

---

```
%2020UCO1505
%AIM - PLOT THE PDF AND CDF OF NORMAL DISTRIB
clc;
clear;
close all;
N = 100000;
x = randn(1,N);
mu = mean(x);
sigma2 = var(x);
t = -3:0.1:3;
pdfn = (1./(sqrt(2*pi*sigma2))) * exp(-((t-mu).*(t-mu))./
(2.*sigma2.*sigma2) );
subplot(2,1,1);
plot(t, pdfn);
title('PDF of normal distribution');
syms t;
cdfn = inline(int((1./(sqrt(2*pi*sigma2))) * exp(-((t-mu).*(t-mu))./
(2.*sigma2.*sigma2) )));
t = -3:0.01:3;
subplot(2,1,2);
y = cdfn(t);
plot(t,y+0.5);
title('CDF of normal distribution');
xlabel('value');
ylabel('Probability');
```



