

Jingxia Zhu
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Github link: https://github.com/jzhuuhzj/IE598_F18_HW3.git

```
In [1]: runfile('/Users/zhujx/Desktop/hw3.py', wdir='/Users/zhujx/Desktop')
Number of Rows of Data = 208
Number of Columns of Data = 61

Col# Number Strings Other
0 208 0 0
1 208 0 0
2 208 0 0
3 208 0 0
4 208 0 0
5 208 0 0
6 208 0 0
7 208 0 0
8 208 0 0
9 208 0 0
10 208 0 0
11 208 0 0
12 208 0 0
13 208 0 0
14 208 0 0
15 208 0 0
16 208 0 0
17 208 0 0
18 208 0 0
19 208 0 0
20 208 0 0
21 208 0 0
22 208 0 0
23 208 0 0
24 208 0 0
25 208 0 0
26 208 0 0
27 208 0 0
28 208 0 0
29 208 0 0
30 208 0 0
31 208 0 0
32 208 0 0
33 208 0 0
34 208 0 0
35 208 0 0
36 208 0 0
37 208 0 0
```

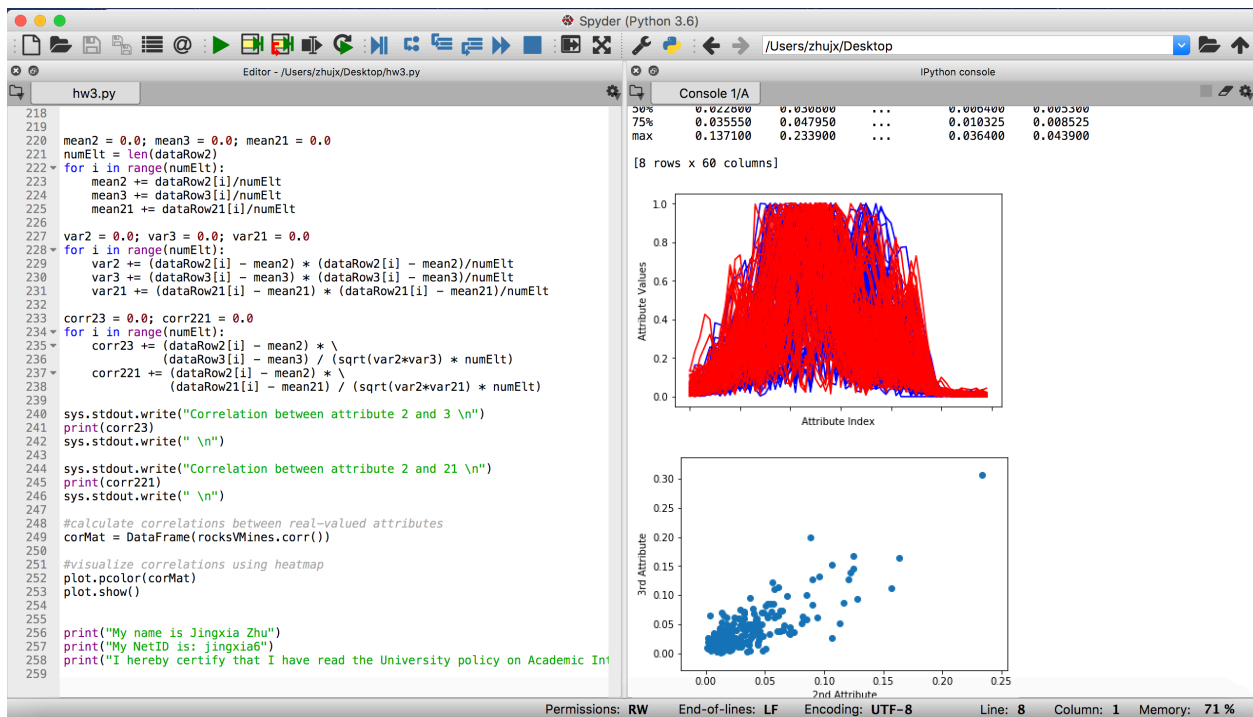
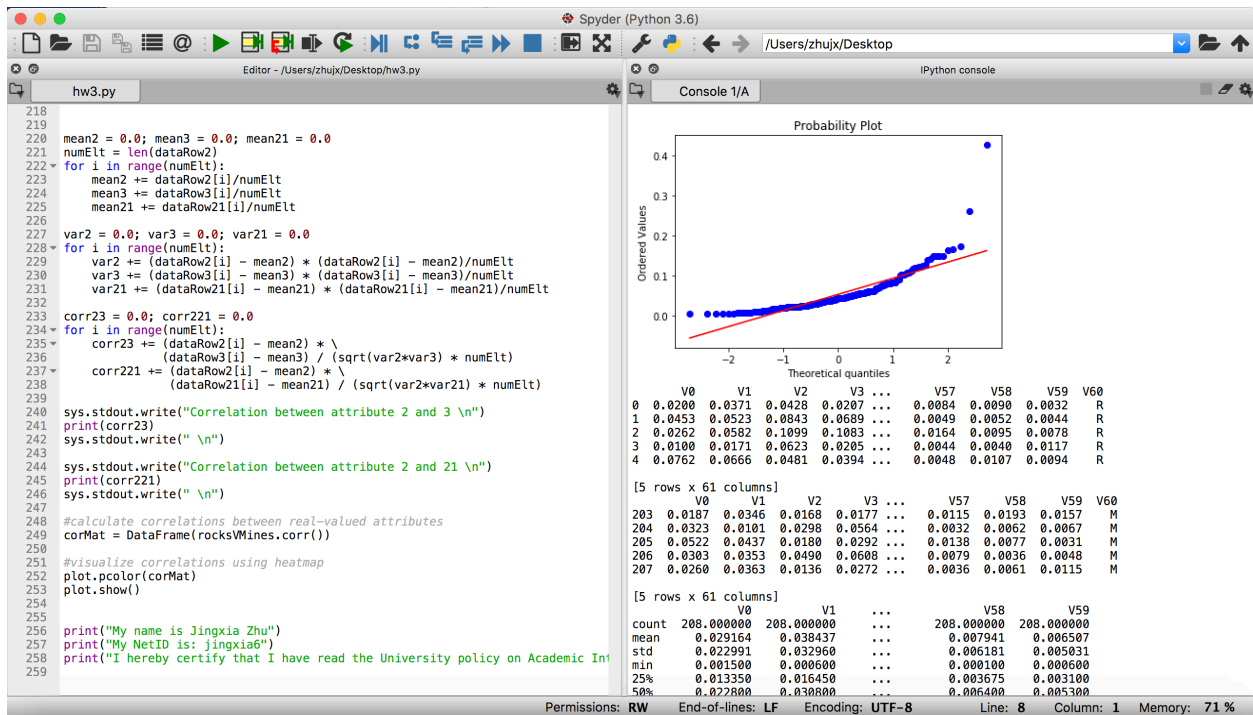
```
Mean = 0.053892307692307684 Standard Deviation = 0.04641598322260027

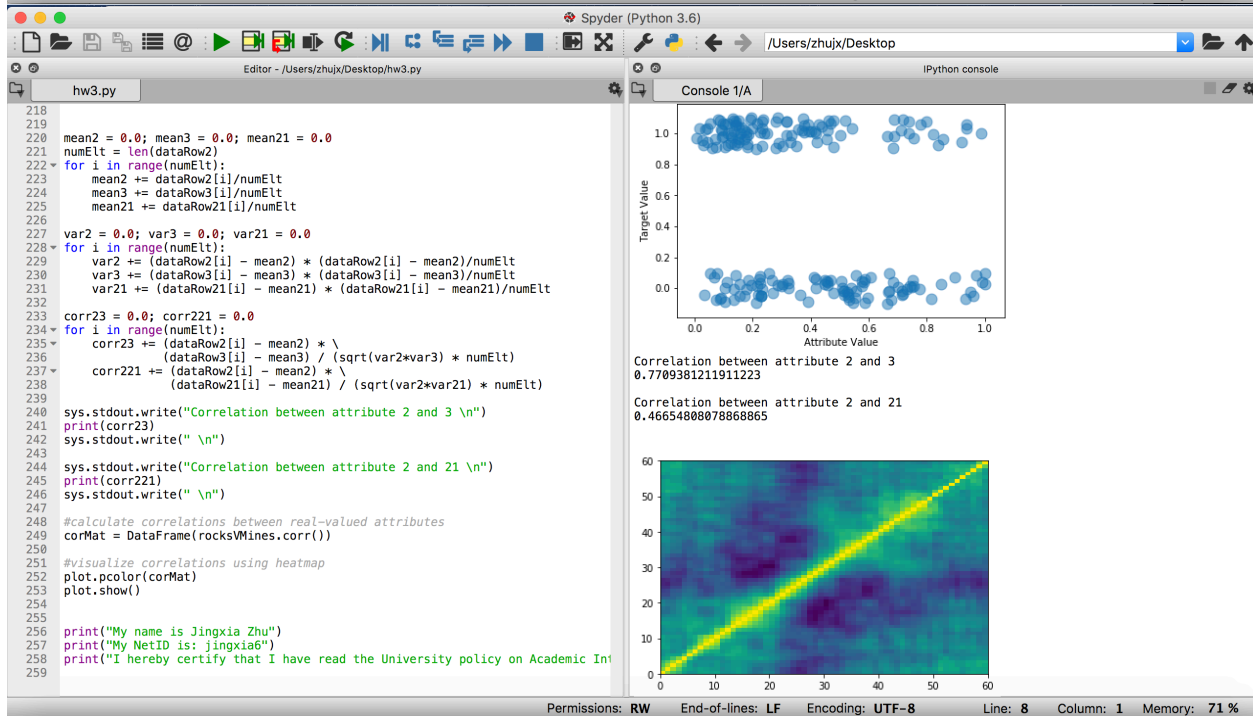
