```fortran
1:  program EDO2EULER
2:  PARAMETER (NNN = 100000)
3:  implicit real*8 (a-h,o-z)
4:  Dimension Y(0:NNN)
5:  Dimension Z(0:NNN)
6:  open(14,file="euler2nd-dp-result.txt")
7:  open(15,file="erro-euler2nd-dp.txt")
8:  H = 0.001d0
9:  NSTEP = 5.d0/H
10: y(0) = 1.d0
11: Z(0) = 0.d0
12: DO 10 IX = 0, NSTEP-1
13:    X = IX*H
14:    Y(IX + 1) = Y(IX) + H*Z(IX)
15:    Z(IX + 1) = Z(IX) + H*func(X,Y(IX),Z(IX))
16:    DIFF = EXATA(X+H)-Y(IX+1)
17:    erro = dabs(DIFF/EXATA(X+H))
18:    write(14,*)X+H,Y(IX+1),EXATA(X+H)
19:    WRITE(15,*)erro
20: 10 CONTINUE
21: end
22:
23:
24: real*8 function func(X,Y,Z)
25: implicit real*8 (a-h,o-z)
26:     func = -Y-(X*Z)
27: end
28:
29: real*8 function exata(x)
30: implicit real*8 (a-h,o-z)
31:     exata = EXP(-0.5d0*x**2)
32: end
33:
```