EE3006* Experiment-2 Lab Report

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Code

r=[909, 908, 907, 907, 909, 906, 908, 908, 906, 911, 908, 910, 908, 909,906, 907, 911, 907, 906, 908, 905, 905, 912, 910, 908, 912, 908, 910, 906, 908, 909, 904, 911, 906, 907, 910, 906, 907, 910, 909, 905, 908, 908, 907, 908, 908, 907]';

```
N = length(r);

scf();

sum_r = 0;
for i = 1 :N
    sum_r = sum_r + r(i);
end

mean_r = sum_r / N;
diffr = 0;
for i=1:N
   diffr = diffr + (r(i)- mean_r)^2;
end
std_dev = sqrt(diffr/(N-1));

printf("Calculated average of r(n): %f\n", mean_r);

printf("Calculated standard deviation of r(n): %f\n", std_dev);

printf("Mean using mean(): %f\n", mean(r));

printf("Standard deviation using stdev(): %f\n", stdev(r));

histplot(100,r,normalization=%f);


scf();

dataMax =max(r);
dataMin= min(r);

x= linspace(dataMax,dataMin,100);

y=exp(-(((x-mean_r)/std_dev).^2)/2)/(std_dev*sqrt(2*%pi));

plot2d(x,y,style =100)
```

Console Output

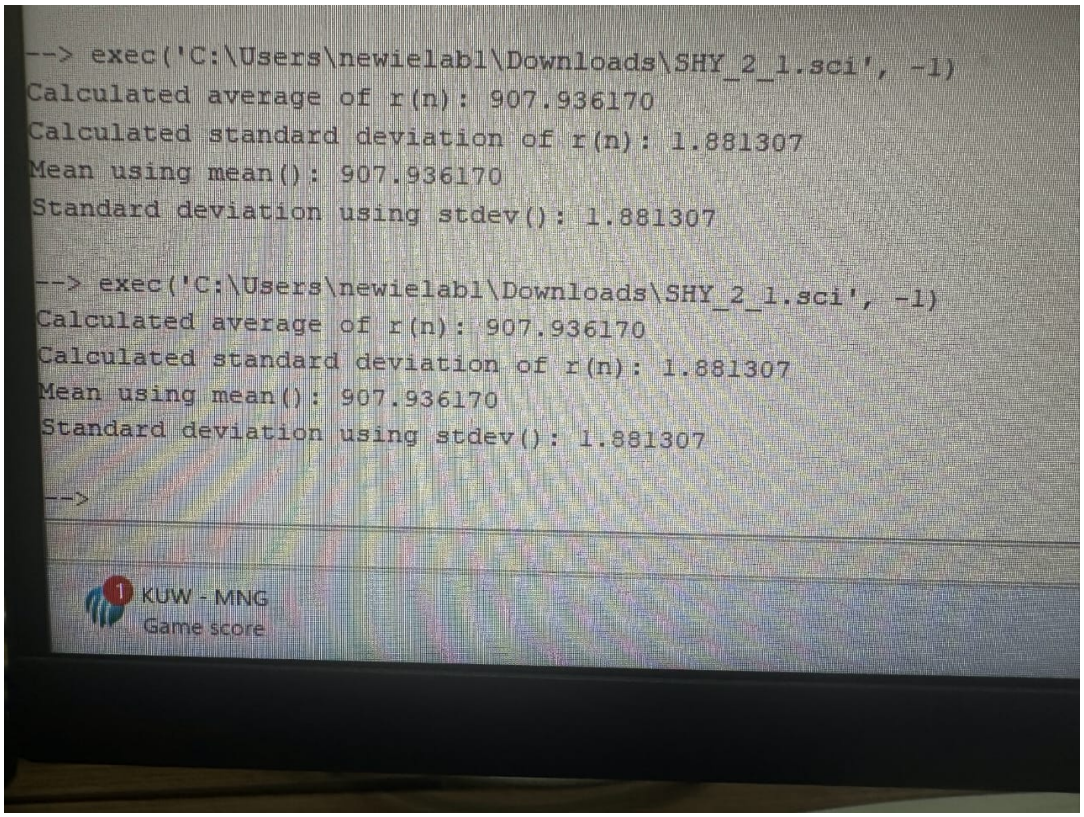

Figure 1: console picture taken in lab

```
Calculated average of r(n) : 907.936170

Calculated Standard deviation of r(n): 1.881307

Mean using mean() : 907.936170

Standard Deviation using stdev() : 1.881307
```

Graph

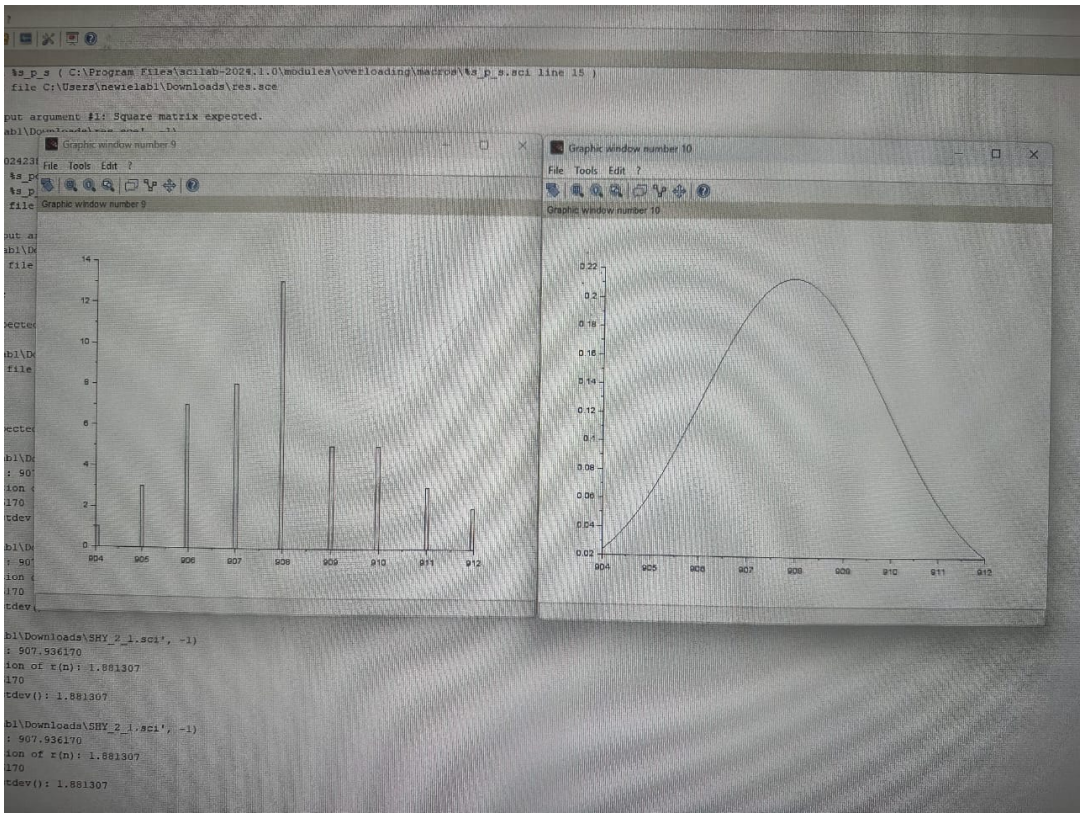

Figure 2: Histogram and Gaussian graphs