Programme de Newton-Raphson d'un module PV

```
% Données

Rs=0.50;Icc=3.18;Voc=21.6;Iop=2.78;Vop=18;V=24;I=0;dI=0.005; j=1;

Vth=(Vop+Iop*Rs-Voc)/log(1-Iop/Icc);

I0=(Icc-Iop)*exp(-(Vop+Iop*Rs)/Vth);

% Newton-Raphson

while (I<=Icc)
      g=-I0*(exp((V+Rs*I)/Vth)/Vth);
      f=Icc-I-I0*(exp((V+Rs*I)/Vth)-1);
      V1=V-f/g;
      err=abs(V1-V);

            if err<=1e-7
               II(j)=I;
               VV(j)=V1;
               I=I+dI;
               j=j+1;
            end

      V=V1;

  end

  figure(1), plot(VV,II),axis([0   24     0     3.5])
  figure(2), plot(VV,VV.*II),axis([0   24     0     60])
```