

```

PROGRAM NEWTON
DOUBLE PRECISION F,DF,X,XO,TOL,DELTA
INTEGER I
EXTERNAL F,DF
TOL=1.0D-8
WRITE(*,*)'Entre com o chute inicial XO:'
READ(*,*)XO
DELTA=1.E30
I=0
X=XO
DO WHILE (ABS (DELTA) .GT.TOL)
    I = I+1
    DELTA = F(X)/DF(X)
    X = X - DELTA
    WRITE(*,*)'RAIZ=',X
ENDDO
WRITE(*,*)'-----'
WRITE(*,*)'Valor encontrado=',X
WRITE(*,*)'Valor de f(x) na solucao=',F(X)
WRITE(*,*)'Numero de Iteracoes:',I
END

C
C *****
C
FUNCTION F(X)
DOUBLE PRECISION F,X
C    F=X**2-7
C    F=X**3-49
C    F=X**2-11
C    F=X**3-5*X**2-2*X+1
C    F=-X**3+17*X**2-75*X+91
C    F=X**3-17*X**2+75*X-261
END

C
C *****
C
FUNCTION DF(X)
DOUBLE PRECISION DF,X
C    DF=2*X
C    DF=3*X**2
C    DF=3*X**2-10*X-2
C    DF=-3*X**2+34*X-75
C    DF=3*X**2-34*X+75
END

```