```fortran
 1: program aula25do02exer01
 2: PARAMETER (NNN = 100000)
 3: real K1, K2, K3, K4
 4: Dimension y(0:NNN)
 5: open(14,file="euler_vetor4.txt")
 6: open(15,file="erro4.txt")
 7: H = 0.001
 8: NSTEP = 3./H
 9: y(0) = 1.
10: DO IX = 0, NSTEP-1
11:     X = IX*H
12:     K1 = H*FUNC(X, Y(IX))
13:     K2 = H*FUNC((X + 1/2*H), (Y(IX) + 1/2*K1))
14:     K3 = H*FUNC((X + 1/2*H), (Y(IX) + 1/2*K2))
15:     K4 = H*FUNC((X + H), (Y(IX) + K3))
16:     Y(IX+1) = Y(IX) + 1./6.*(K1 + 2*K2 + 2*K3 + K4)
17:     DIFF = EXATA(X+H)-Y(IX+1)
18:     erro = abs(DIFF/EXATA(X+H))
19:     write(14,*)X+H,Y(IX+1),EXATA(X+H)
20:     WRITE(15,*)erro
21: enddo
22: end
23:
24: real function FUNC(X,Y)
25:     FUNC = -x*y
26: end
27:
28: real function exata(x)
29:     exata = EXP(-0.5*(X)**2)
30: end
```