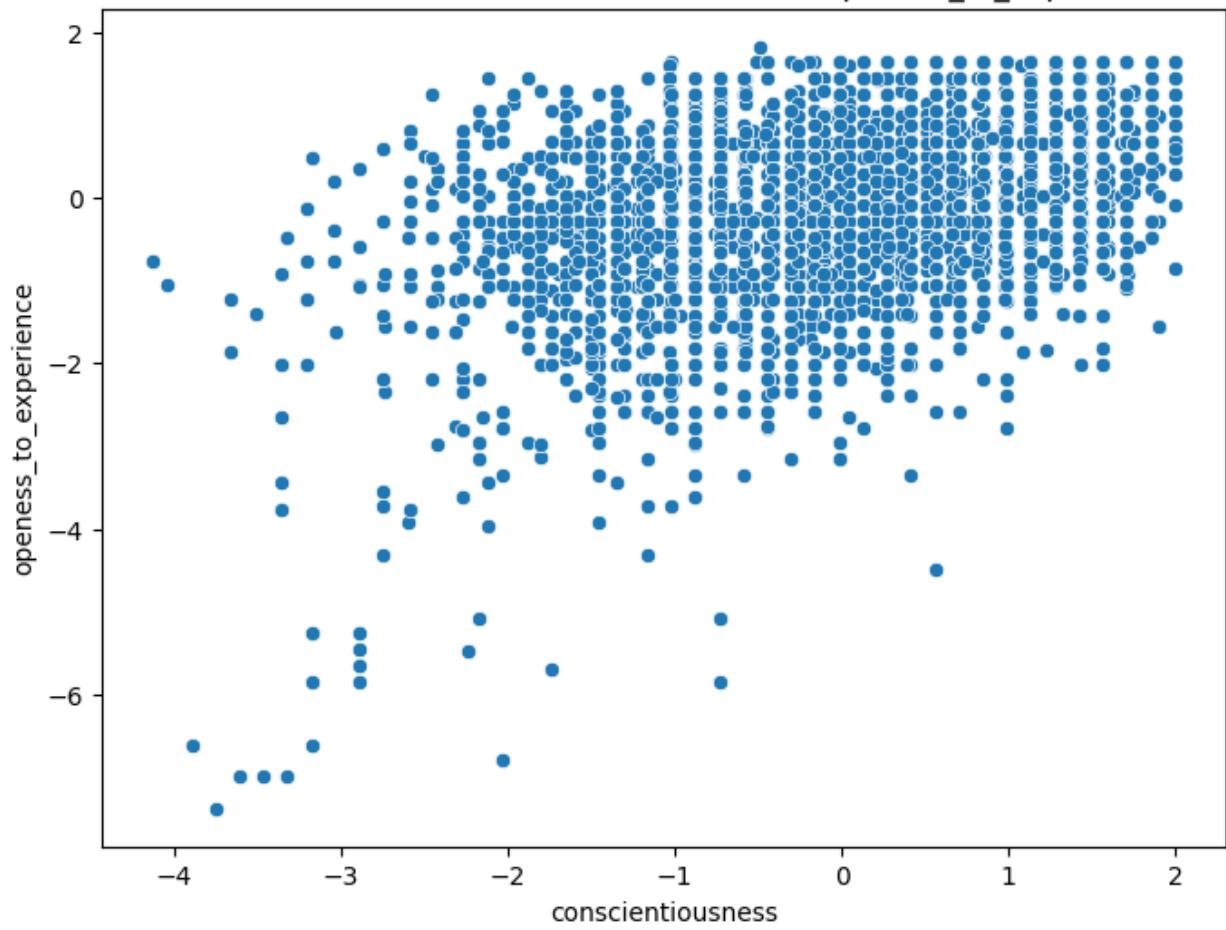
Scatter Plot between conscientiousness and extraversion



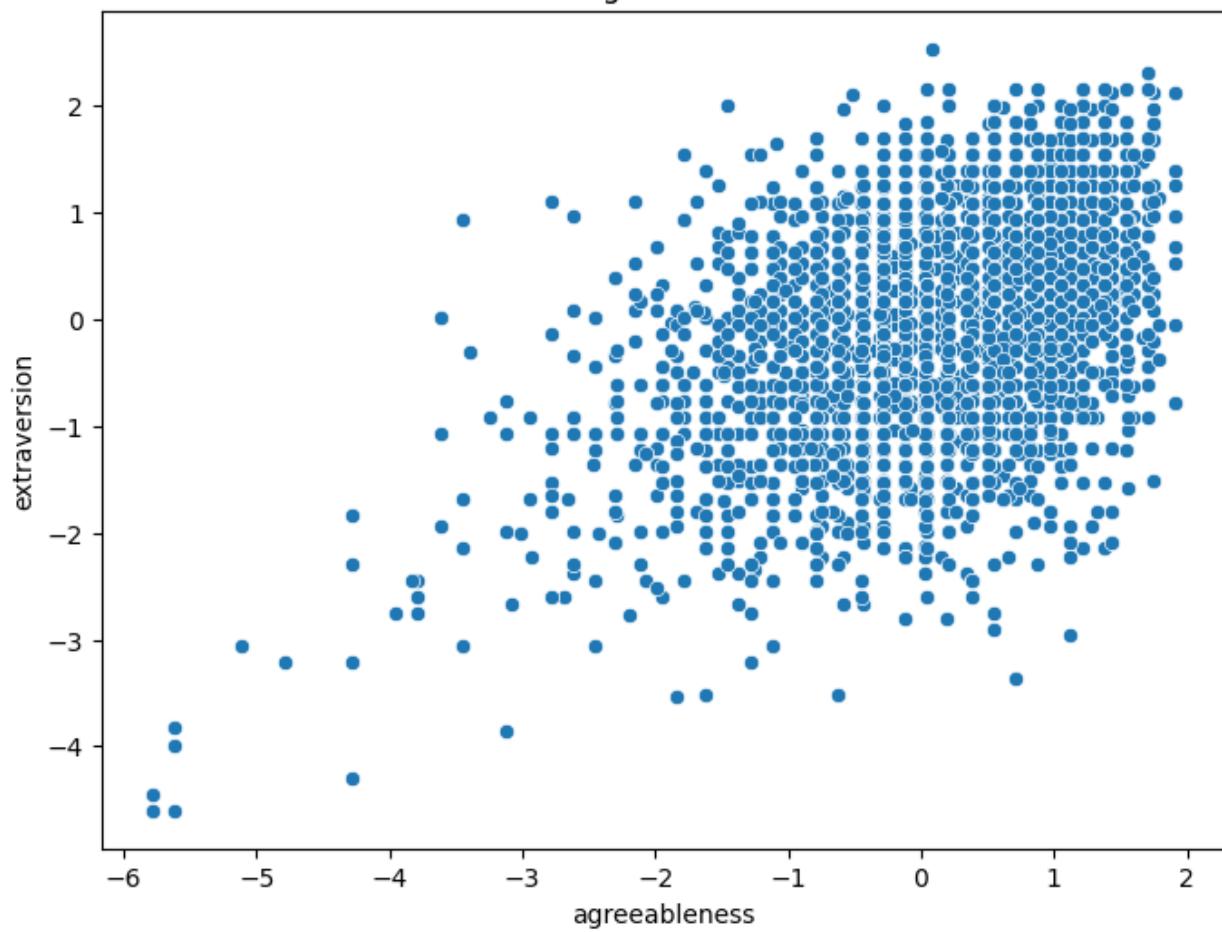
Scatter Plot between conscientiousness and nuerotism



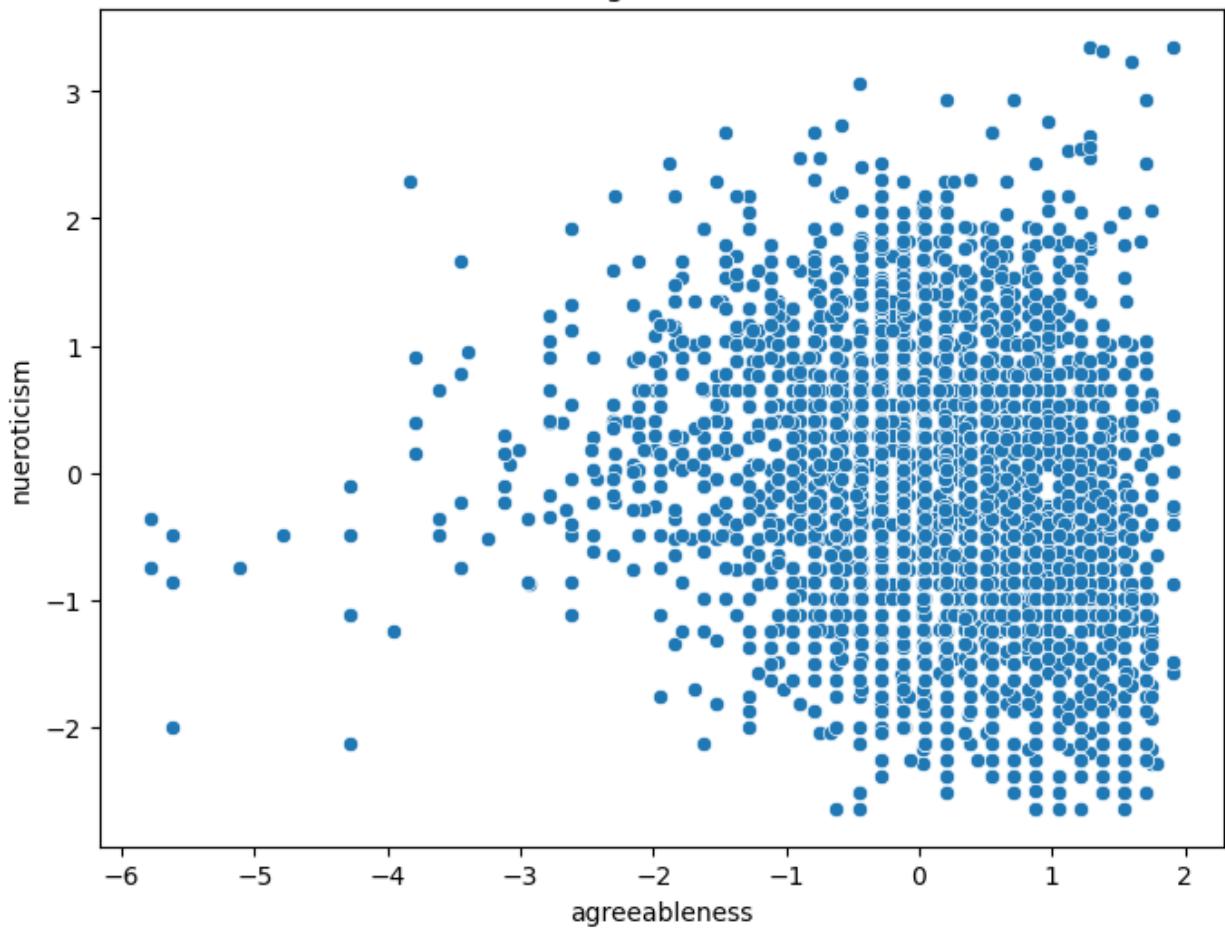
Scatter Plot between conscientiousness and openness_to_experience



