Matlab program for composite Trapezoidal method

Next, we write dawn the Matlab program for which can be used to find the following integer $\int_0^1 (x^3+1)\mathrm{dx}$, using composite Trapezoidal method, with n=40 .

```
a=0; b=1; n=40;
h=(b-a)/n; g=0;
x=sym('x');
f=x^3+1;
m=subs(f,x,a)+subs(f,x,b);
for i=1:n-1
    d=a+i*h;
    g=g+2*subs(f,x,d);
end
T=(h/2)*(m+g);
fprintf('I=%f',T);
```

```
I=1.250156
```

Matlab program for composite Simpson method

Next, we write dawn the Matlab program for which can be used to find the following integer $\int_0^1 (x^3+1)\mathrm{dx}$, using composite Simpson method, with n=40 .

```
a=0; b=1; n=40;
h=(b-a)/n; g=0;
x=sym('x');
f=x^3+1;
m=subs(f,x,a)+subs(f,x,b);
r=0; g=0;
for i=1:n-1
d=a+i*h;
if rem(i,2)==0
    r=r+2*subs(f,x,d);
else
    g=g+4*subs(f,x,d);
end
end
```

```
T=(h/3)*(m+r+g);
fprintf('I=%f',T);
```

```
I=1.25
```