

```

> with(LinearAlgebra) :
> Transiente := proc(h, T, alpha, gamma, N); local s, a1, a2, a3, a4, a5, K3, M3, U, U1, U2, t;
> t := Vector(N + 1) :
> U := Vector(N + 1) :
> U2 := Vector(N + 1) :
> t[1] := 0 :
> U[1] := .2146 :
> a1 := alpha·T:
> a2 := (1 - alpha)·T:
> a4 :=  $\frac{2}{\text{gamma} \cdot T}$  :
> a3 :=  $\frac{a4}{T}$  :
> a5 :=  $\frac{1}{\text{gamma}}$  - 1 :
> U1[1] := 0 :
> U2[1] := -110.932 :
> M3 := 0.3714285714 * h :
> K3 := 12 / h^3 :
> for s from 1 to N do
> t[s + 1] := T·s;
> U[s + 1] := M3 * (a3 * U[s] + a4 * U1[s] + a5 * U2[s]) / (K3 + a3 * M3)
> U2[s + 1] := a3 * (U[s + 1] - U[s]) - a4 * U1[s] - a5 * U2[s] :
> U1[s + 1] := U1[s] + a2 * U2[s] + a1 * U2[s + 1] :
> end do:
> return t, U;
> end proc:
> t, U := Transiente(0.5, 0.001, 0.5, 0.33, 1000) : #Transiente(h, T, alpha, gamma, N);
> plot(t, U, style=line, symbol=asterisk, color=blue);

```

