function **y**=g(**x**, **y**)

**y**=-1.2\***y**+7\*exp(-0.3\***x**)

endfunction

function [**x**, **y**]=euler (**a**, **b**, **y0**, **h**)

**x**=**a**:**h**:**b**

n=length(**x**)

**y**(1)=**y0**

for i=1:n-1

**y**(i+1)=**y**(i)+g(**x**(i),**y**(i))\***h**

end

endfunction

heun

k1=g(**x**(i),**y**(i))

k2=g(**x**(i)+**h**,**y**(i)+k1\***h**)

k=(k1+k2)/2

**y**(i+1)=**y**(i)+k\***h**

ptm

k1=g(**x**(i),**y**(i))

k2=g(**x**(i)+**h**/2,**y**(i)+k1\***h**/2)

k=k2

**y**(i+1)=**y**(i)+k\***h**

rk4

k1=g(**x**(i),**y**(i))

k2=g(**x**(i)+**h**/2,**y**(i)+k1\***h**/2)

k3=g(**x**(i)+**h**/2,**y**(i)+k2\***h**/2)

k4=g(**x**(i)+**h**,**y**(i)+k3\***h**)

k=(k1+2\*k2+2\*k3+k4)/6

**y**(i+1)=**y**(i)+k\***h**