Método falsa posición

g = 9.8;

m = 68.1;

t = 10;

v = 40;

limi=12;

lims=16;

es=0.5;

syms c;

f=(((g\*m)./c).\*(1 - exp(-(c/m)\*t)) - v);

f1=double(subs(f,c,limi));

f2=double(subs(f,c,lims));

i=1;

ea(i)=100;

if (f1\*f2) < 0

iter(i) = i;

xi(i)=limi;

xs(i)=lims;

f1=double(subs(f,c,xi(i)));

f2=double(subs(f,c,xs(i)));

xr(i)=xs(i)-((f2\*(xi(i)-xs(i)))/ (f1-f2));

f3=double(subs(f,c,xr(i)));

et(i)=abs((14.7802-xr(i))/14.7802\*100);

while abs(ea(i)) >= es

if f1\*f3<0

xi(i+1)=xi(i);

xs(i+1)=xr(i);

f1=subs(f,c,xi(i+1));

f2=subs(f,c,xs(i+1));

end

if f1\*f3> 0

xi(i+1)=xr(i);

xs(i+1)=xs(i);

f1=double(subs(f,c,xi(i+1)));

f2=double(subs(f,c,xs(i+1)));

end

xr(i+1)=xs(i+1)-((f2\*(xi(i+1)-xs(i+1)))/(f1-f2));

f3=double(subs(f,c,xr(i+1)));

ea(i+1)=abs((xr(i+1)-xr(i))/(xr(i+1))\*100);

et(i+1)=abs((14.7802-xr(i+1))/14.7802\*100);

iter(i+1) = i+1;

i=i+1;

end

table(iter',xi',xs',xr',ea',et','VariableNames',{'I','XI','Xu','Xr','Ea','Et'})

else

fprintf('No hay raices');

end

