```
% Name= Mokshada Toke
% Roll no =72
% Div= TY-B

f=input('enter the function y=f(x)= ');
df=input('enter derivative of equation =dy=df(x)=');
ddf=input('enter double derivative of equation of equation =ddy=ddf(x)=');
x1=input('enter the 1st initial guess x1=');
n=input('enter no of iterations n=');
y1=f(x1);
y2=df(x1);
y3=ddf(x1);
a=(y1*y3)/(y2*y2);
while (abs(a)>1)
    x1=input('enter 1st initial guess again x1=');
    y1=f(x1);
    y2=df(x1);
    y3=ddf(x1);
    a=(y1*y3)/(y2*y2);
end
for i=1:n
    x2=x1-(y1/y2);
    fprintf('\n the root of equation is=%f',x2);
    x1=x2;
    y1=f(x1);
    y2=df(x1);
end
fprintf('\n Final root of equation is=%f',x2);

OUTPUT-
nsm2
enter the function y=f(x)=
@(x) (x*x*x)-(5*x)+3
enter derivative of equation =dy=df(x)=
@(x) (3*x*x)-5
enter double derivative of equation of equation =ddy=ddf(x)=
@(x) (6*x)
enter the 1st initial guess x1=
0
enter no of iterations n=
3

 the root of equation is=0.600000
 the root of equation is=0.655102
 the root of equation is=0.656619
 Final root of equation is=0.656619
```