

```
#COMPILE EXE
#DIM ALL
REM *** dichotomous search for solution of an algebraic equation
GLOBAL delta,MP,x1,x2,xl,xh,x,FL,FH,test,trial,FX,ZZ AS SINGLE
FUNCTION PBMAIN
INPUT "Specify delta:";delta
INPUT "Select x1:";x1
INPUT "Select x2:";x2
OPEN "c:dichoto2.dat" FOR OUTPUT AS #1
100 REM *** continue
MP=(x1+x2)/2
xl=mp-delta
xh=mp+delta
x=xl
GOSUB 300
FL=FX
x=xh
GOSUB 300
FH=FX
test=FH-FL
IF test>0 THEN x1=xl ELSE x2=xh
PRINT x1,x2
WRITE#1,x1,x2
trial=trial+1
IF trial>25 THEN 200 ELSE 100
200 REM *** continue
INPUT "Shall we continue?";ZZ
IF ZZ>0 THEN CLOSE
END
300 REM *** continue for function evaluation
FX=1/(-0.25*x^4+1/3*x^3-x^2+3*x)^2
RETURN
```

