```
% Roll No: 207
% Batch: C3
% Date: 13-04-2023
% Name: Mohanish Khambadkar
% Assignment 5
clc;
a = 0;
b = 0.8;
Iact = trap1(b)-trap1(a)
% Trapazoidal rule:
n = 2;
h = (b-a)/(n);
% Single Application of trapazoidal rule:
I1 = (b-a)*(trap(b)+trap(a))/2
error1 = ((Iact-I1)/Iact)*100
% Multiple Application of trapazoidal rule:
I2 = (h/2)*(trap(a)+(2*trap(h))+trap(b))
error2 = ((Iact-I2)/Iact)*100
% Simpson's 1/3rd rule:
n1 = 4;
h1 = (b-a)/(n1);
% Single Application of Simpson's 1/3rd rule:
I3 = ((b-a)/6)*(trap(0)+(4*trap(0.4))+trap(0.8))
error3 = ((Iact-I3)/Iact)*100
% Multiple Application of Simpson's 1/3rd rule:
I4 = (h1/3)*(trap(0)+4*(trap(0.2)+trap(0.6))+2*trap(0.4)+trap(0.8))
error4 = ((Iact-I4)/Iact)*100
```

```
y1 =

    1.6405


y1 =

     0


Iact =

    1.6405


y =

    0.2320


y =

    0.2000
```

```
I1 =

    0.1728

error1 =

   89.4668

y =

    0.2000

y =

    2.4560

y =

    0.2320

I2 =

    1.0688

error2 =

   34.8505

y =

    0.2000

y =

    2.4560

y =

    0.2320

I3 =

    1.3675
```

```
error3 =

   16.6450

y =

    0.2000

y =

    1.2880

y =

    3.4640

y =

    2.4560

y =

    0.2320

I4 =

    1.6235

error4 =

    1.0403
```