

D:\Mtech\FEM\midsem code\FEMcd\Assign edit\gauss\_quad.m

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March 25, 2023

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```
1
2 function [result]=gauss_quad(f,oder,lower_lim,upper_lim)
3
4 % function for gauss quadrature integral
5 N=oder;
6 a=lower_lim;
7 b=upper_lim;
8 [nodes,weight]=g_int(N,-1,1);
9
10 x1=-a+b;
11 x2=a+b;
12 [nodes,weight]=g_int(N,-1,1);
13 w=weight;
14 psi=nodes;
15 A=0;
16 for i=1:length(psi)
17     w_phys(i)=(a*0.5*(1-psi(i)))+(b*0.5*(1+psi(i)));
18     A=A+subs(f,w_phys(i))*(w(i));
19
20 end
21
22
23 B=A*(b-a)*0.5;
24 result=B;
25 end
```