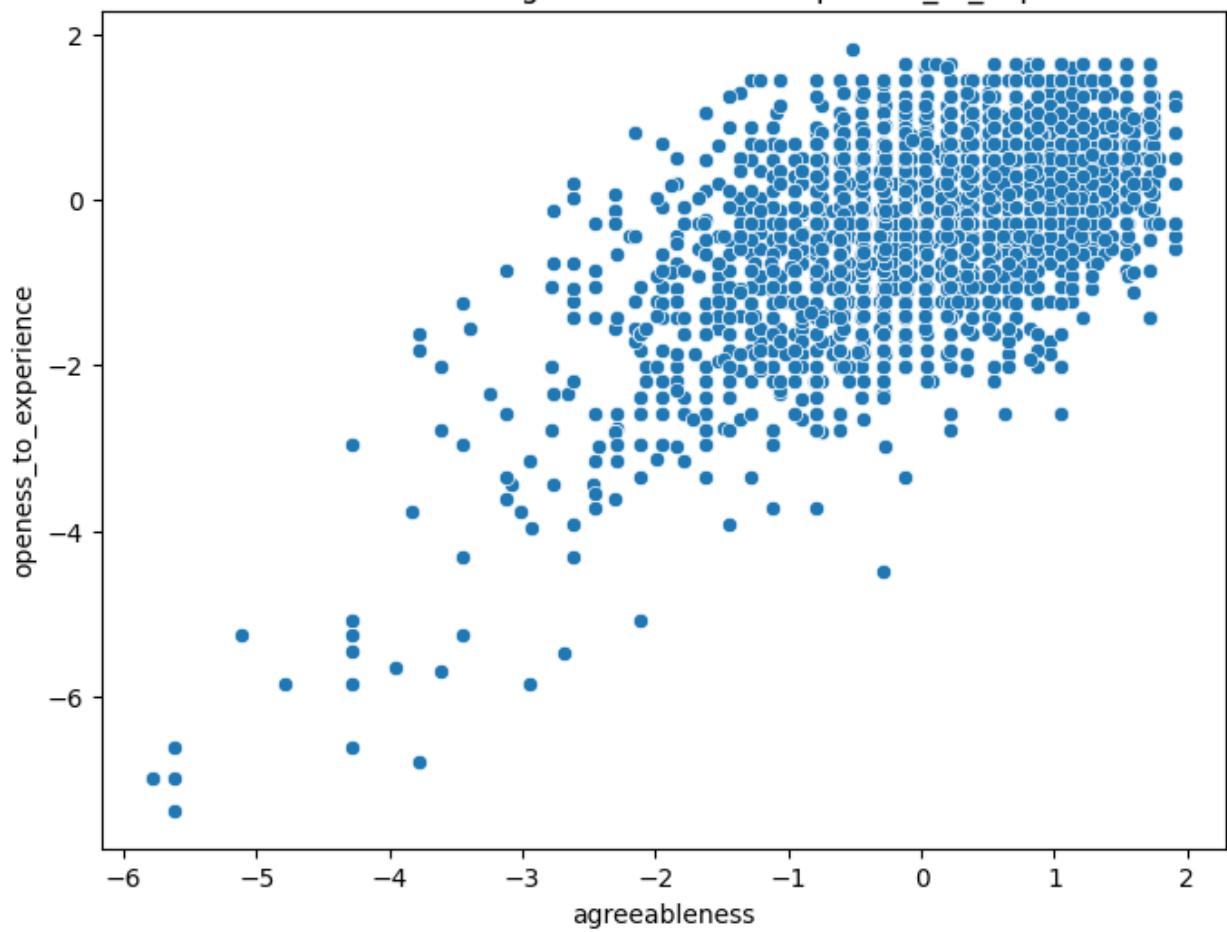
Scatter Plot between agreeableness and extraversion



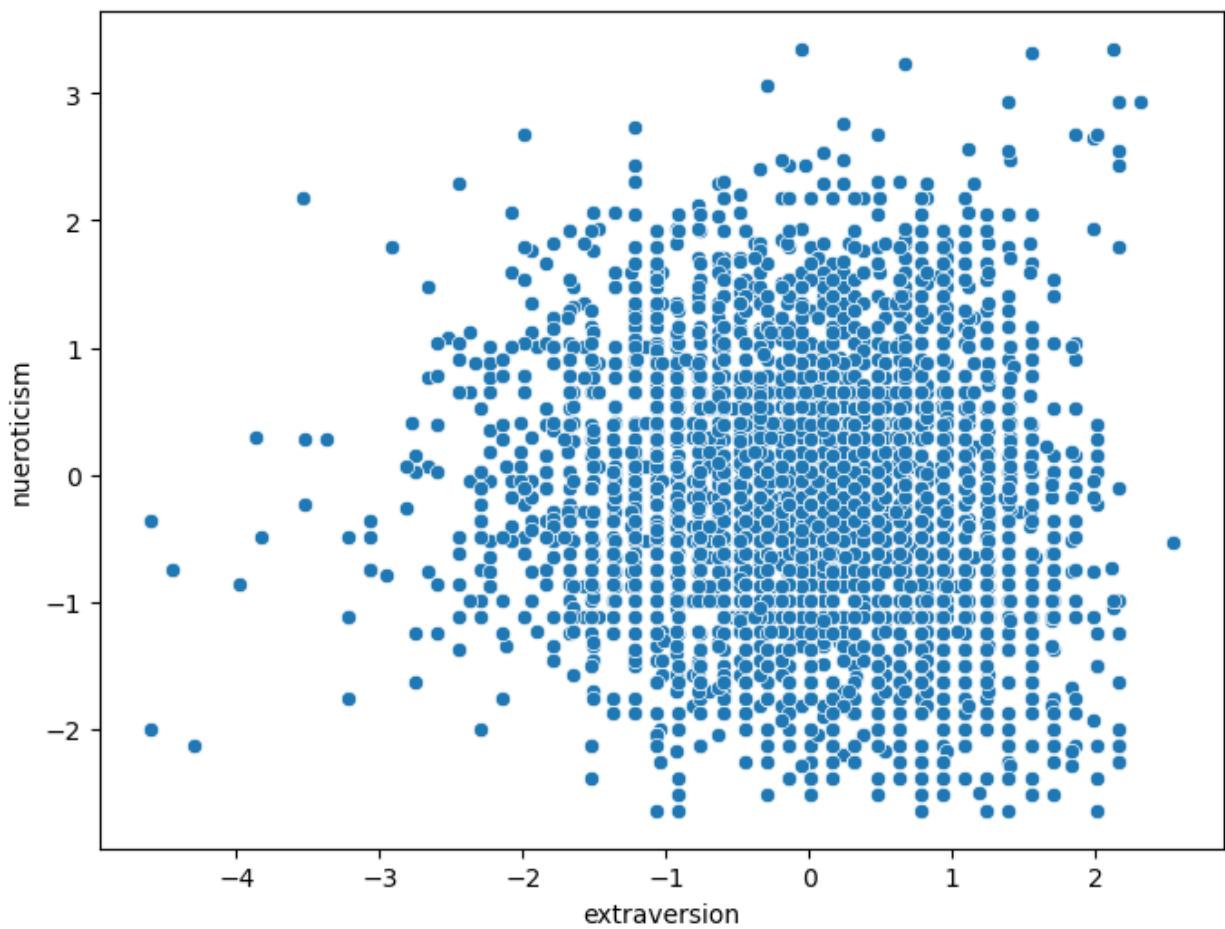
Scatter Plot between agreeableness and nueroticism



