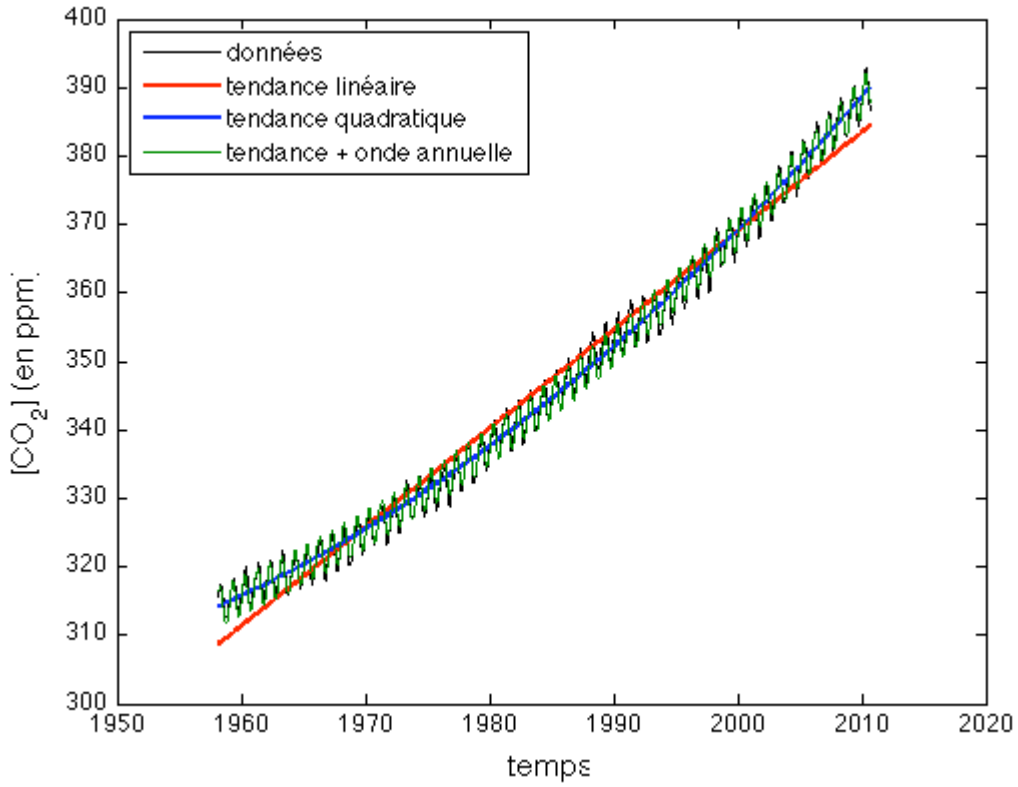
```
clear all ; close all ; clc
format short g

% question 1

aa=load('co2_mm_mlo.txt');

t=aa(:,3);
y=aa(:,5);

figure
plot(t,y,'k')
xlabel('temps','FontSize',12)
ylabel('[CO_2] (en ppm)','FontSize',12)


% question 2

A=[0*t+1 t]; x=A\y
modele1=A*x;

hold on
plot(t,modele1,'r','LineWidth',2)
hold off
legend('données','tendance')

% question 3

A=[0*t+1 t t.^2]; x=A\y
modele2=A*x;

hold on
plot(t,modele2,'b','LineWidth',2)
hold off
legend('données','tendance linéaire','tendance quadratique',2)

% question 4

A=[0*t+1 t t.^2 cos(2*pi*1*t) sin(2*pi*1*t)]; x=A\y
modele3=A*x;

hold on
plot(t,modele3,'Color',[0 0.5 0])
hold off
legend('données','tendance linéaire','tendance quadratique',...
    'tendance + onde annuelle',2)

% question 5

moyglis=NaN(size(y));

for i=7:length(t)-5
    moyglis(i)=mean(y(i-6:i+5));
end

figure
plot(t,y,'k')
hold on
plot(t,moyglis,'r')
hold off
xlabel('temps','FontSize',12)
ylabel('[CO_2] (en ppm)','FontSize',12)
```

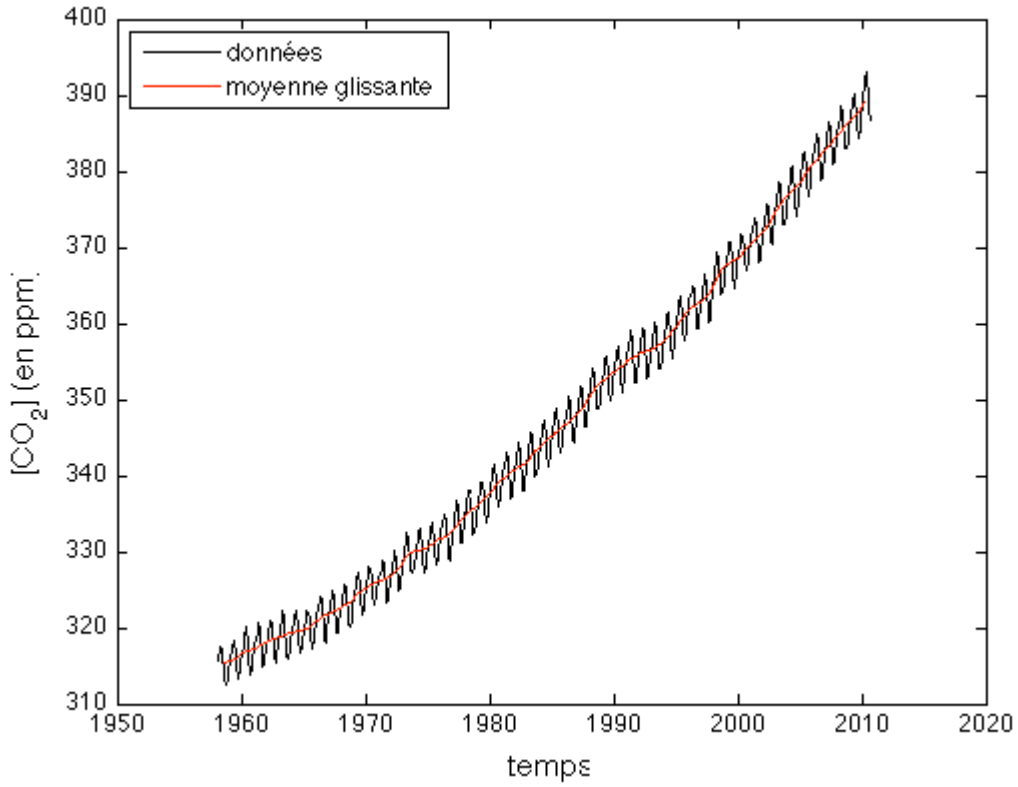
```
legend('données','moyenne glissante',2)
```

```
x =

      -2514.8
       1.4419
```

```
x =

        45745
       -47.199
      0.012255
```

```
x =

        45324
       -46.774
      0.012149
       -1.0311
         2.611
```





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