Edit the file 'histogram.py' to ensure that it looks for data
in the correct file. The default name is 'data.dat'.

Also edit the number of data points (at present it is 'n=150')
and the number of bins (at present 'nbins=15').

```
jasjeet@yaman:~/teaching/PHY111/analysis-programs$ head -20 histogram.py
import math
# number of data points
-->  n = 150
# number of bins
-->  nbin = 15
#
xbin = range(nbin)
#
xmin = 1000.0
xmax = 0.0
sum1 = 0.0
# open data file
-->  f = open('data.dat', 'r')
x = range(n)
y = range(n)
# find minimum, maximum and average
for i in range(n):
    y[i] = f.readline()
    x[i] = float(y[i])
    sum1 = sum1 + x[i]
jasjeet@yaman:~/teaching/PHY111/analysis-programs$
```

Run the program with the command ‘python histogram.py’. You need to have python
and some modules installed on your computer.

```
jasjeet@yaman:~/teaching/PHY111/analysis-programs$ python histogram.py
average =  0.99929633242
sigma =  0.103570093608
x            frequency       Gaussian approximation
0.706534445     1        0.380800888639
0.742343398127     3        0.953203008431
0.778152351253     6        2.1171768789
0.81396130438     4        4.1726616244
0.849770257507     6        7.29715346386
0.885579210633     7        11.3234320676
0.92138816376     19        15.5914664708
0.957197116887     22        19.0493489873
0.993006070013     19        20.6517851546
1.02881502314     31        19.8664077719
1.06462397627     8        16.9576387615
1.10043292939     12        12.8438640676
1.13624188252     5        8.63197767883
1.17205083565     3        5.14765228876
1.20785978877     4        2.72390768985
jasjeet@yaman:~/teaching/PHY111/analysis-programs$
```

The output of the program is the average and std. Deviation of the input data,
followed by a list of the lower edge of each bin/interval, frequency for that bin
in the data, value of the Gaussian at the lower edge (suitably normalized). The
Gaussian has the same average and std. Deviation as your data.

While plotting, you should add at least one point for the Gaussian at the higher
edge of the last bin.