**ASSIGNMENT NO:-**

**PROGRAM NO:-**

%Program: NEWTON RAPHSON METHOD

%Name:

%Roll No.:

%I/P: Fuction, f'x, f''x, initial guess, accuracy, max iterations

function[]=PSJ\_NRM(fun,dfun,ddfun,x0,acc,maxitr)

g=(feval(fun,x0)\*feval(ddfun,x0))/(feval(dfun,x0)^2);

while abs(g)>1

x0=input('Enter new value of x0\n');

g=(feval(fun,x0)\*feval(ddfun,x0))/(feval(dfun,x0)^2);

end

itr=1;

while itr<=maxitr

x1=x0-(feval(fun,x0)/feval(dfun,x0));

acc\_cal=abs(x1-x0);

if acc\_cal<acc

break

else x0=x1;

itr=itr+1;

end

end

fprintf('Root of eqn is %f\n',x1);

%PSJ\_NRM(@(x) x^3+x-1,@(x) 3\*x^2+1,@(x) 6\*x,0,10^-15,5)

%Root of eqn is 0.682328

%fzero(@(x) x^3+x-1,0)

%ans =

%0.6823