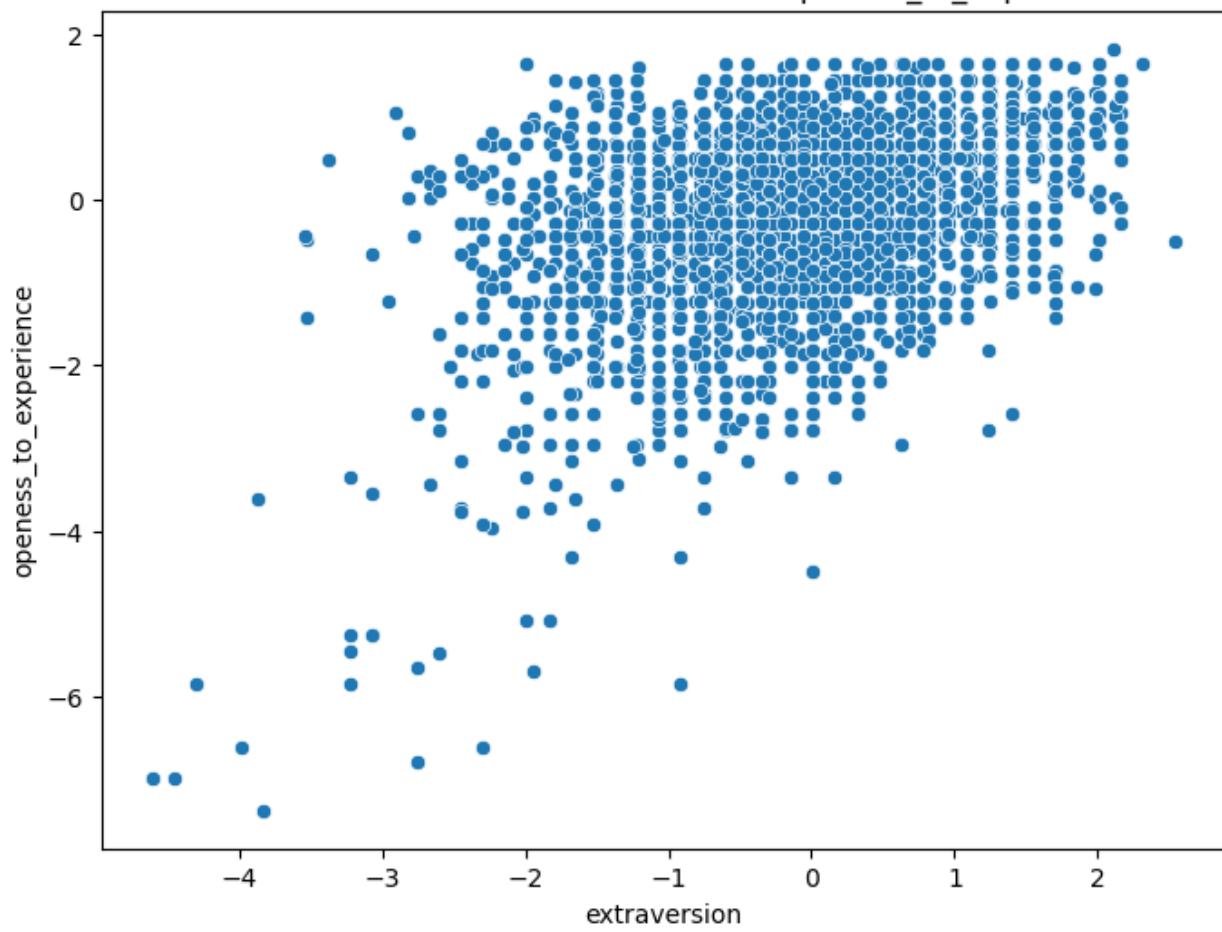
Scatter Plot between agreeableness and openness_to_experience

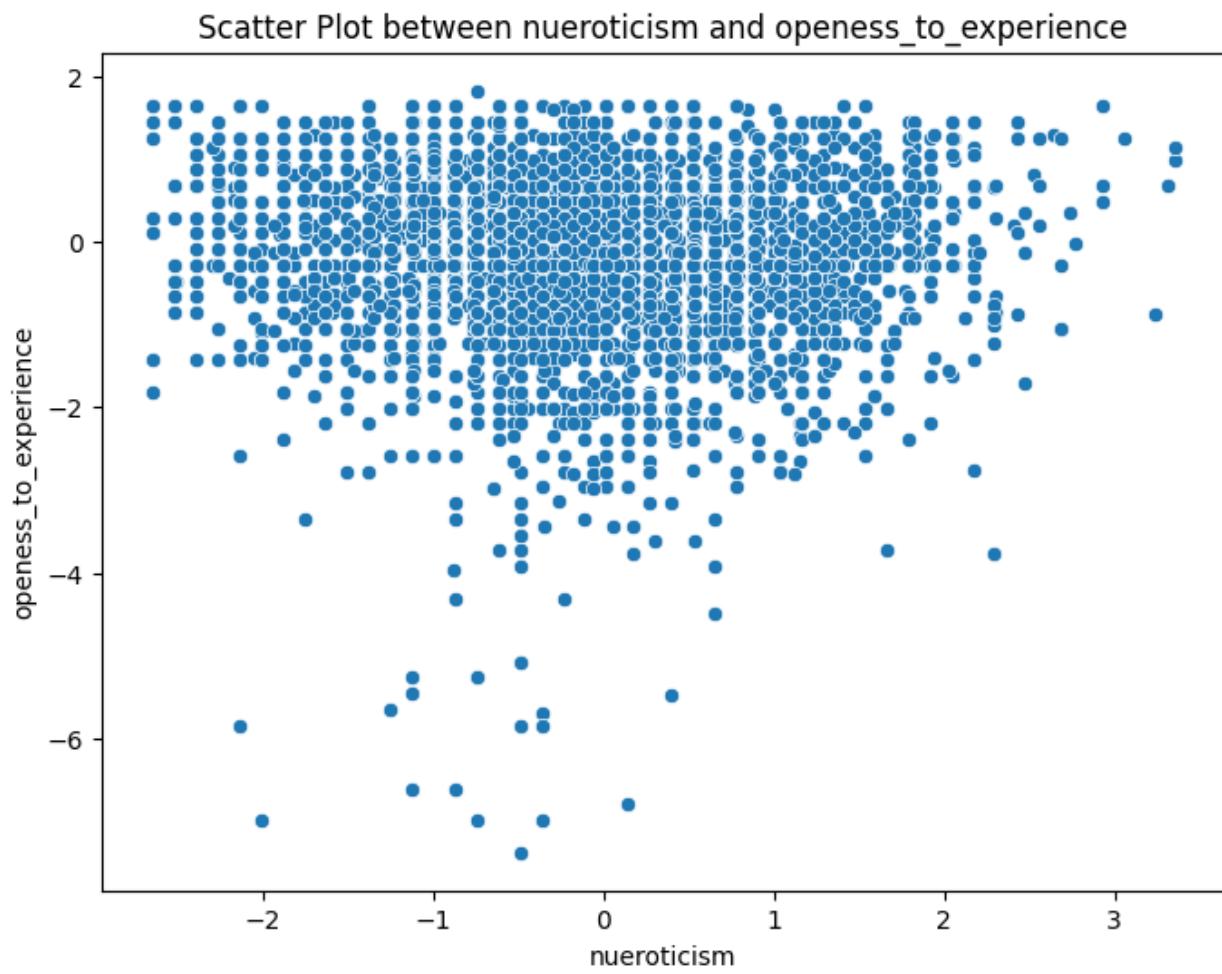


Scatter Plot between extraversion and nueroticism



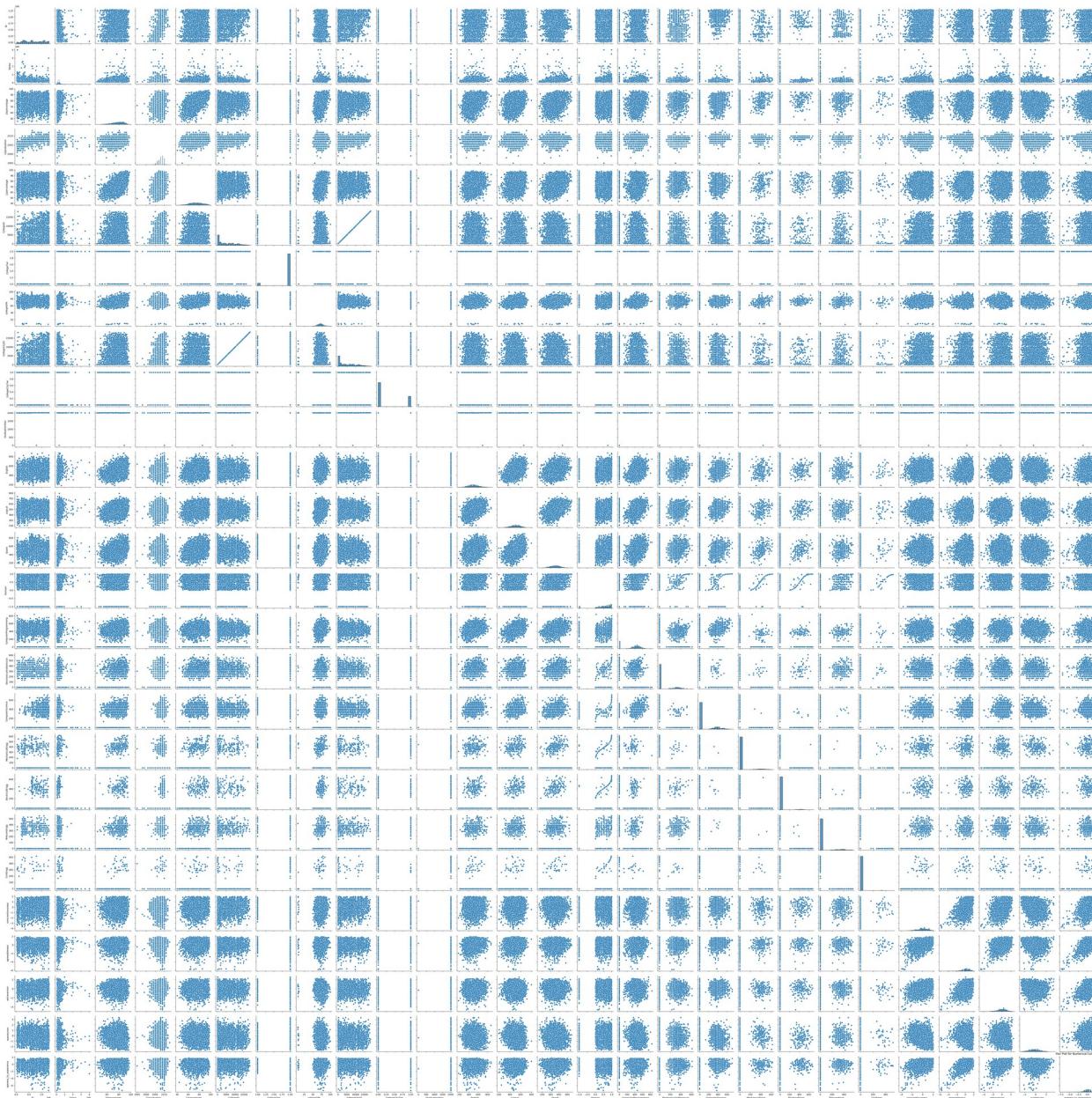
Scatter Plot between extraversion and openness_to_experience





```
plt.figure(figsize=(10, 8))
sns.pairplot(data[numerical_columns])
plt.title('Pair Plot for Numerical Columns')
plt.show()
```

```
<Figure size 1000x800 with 0 Axes>
```

