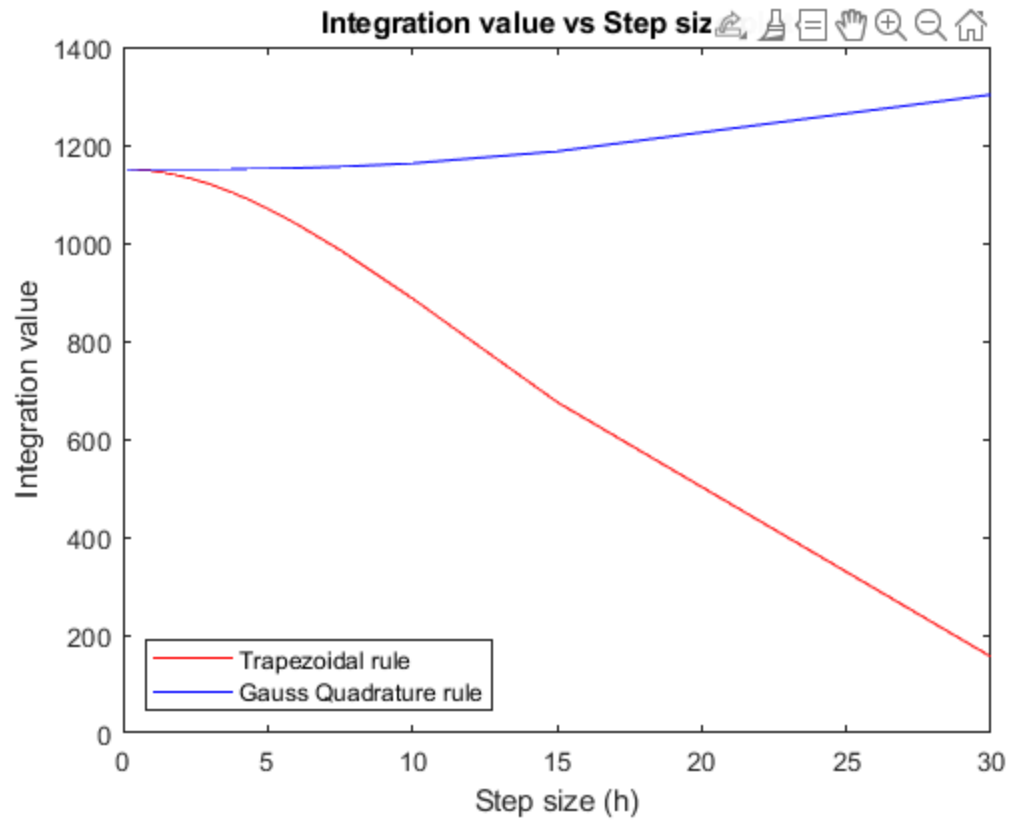```matlab
clc;
clear;
clear all;
```

# Main.m

```matlab
a=0; b=30; % integration limits

for i= 1:300
    h(i)= (b-a)./i; % defining step size
end

I_trapezoidal = trapezoidal_rule(h,a,b); % returning integral vector
 using Trapezoidal rule
I_gauss_quadrature = gauss_quadrature(h,a,b); % returning integral
 vector using Gauss Quadrature rule
```

Plot

```matlab
figure()
plot(h, I_trapezoidal,'r');
hold on;
plot(h,I_gauss_quadrature,'b');
title('Integration value vs Step size plot');
legend('Trapezoidal rule','Gauss Quadrature
 rule','Location','southwest');
xlabel('Step size (h)');
ylabel('Integration value');
```

Integration value vs Step size

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