MAT2001 Lab 8

- Job Fernandez 19BCD7154

```
clear all;
close all;
clc;

f=inline('1/(1+x^2)');

a=input('Enter lower limit of integral=');
b=input('Enter upper limit of integral=');
n=input('Enter number of intervals=');

h=(b-a)/n;

sum=0.0;

for i=1:n-1
        x=a+i*h;
        sum=sum+f(x);
end

trap=h*(f(a)+2*sum+f(b))/2.0;
fprintf('Evaluated Integral =%f',trap);
clear all;
close all;
clc;

f=inline('1/(1+x^2)');

a=input('Enter lower limit of integral=');
b=input('Enter upper limit of integral=');
n=input('Enter number of intervals (multiple of 2)=');

h=(b-a)/n;

sum1=0.0;
sum2=0.0;
for i=1:2:n-1
        x=a+i*h;
        sum1=sum1+f(x);
end
for i=2:2:n-2
        x=a+i*h;
        sum2=sum2+f(x);
end
```

```
simp=h*(f(a)+4*sum1+2*sum2+f(b))/3;

fprintf('Integrated value is %f',simp)
```