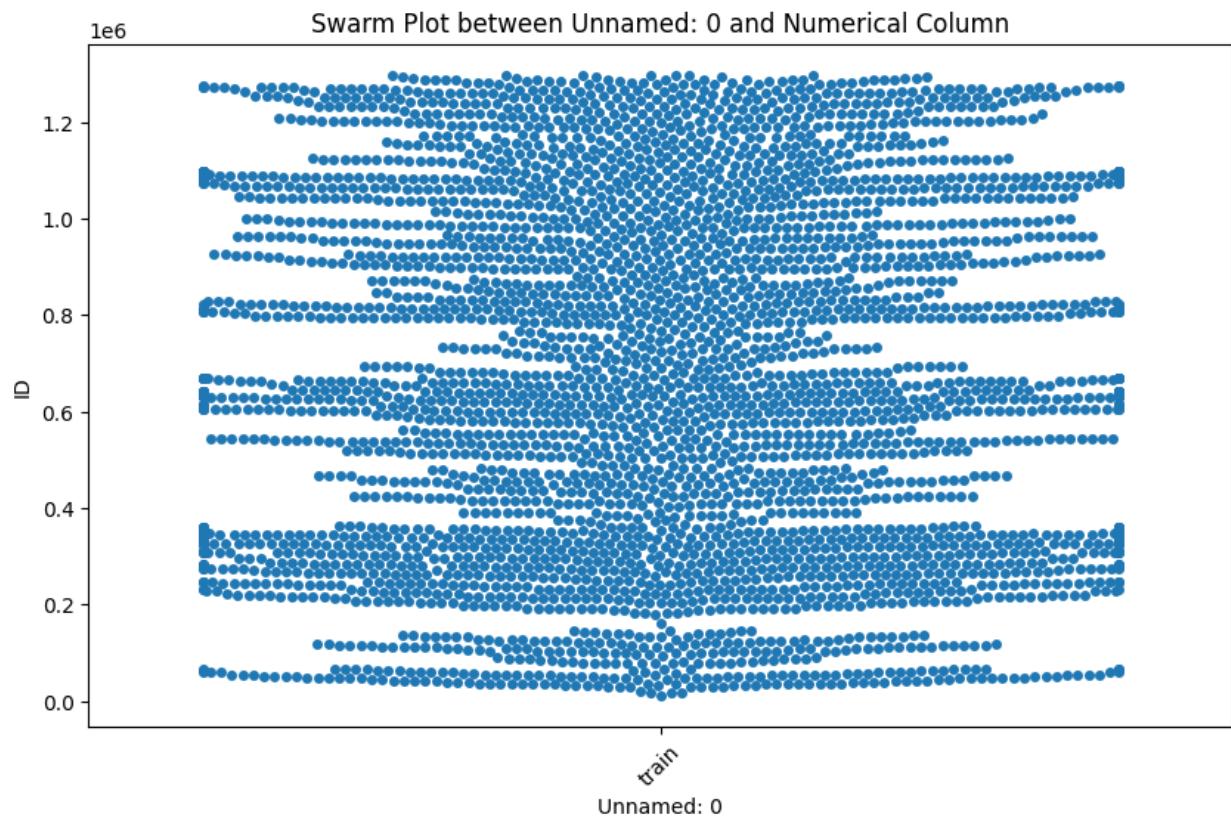


```
# Relationships between Categorical and Numerical Columns

# Swarm plot
for column in categorical_columns:
    plt.figure(figsize=(10, 6))
    sns.swarmplot(x=column, y=numerical_columns[0], data=data) #
Replace 'numerical_columns[0]' with the desired numerical column
    plt.title(f'Swarm Plot between {column} and Numerical Column')
    plt.xlabel(column)
    plt.ylabel(numerical_columns[0]) # Update ylabel with the
numerical column name
    plt.xticks(rotation=45)
```

```
plt.show()
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 11.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 11.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 66.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 68.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 80.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```

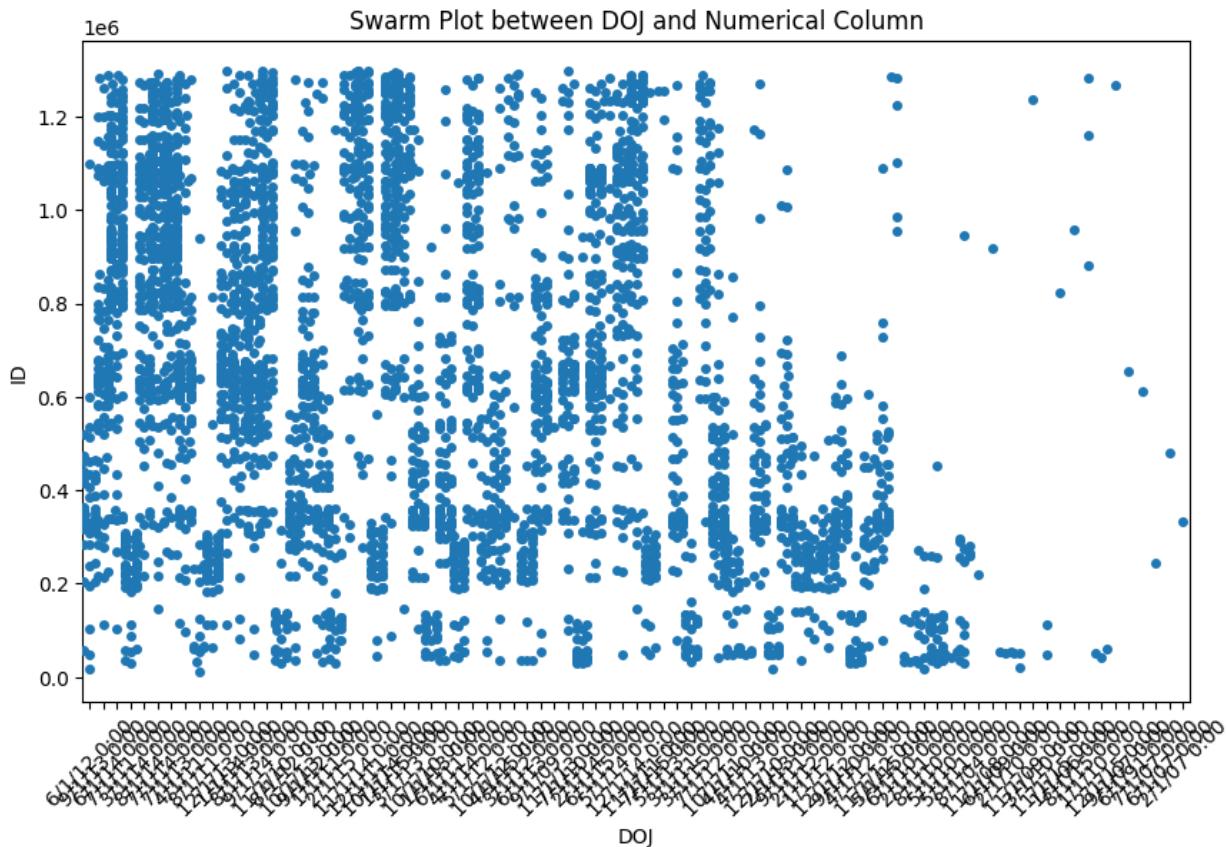
```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 80.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 74.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 80.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 82.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 70.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 37.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 76.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 67.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 76.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 71.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 78.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 65.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
```

```
UserWarning: 62.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 68.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 63.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 67.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 71.4% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 76.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 78.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 72.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 70.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 75.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 78.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 73.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 58.8% of the points cannot be placed; you may want to
```

```
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 65.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 46.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 67.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 67.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 60.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 74.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 72.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 15.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 69.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 71.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 33.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 61.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.
```

```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 65.2% of the points cannot be placed; you may want to
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/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
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/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
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/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 62.5% of the points cannot be placed; you may want to
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    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 60.4% of the points cannot be placed; you may want to
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/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 68.2% of the points cannot be placed; you may want to
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    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 77.3% of the points cannot be placed; you may want to
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    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 60.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 16.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 56.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 71.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 79.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 70.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 73.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 76.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 60.0% of the points cannot be placed; you may want to  
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    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 64.4% of the points cannot be placed; you may want to  
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    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 77.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 75.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 53.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 59.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 63.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 60.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```