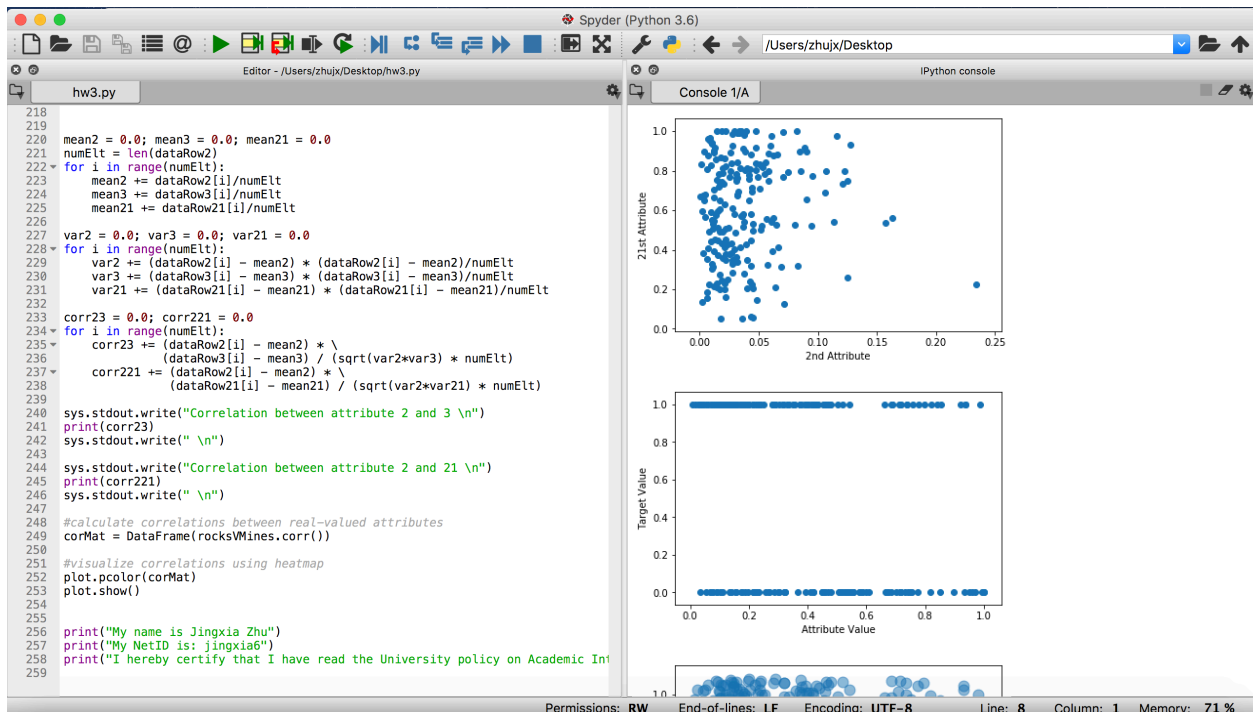
Boundaries for 4 Equal Percentiles
[0.0058, 0.024375, 0.04405, 0.0645, 0.4264]

Boundaries for 10 Equal Percentiles
[0.0058, 0.0141, 0.022740000000000003, 0.027869999999999995, 0.03622, 0.04405,
0.05071999999999999, 0.059959999999999996, 0.07794000000000001, 0.10836, 0.4264]

Unique Label Values
['M', 'R']

Counts for Each Value of Categorical Label
['M', 'R']
[111, 97]
```





