```
#COMPILE EXE
#DIM ALL
   REM *** transient hagen-poiseuille flow in a 2 cm diameter tube, explicit
        GLOBAL i,j,dr,rpos,dvdr,d2vdr2,dt,ttime,kvisc,dpdz,rho,R,zz AS SINGLE
FUNCTION PBMAIN
        DIM v(61,2) AS SINGLE
        dr=1/60:kvisc=0.01:rho=1:dpdz=-0.8:dt=0.002
   100 REM *** continue
              FOR i=2 TO 60
                 rpos=(i-1)*dr
                 d2vdr2=(v(i+1,1)-2*v(i,1)+v(i-1,1))/dr^2
                 dvdr=(v(i+1,1)-v(i-1,1))/(2*dr)
                    v(i,2)=dt*(-1/rho*dpdz)+dt*kvisc*(d2vdr2+1/rpos*dvdr)+v(i,1)
                       NEXT i
                          v(61,1)=0:v(1,1)=v(2,2)
                       ttime=ttime+dt
                          PRINT ttime,v(2,2)
                                FOR i=2 TO 60
                                   v(i,1)=v(i,2)
                                   NEXT i
                       IF ttime>20 THEN 200 ELSE 100
   200 REM *** continue
                 OPEN "c:hagenPOISE2.dat" FOR OUTPUT AS #1
                    FOR i=1 TO 61
                       rpos=(i-1)*dr
                       WRITE#1,rpos,v(i,1)
                       NEXT i
           INPUT "Shall we continue?";zz
           IF zz>0 THEN CLOSE
           END
END FUNCTION
```