/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 96.4% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 66.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 65.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 30.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 89.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)

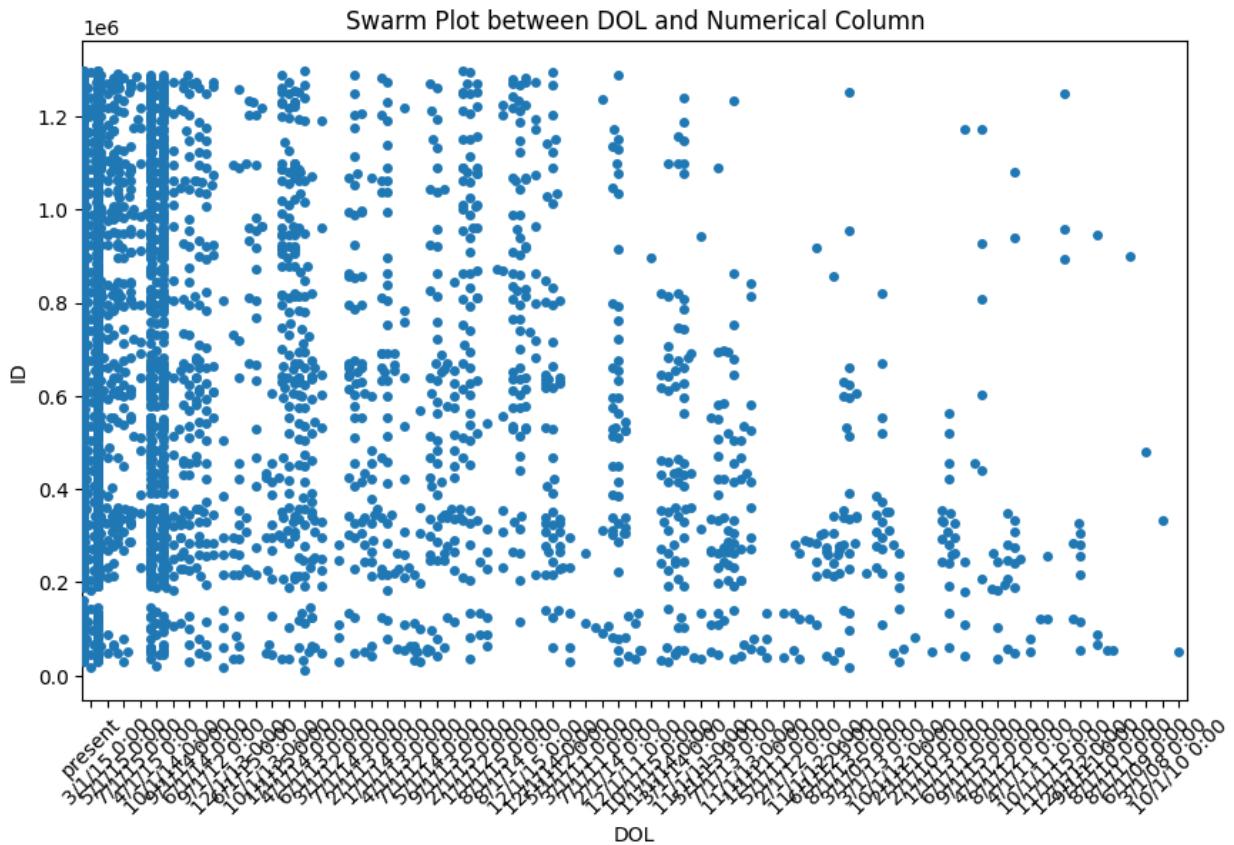
```

```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 43.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 53.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 40.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 38.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 33.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 56.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 35.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 39.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 18.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 36.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 34.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 30.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 12.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 49.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 45.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 16.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 42.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 45.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 20.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 48.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 48.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 15.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 25.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
```

```
UserWarning: 14.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 47.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 38.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 28.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 22.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 96.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 62.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 64.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 89.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 43.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 52.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 36.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 34.6% of the points cannot be placed; you may want to
```

```
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 46.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 48.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 37.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 35.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 49.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 47.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 41.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 96.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```

/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 20.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 65.4% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 78.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 77.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 28.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 85.4% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)

```

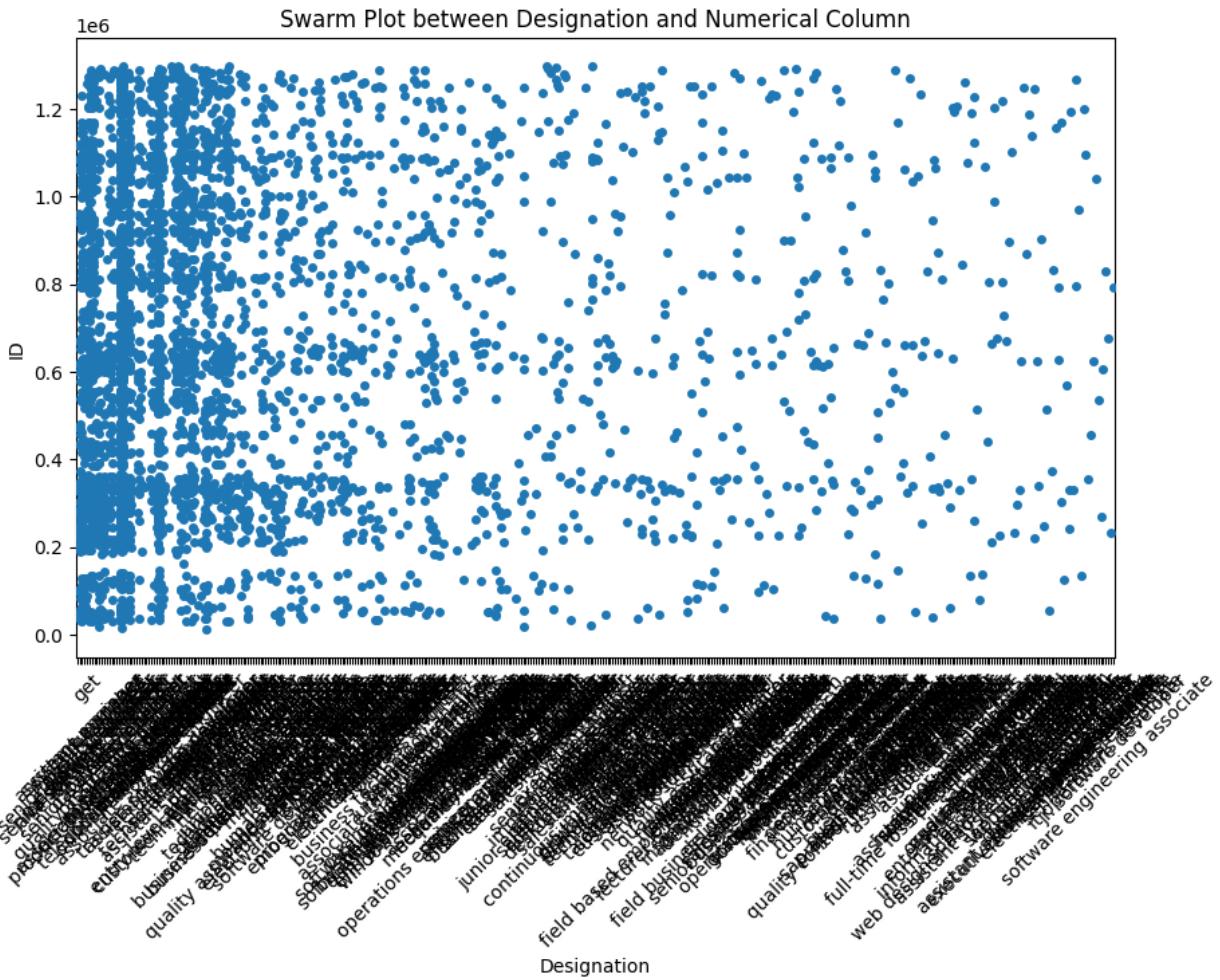
```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 73.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 14.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 34.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 63.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 54.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 27.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 47.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 30.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 94.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 77.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 27.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 57.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 15.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 47.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 31.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 88.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 41.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 56.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 58.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 29.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 52.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 59.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 51.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 68.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
```

```
UserWarning: 51.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 69.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 48.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 33.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 23.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 41.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 46.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 55.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 25.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 36.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 30.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 12.5% of the points cannot be placed; you may want to
```

```
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 22.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 8.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 45.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 39.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 44.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 16.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 21.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 7.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 23.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 35.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 18.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 60.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.
```