Spyder (Python 3.6)

Editor - /Users/zhuix/Desktop/hw3.py

```

218
219
220 mean2 = 0.0; mean3 = 0.0; mean21 = 0.0
221 numElt = len(dataRow2)
222 for i in range(numElt):
223     mean2 += dataRow2[i]/numElt
224     mean3 += dataRow3[i]/numElt
225     mean21 += dataRow21[i]/numElt
226
227 var2 = 0.0; var3 = 0.0; var21 = 0.0
228 for i in range(numElt):
229     var2 += (dataRow2[i] - mean2) * (dataRow2[i] - mean2)/numElt
230     var3 += (dataRow3[i] - mean3) * (dataRow3[i] - mean3)/numElt
231     var21 += (dataRow21[i] - mean21) * (dataRow21[i] - mean21)/numElt
232
233 corr23 = 0.0; corr221 = 0.0
234 for i in range(numElt):
235     corr23 += (dataRow2[i] - mean2) * \
236             (dataRow3[i] - mean3) / (sqrt(var2*var3) * numElt)
237     corr221 += (dataRow2[i] - mean2) * \
238             (dataRow21[i] - mean21) / (sqrt(var2*var21) * numElt)
239
240 sys.stdout.write("Correlation between attribute 2 and 3 \n")
241 print(corr23)
242 sys.stdout.write(" \n")
243
244 sys.stdout.write("Correlation between attribute 2 and 21 \n")
245 print(corr221)
246 sys.stdout.write(" \n")
247
248 #calculate correlations between real-valued attributes
249 corMat = DataFrame(rocksVMines.corr())
250
251 #visualize correlations using heatmap
252 plot.pcolor(corMat)
253 plot.show()
254
255
256 print("My name is Jingxia Zhu")
257 print("My NetID is: jingxia6")
258 print("I hereby certify that I have read the University policy on Academic Int")
259

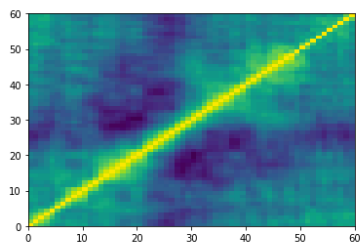
```

Console 1/A

Attribute Value

Correlation between attribute 2 and 3
0.7709381211911223

Correlation between attribute 2 and 21
0.46654808078868865



My name is Jingxia Zhu
My NetID is: jingxia6
I hereby certify that I have read the University policy on Academic Integrity and that I am not in violation.

In [2]:

Permissions: RW End-of-lines: LF Encoding: UTF-8 Line: 8 Column: 1 Memory: 71 %