**EXPERIMENT 7**

**SOLUTION OF TRANSCENDENTAL EQUATIONS**

**1. Newton Raphson’s Method**

**CODE**

clc

clear all

r=input("enter initial value: ");

syms f1(x);

f1(x) = 2^x-5\*x+2;

f2=diff(f1,x);

t=1;

a=f1(r);

b=f2(r);

if b==0

disp('FAIL')

else

while t>0.0001

rold=r;

r=r-(a/b);

t=abs((r-rold)/r);

a=f1(r);

b=f2(r);

end

end

u= double(r);

disp(u)

**OUTPUT**

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**2.Secant Method**

**CODE**

clc

clear all

r1=input("enter initial value 1: "); %0

r2=input("enter initial value 2: "); %1

f=@(x) (2^x-5\*x+2);

t=1;

a=f(r1);

b=f(r2);

rnet=r2-r1;

fnet=b-a;

while t>10^-10

if rnet==0

disp('FAIL')

else

r3=r2-((rnet)\*b)/fnet;

t=abs((r3-r2)/r3);

r1=r2;

r2=r3;

a=f(r1);

b=f(r2);

rnet=r2-r1;

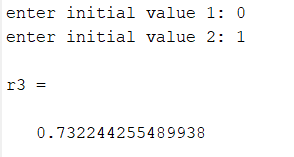
fnet=b-a;

end

end

r3

**OUTPUT**

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