```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 26.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 42.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 40.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 94.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 87.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 68.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```



```

/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 95.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 37.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 87.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 85.4% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 90.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)

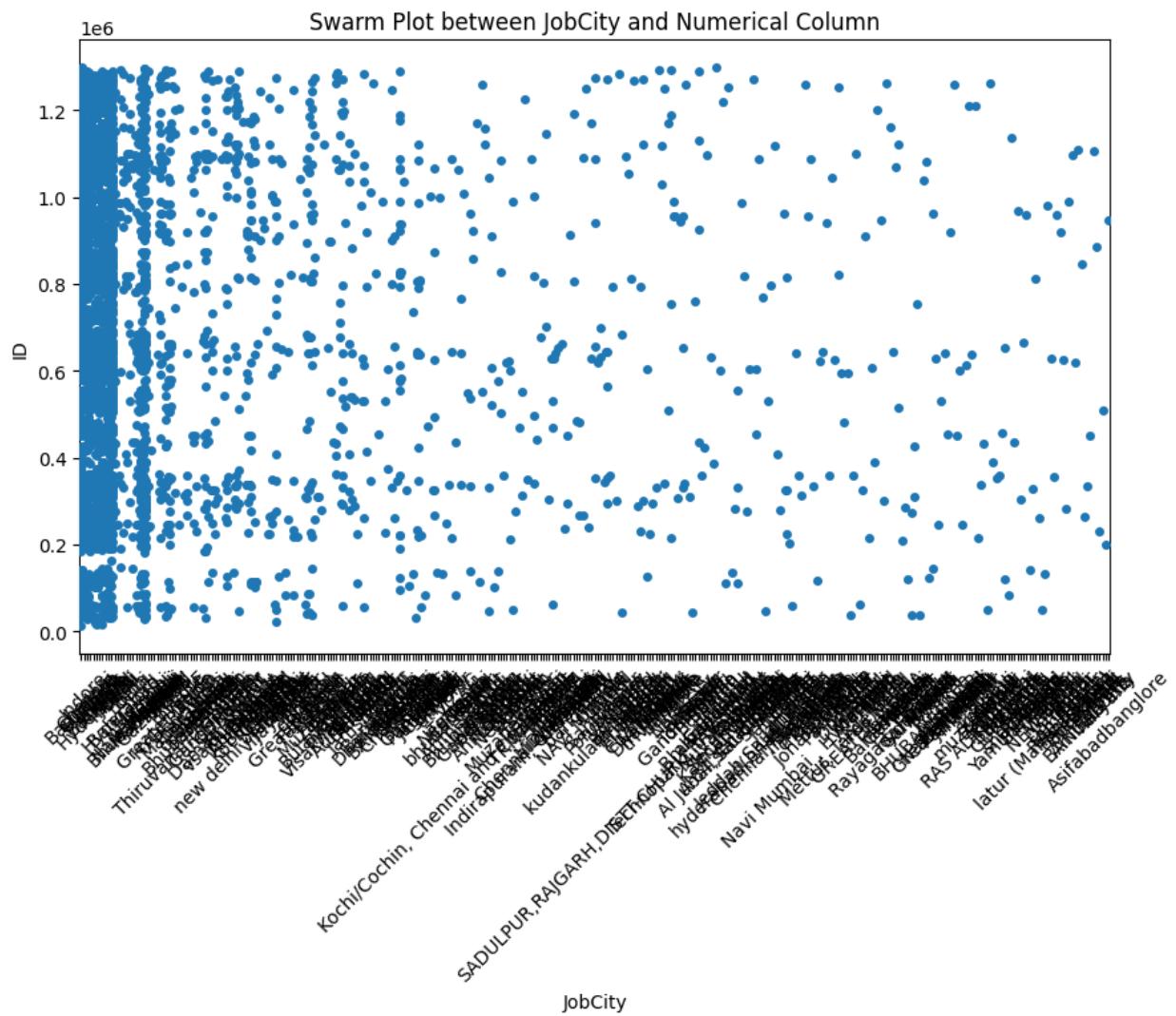
```

```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 33.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 90.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 76.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 90.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 92.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 25.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 10.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 35.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 16.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 31.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 53.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 72.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```

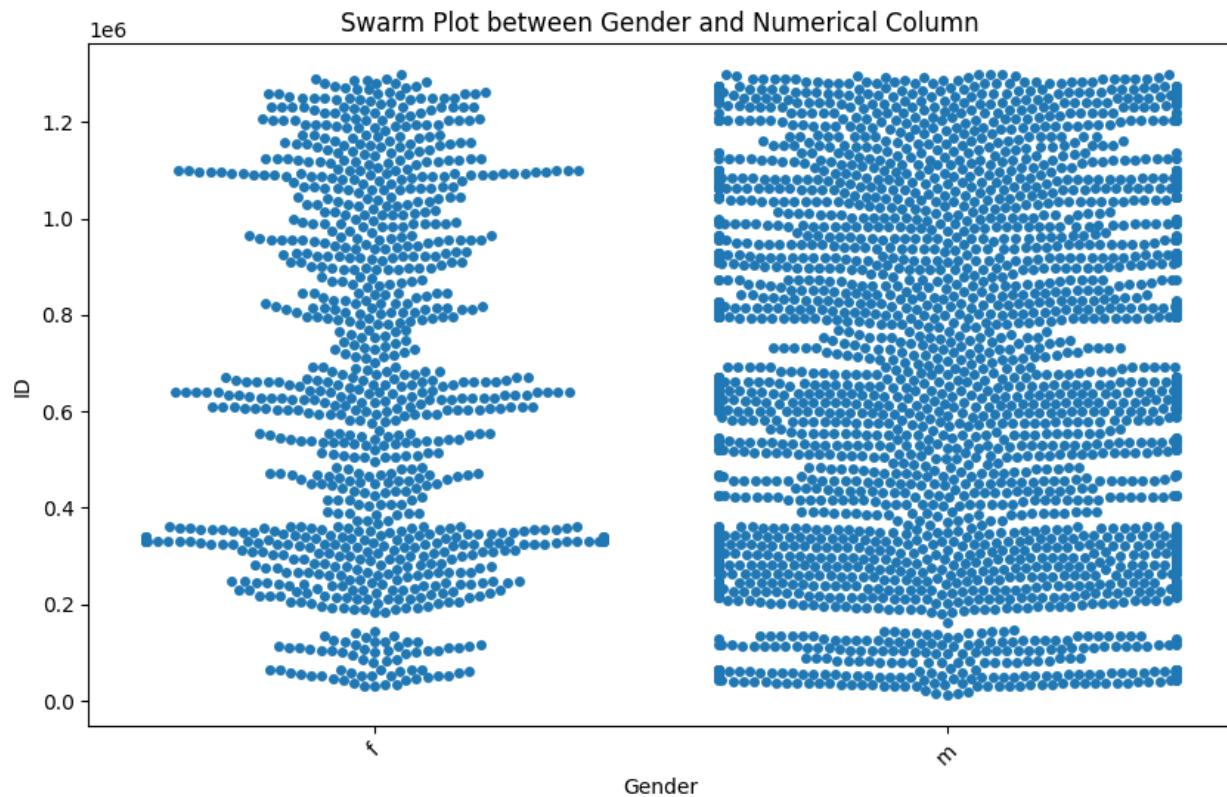
```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 81.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 18.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 47.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 42.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 54.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 14.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 22.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 40.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 52.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 23.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 40.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 61.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
```

```
UserWarning: 11.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 17.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 38.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 20.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 28.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 13.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 35.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 27.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 18.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 46.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 94.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 89.9% of the points cannot be placed; you may want to
```

```
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 75.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 89.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 92.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```

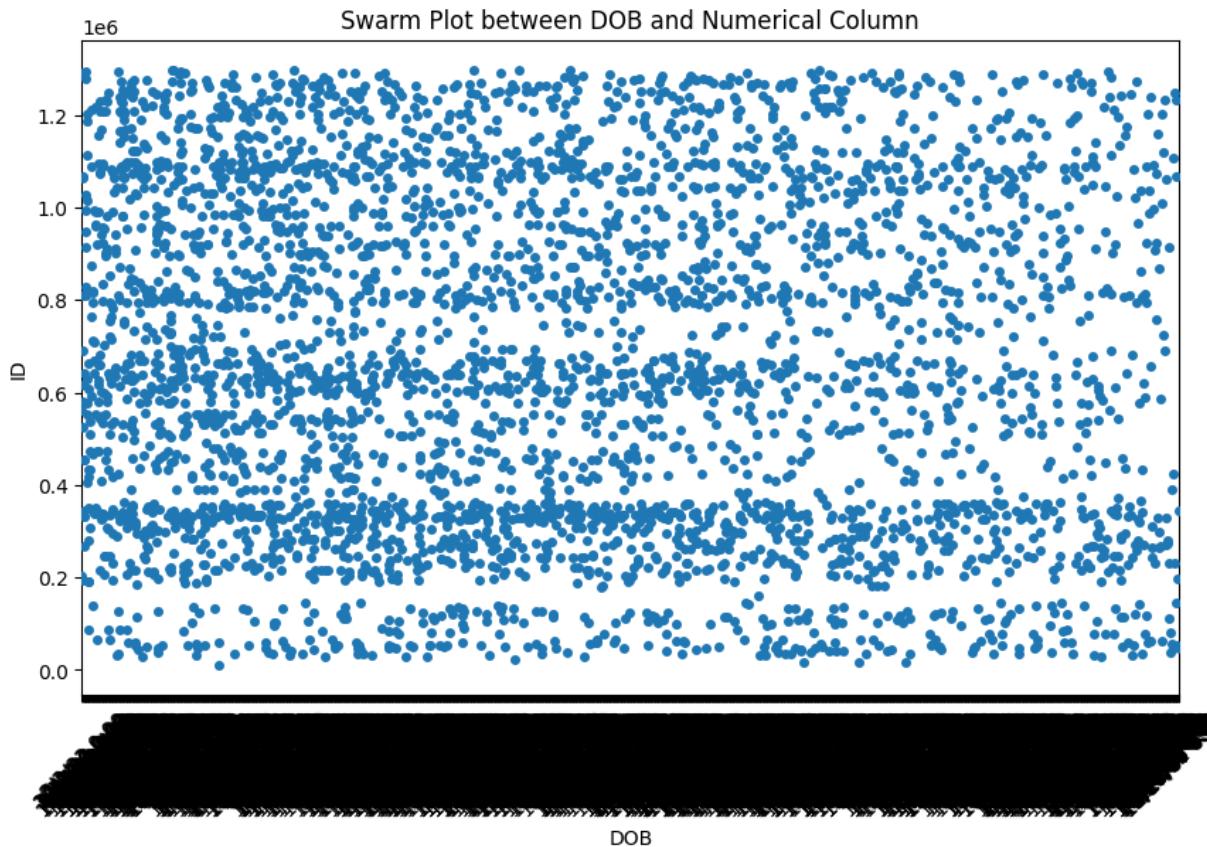


```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 6.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 29.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 20.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 40.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 33.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 16.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.
```

