# Question 01

## Code

clc

clear

close

A=.629;

rel=zeros(1,10);

app=zeros(1,10);

true\_perct=zeros(1,10);

for i=1:length(rel)

% real value

rel(i)=A^(i);

% approx value

app(i)=floor(rel(i)\*1000)/1000;

%True percent error

true\_perct(i)=(rel(i)-app(i))\*100/rel(i);

end

N=1:10;

plot(N,true\_perct)

xlabel('N')

ylabel('True Relative Error')

title('Question 01')

hold on

% after rounding

% round

rel\_r=round(rel,3);

app\_r=round(app,3);

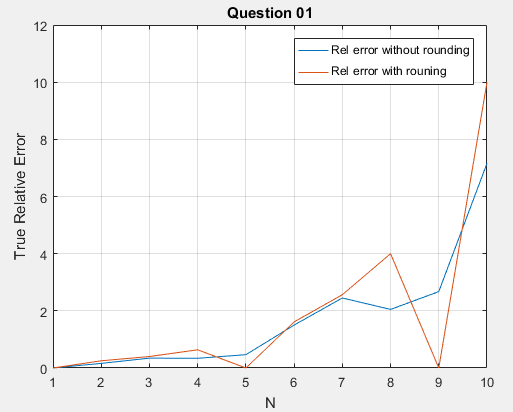
true\_perct\_r=(rel\_r-app\_r)./(rel\_r)\*100;

plot(N,true\_perct\_r)

grid on

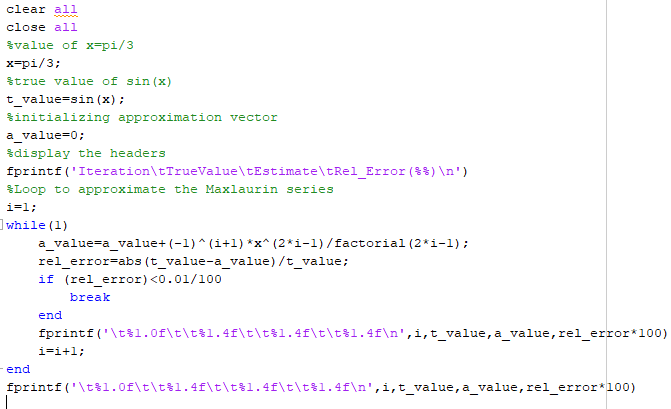
legend('Rel\_ error without rounding','Rel\_ error with rouning')

## Output

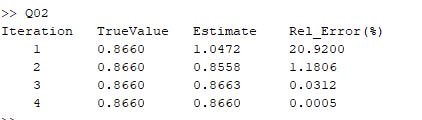


# Question 02

## Code

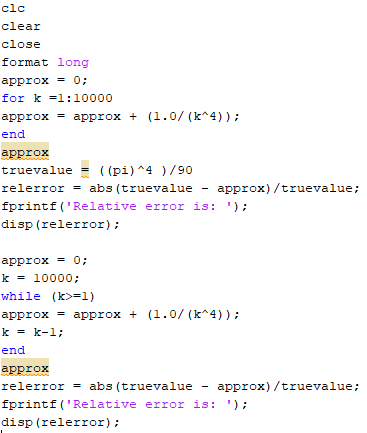


## Output



# Question 03

## Code



## Output

