Problem 6

Table of Contents

c)

```
format long
```

Initializing the values;

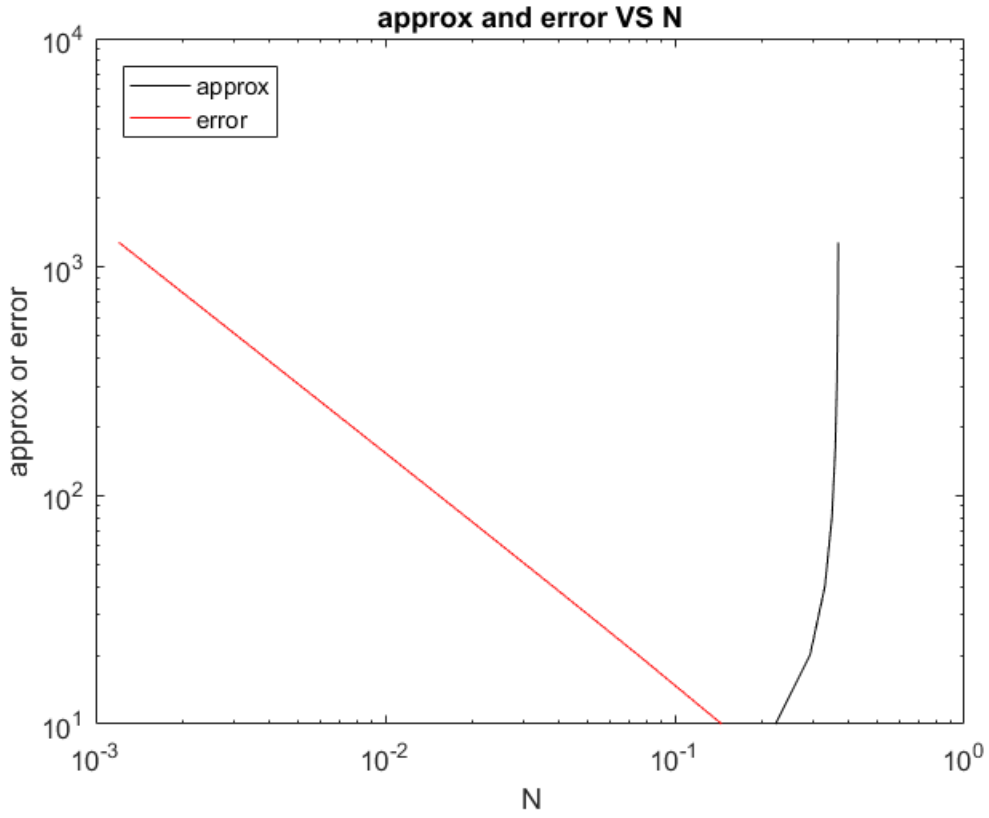
```
N = [10 20 40 80 160 320 640 1280];
a = -1;
b = 1;
% for each value of N, approx value and error is calculated by caling
 my_mean function.
for i = 1:size(N,2)
[mew(1,i),error(1,i)] = my_mean(@my_fun,a,b,N(i));
end
approx = mew;
err = error;
```

Plotting graph with loglog command

```
loglog(approx, N,'k')
% plots approx vs N using black color
hold on

loglog(err,N,'r')
%plots error Vs N using red color;

title('approx and error VS N')
xlabel('N')
ylabel('approx or error')
legend('approx','error','Location','northwest')
% set title, x label, y label and legend.
```



Creating talbe

```
T = table;
T.N = N';
T.Approx_Mew = approx';
T.Approx_error = err'
```

T =

N	*Approx_Mew*	*Approx_error*
10	*0.222621069056534*	*0.145258372114909*
20	*0.29298994054907*	*0.0748895006223723*
40	*0.329868690020162*	*0.0380107511512804*
80	*0.34873250766494*	*0.019146933506502*
160	*0.358270581326618*	*0.0096088598448239*
320	*0.363066162750563*	*0.00481327842087892*
640	*0.365470589822287*	*0.00240885134915492*
1280	*0.366674462461305*	*0.00120497871013764*

Pattern

```
%As the value of N increases our approximation is near to actual value
 and
%error decreases with increase in value of N.
```

Published with MATLAB® R2016b