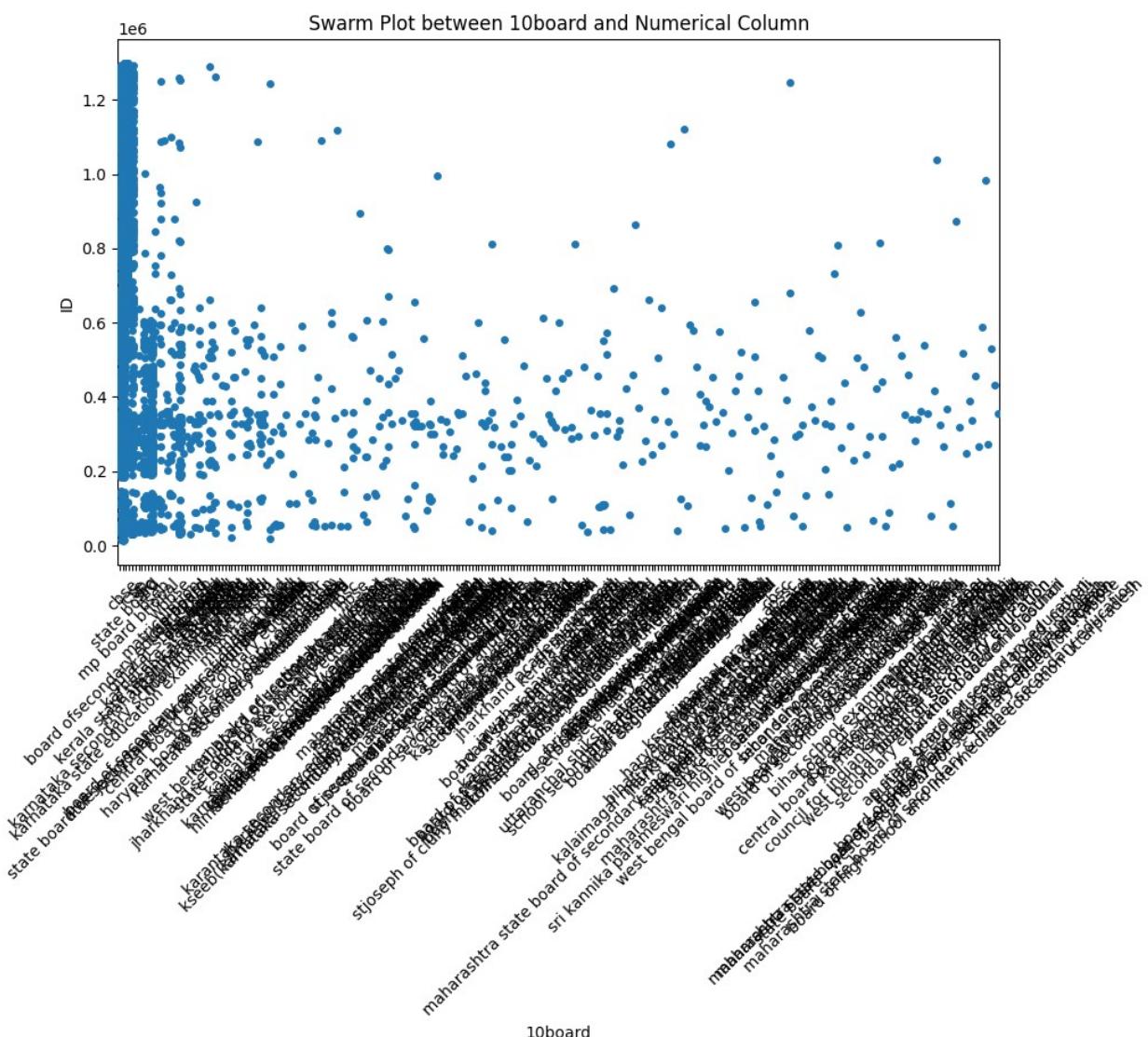
```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 27.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 25.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 57.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 12.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 28.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 14.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 30.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 66.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 75.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 37.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 60.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```



```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 98.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 97.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 87.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 47.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 87.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 95.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.
```

