

ひとり情シスのIです。

今日は、Python でヒストグラムです。

試しにダミーデータを入れて作ってみたが、Excel のグラフを見慣れているせいか、細かいところがまだ違和感がある。設定で直るかもしれないが、見栄えの改善は後にして、とりあえず先に進めたい。

The screenshot shows the Spyder Python IDE interface. The left pane contains a Python script with the following code:

```

9 import matplotlib.pyplot as plt
10 import matplotlib.ticker as tick
11
12 #x軸の範囲を決める
13 #nmaxは最大N値(50または100)
14 def getXlim(xmin,xmax,nmax):
15     #ticklist = []
16     if xmin==0 and xmax==nmax:
17         return xmin,xmax
18     if xmin==0:
19         #nmaxは9,19,29,39,
20         ...
21         xminlist = [0,10,20,30,40]
22         xmaxlist = [9,19,29,39,50]
23         if nmax==60:
24             xminlist.append(50)
25             xmaxlist = [9,19,29,39,49,60]
26
27         tmpn = int((xmax/10)*10+9
28             if abs(nmax-tmpn)<1:
29                 return 0,nmax
30             else:
31                 return 0,tmpn
32     else:
33         #nmaxは10,20,30,40,
34         tmpmax = int((xmax-1)/10)*10+10
35         #xminは1,11,21,31,41
36         tmpmin = int((xmin-1)/10)*10+1
37         return tmpmin,tmpmax
38
39
40 def partgraphhist(x,a,b,c,label,maxn):
41     start1 = min(x)
42     end1 = max(x)
43     xmin,xmax = getXlim(start1,end1,maxn)
44     ax = fig.add_subplot(a, b, c)
45     ax.hist(x,align='mid',bins=np.arange(xmin-1,xmax+1,1)+0.5, edgecolor
46     ax.set_title(label)
47     ax.set_xlabel('N値')
48     ax.set_ylabel('頻度(回)')
49     ax.set_xlim(xmin-1, xmax+1)
50     ax.set_ylim(0,5)
51     loc = int((xmax-xmin+2)/30)+1
52     ax.xaxis.set_major_locator(tick.MultipleLocator(loc))
53     ax.yaxis.set_major_locator(tick.MultipleLocator(1))
54     ax.grid(which='major',axis='y')
55
56
57 x1=[1,2,3,7,5,9,10]
58 x2=[1,2,3,12,5,9,10]
59 x3=[1,12,23,17,25,19,10]
60 x4=[1,2,3,7,5,9,31]
61 x5=[1,2,3,7,5,9,30]
62 x6=[1,2,3,7,5,9,50]
63 fig = plt.figure(figsize=(15, 10))
64 fig.subplots_adjust(left=0.1, bottom=0.1, right=0.9, top=0.9, wspace=0.1)
65
66 partgraphhist(x1,3,2,1,'砂層1(As1)',50)
67 partgraphhist(x2,3,2,2,'砂層2(As2)',50)
68 partgraphhist(x3,3,2,3,'砂層3(As3)',50)
69 partgraphhist(x4,3,2,4,'砂層4(As4)',50)
70 partgraphhist(x5,3,2,5,'砂層5(As5)',50)
71 partgraphhist(x6,3,2,6,'砂層6(As6)',50)
72
73
74 fig.show()
75

```

The right pane shows a table of data:

名前	型	サイズ	値
x	list	7	[1, 2, 3, 7, 5, 9, 10]
x1	list	7	[1, 2, 3, 7, 5, 9, 10]
x2	list	7	[1, 2, 3, 12, 5, 9, 10]
x3	list	7	[1, 12, 23, 17, 25, 19, 10]
x4	list	7	[1, 2, 3, 7, 5, 9, 31]

Below the table, six histograms are displayed in a 3x2 grid, labeled 砂層1(As1) through 砂層6(As6). Each histogram shows the frequency distribution of the data points for that layer. The x-axis is labeled 'N値' and the y-axis is labeled '頻度(回)'. The histograms show varying distributions of data points across the layers.

今日はこんなところでしょうか。それでは、また明日。(I)