Programa principal

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Mètode d'Euler

```matlab
clear variables; clc;
```

EDO

```matlab
f=@(t,y)-y+t+1;   % y'=f(t,y)
a=0; alpha=1;     % y(a)=alpha
b=1;              % y(b)=...
g=@(t)exp(-t)+t;
texa=[a:0.01:b];
yexa=g(texa);
```
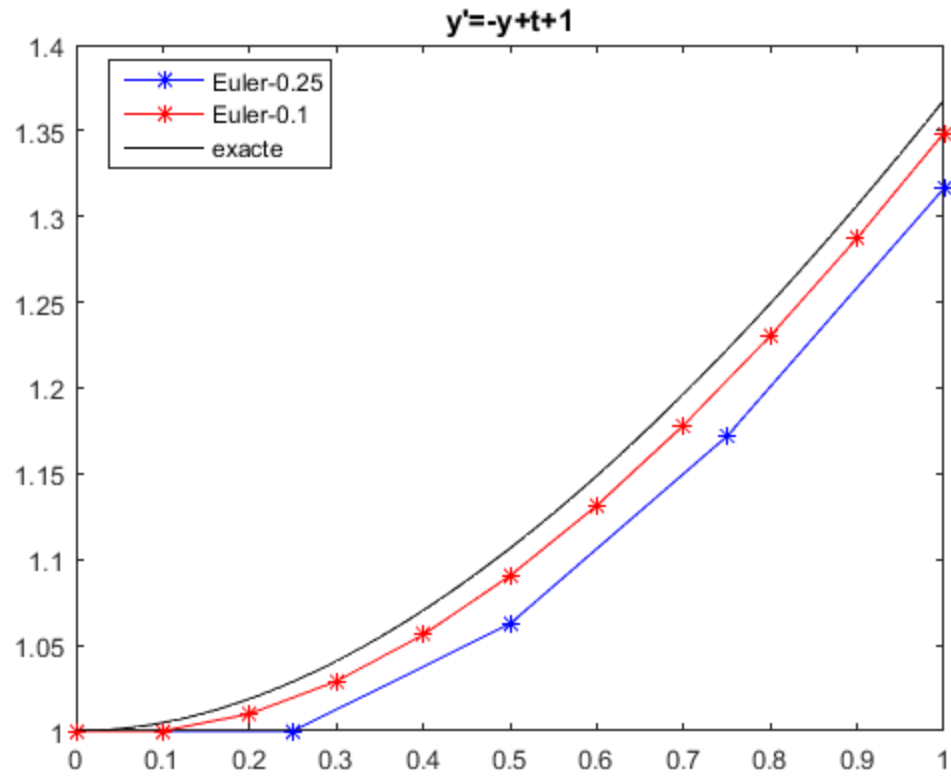
Euler

```matlab
h=0.25; t1=[a:h:b];
[ ye1 ] = Euler( f,a,b,h,alpha );
format short g;
disp('       Euler           y(t)')
disp([ye1' ,g(t1)'])
h=0.1; t2=[a:h:b];
[ ye2 ] = Euler( f,a,b,h,alpha );
```

```
    Euler          y(t)
        1              1
        1         1.0288
   1.0625         1.1065
   1.1719         1.2224
   1.3164         1.3679
```

Gràfiques

```matlab
plot(t1,ye1,'b*-',t2,ye2,'r*-',texa,yexa,'k'),title('y''=-y+t+1')
legend('Euler-0.25','Euler-0.1','exacte','Location','best')
```

Error

```
ye1error=norm(ye1-g(t1))
ye2error=norm(ye2-g(t2))

ye1error =
     0.089258
ye2error =
     0.049256
```

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