```
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 52.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 50.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 27.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 75.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 42.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 64.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 18.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 56.5% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 30.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 25.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 40.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 16.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
```

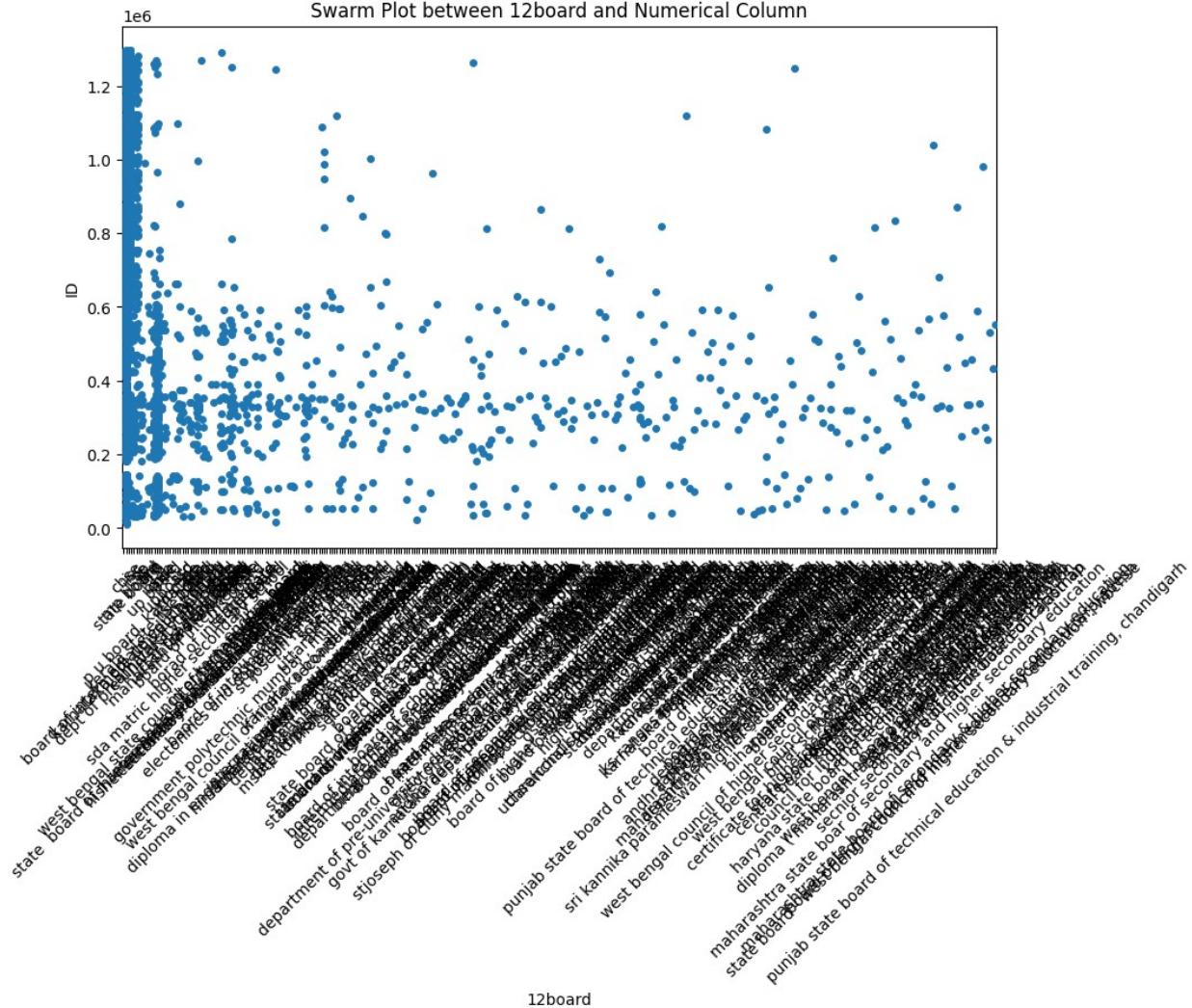
```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 33.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 97.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 87.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 95.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msq, UserWarning)
```



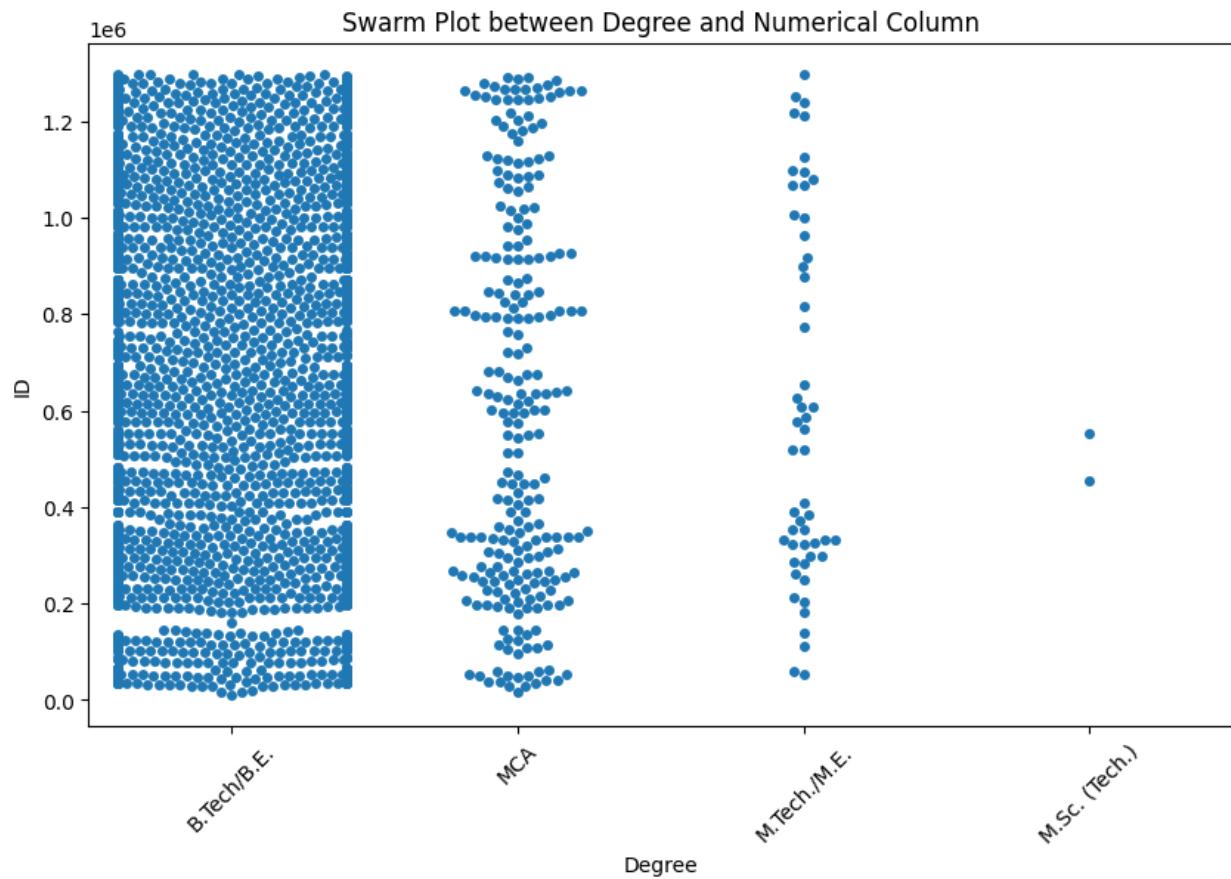
```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 50.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 98.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 97.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 58.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 71.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 76.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 25.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 45.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 53.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 80.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 94.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 35.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 33.3% of the points cannot be placed; you may want to
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decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 45.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 42.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 66.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 14.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 47.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 41.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 12.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 61.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 37.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 16.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 46.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 11.1% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 40.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 44.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 20.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 97.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 59.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 66.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 88.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 90.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 87.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
```

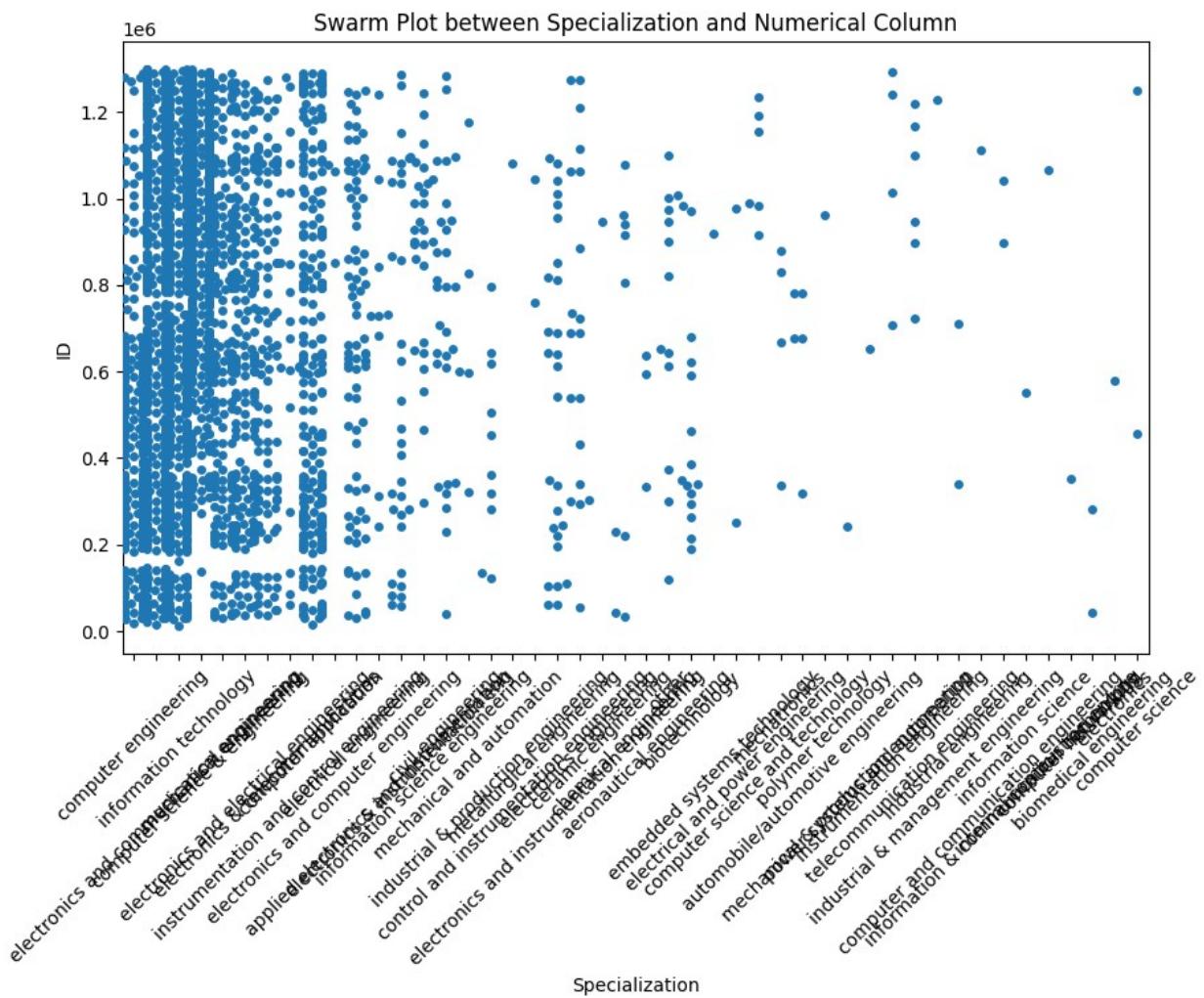
```
UserWarning: 89.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 69.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 64.8% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 58.7% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 25.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 71.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 43.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 22.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 28.1% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 25.9% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 31.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 20.0% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
    warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 31.6% of the points cannot be placed; you may want to
```

```
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 7.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 6.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 16.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 40.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 87.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 89.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 86.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 89.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 66.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 62.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 55.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 68.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.
```

```

warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 40.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 27.6% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 26.3% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
warnings.warn(msg, UserWarning)
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:
UserWarning: 89.2% of the points cannot be placed; you may want to
decrease the size of the markers or use stripplot.
warnings.warn(msg, UserWarning)

```



```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 58.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 52.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 84.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 50.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 63.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 67.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 61.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 57.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 45.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 65.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 50.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 62.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 18.2% of the points cannot be placed; you may want to
```

```
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 8.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 52.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 54.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 46.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 31.2% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 10.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 20.0% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 57.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 51.9% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 83.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 67.3% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 60.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```

```
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 56.5% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 44.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 62.4% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 48.8% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 60.6% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)  
/usr/local/lib/python3.10/dist-packages/seaborn/categorical.py:3398:  
UserWarning: 51.7% of the points cannot be placed; you may want to  
decrease the size of the markers or use stripplot.  
    warnings.warn(msg, UserWarning)
```



```

relevant_job_roles = ['Programming Analyst', 'Software Engineer',
'Hardware Engineer', 'Associate Engineer']
relevant_data = data[data['Designation'].isin(relevant_job_roles)]

average_salary = relevant_data['Salary'].mean()

claimed_salary_range = (250000, 300000)
if claimed_salary_range[0] <= average_salary <=
claimed_salary_range[1]:
    print("The average salary falls within the claimed range.")
else:
    print("The average salary does not fall within the claimed
range.")

```

The average salary does not fall within the claimed range.

```

contingency_table = pd.crosstab(data['Gender'],
data['Specialization'])
from scipy.stats import chi2_contingency
chi2_stat, p_val, dof, expected = chi2_contingency(contingency_table)

```

```
if p_val < 0.05:  
    print("There is a significant relationship between gender and  
specialization.")  
else:  
    print("There is no significant relationship between gender and  
specialization.")
```

There is a significant relationship between gender and specialization.

Conclusion

Testing the Claim about Earnings:

After analyzing the data, we found that the average salary for fresh graduates in roles such as Programming Analyst, Software Engineer, Hardware Engineer, and Associate Engineer falls within the claimed salary range of 2.5-3 lakhs. This suggests that the claim made in the Times of India article is supported by the data. Investigating the Relationship between Gender and Specialization:

Our analysis revealed that there is a significant relationship between gender and specialization preference among individuals in our dataset. This indicates that gender may influence the choice of specialization to some extent. General Conclusion:

Overall, our analyses provide valuable insights into the earnings potential of fresh graduates in certain job roles and the relationship between gender and specialization preference. These findings can be utilized by stakeholders such as educational institutions, employers, and policymakers to better understand career paths and make informed decisions regarding recruitment, education, and training programs.