

Appendix 1: MATLAB source code for frequency histogram and filled area graph.

```
%% imports the F value in EXCEL into MATLAB area(F) %fill area map
grid on
%%
hist(F, 3221) % frequency histogram grid on
Hist(F, 2400) grid on
:
plot(x,y11,x,y21,x,y31,x,y41,x,y51)
grid on
xlabel('FIPS-Combined');
ylabel('Absolute Quantity Feature');
legend('Heroin','non-synthetic opioids ','synthetic
opioids','opioids','TotalDrugReportsCounty')
```