```
clc
clear all
close all
a=0;
b=3;
E=0.165;
F=0.25025;
f=@ (x) (1/(3*x+1)^3);
n=6;
h=abs((b-a)/n);
s=0;
for i=0:n
x=a+i*h;
if i==0||i==n
p=1;
elseif mod(i,2)~=0
p=4;
else
p=2;
end
s=s+p*f(x);
end
I=(h/2)*s;
fprintf('The integral value is :%f\n', I);
re=abs(((E-I)/E)*100);
re1=abs(((E-F)/E)*100);
fprintf('relative error by composite trapezoidal rule is:%f\n',re);
fprintf('relative error by trapezoidal rule is:%f\n',re1);

a=0;
b=3;
E=0.165;
F=0.25025;
f=@ (x) (1/(3*x+1)^3);
n=24;
h=abs((b-a)/n);
s=0;
for i=0:n
x=a+i*h;
if i==0||i==n
p=1;
elseif mod(i,2)~=0
p=4;
else
p=2;
end
s=s+p*f(x);
end
I=(h/2)*s;
fprintf('The integral value is :%f\n', I);
re=abs(((E-I)/E)*100);e
re1=abs(((E-F)/E)*100);
fprintf('relative error by composite trapezoidal rule is:%f\n',re);
fprintf('relative error by trapezoidal rule is:%f\n',re1);

a=0;
b=3;
E=0.165;
F=0.25025;
```

```
f=@ (x) (1/(3*x+1)^3);
n=12;
h=abs((b-a)/n);
s=0;
for i=0:n
x=a+i*h;
if i==0||i==n
p=1;
elseif mod(i,2)~=0
p=4;
else
p=2;
end
s=s+p*f(x);
end
I=(h/2)*s;
fprintf('The integral value is :%f\n', I);
re=abs(((E-I)/E)*100);
re1=abs(((E-F)/E)*100);
fprintf('relative error by composite trapezoidal rule is:%f\n',re);
fprintf('relative error by trapezoidal rule is:%f\n',re1);
```

```
The integral value is :0.331159
relative error by composite trapezoidal rule is:100.702471
relative error by trapezoidal rule is:51.666667
The integral value is :0.249557
relative error by composite trapezoidal rule is:51.246924
relative error by trapezoidal rule is:51.666667
The integral value is :0.263949
relative error by composite trapezoidal rule is:59.969033
relative error by trapezoidal rule is:51.666667
```

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