3.5 MATLAB CODE

```
% Monte Carlo approach for evaluation of integrals.

clear all

n = input('Enter value for n: ')
syms x;

% Expected value of integral
Ic = int(sin(x)/(x),0,n*pi)

% Random number generator
z = input('Enter z for a large sequence: ')

% Limits of integrals
a = (n-1)*pi;
b = n*pi;
x =(b-a)*rand(1,z)+a;
for i=1:z
    fx(i)=sin(x(i))/(x(i));  %sin(x)/(x)
end

% Average of sum to get approximate value
Imc =(b-a)*(sum(fx)/z)

% Error
error = 100*(Ic-Imc)/Ic

% Confidence Interval
S = std(x)/sqrt(z);
T = tinv([0.025  0.975],z-1);
CT = mean(Imc) + T*S;
```

Estimated vs Expected Value of the integral