```
*==> assvl.f <==
      SUBROUTINE assvl(a,g,g2,g3,Yu3,Yd3,Yl3,rM1,rM2,rM3,rmu,
     # sqm3,Au3,Ad3,Al3,sqmq3,sqmq2,sqmq1,sqmuc3,sqmuc2,sqmuc1,
     # sqmdc3,sqmdc2,sqmdc1,sqml3,sqml2,sqml1,sqmec3,sqmec2,
     # sqmec1,sqm1,sqm2,au1,au2,ad1,ad2,al1,al2,yu1,yu2,yd1,
     # yd2,yl1,yl2)
CC
      IMPLICIT DOUBLE PRECISION (a-h,o-z)
      DOUBLE PRECISION a(nuu),yukl(6)
      COMMON /wur/ wur,pi
      COMMON /NUEQ/ nuu
      COMMON /LIGYUK/ yukl
CC
      y1 = a(1)
      y2 = a(2)
      y3 = a(3)
      y4 = a(4)
      y5 = a(5)
      y6 = a(6)
C
      g = 4.d0*pi*dsqrt(3.d0*y1/5.d0)
      g2 = 4.d0*pi*dsqrt(y2)
      g3 = 4.d0*pi*dsqrt(y3)
      Yu3 = 4.d0*pi*dsqrt(y4)
      Yd3 = 4.d0*pi*dsqrt(y5)
      Yl3 = 4.d0*pi*dsqrt(y6)
      rM1 = a(7)
      rM2 = a(8)
      rM3 = a(9)
      rmu = a(10)
      sqm3 = a(11)
      Au3 = a(12)
      Ad3 = a(13)
      Al3 = a(14)
      sqmq3 = a(15)
      sqmq2 = a(16)
      sqmq1 = a(17)
      sqmuc3 = a(18)
      sqmuc2 = a(19)
      sqmuc1 = a(20)
      sqmdc3 = a(21)
      sqmdc2 = a(22)
      sqmdc1 = a(23)
      sqml3 = a(24)
      sqml2 = a(25)
      sqml1 = a(26)
      sqmec3 = a(27)
      sqmec2 = a(28)
      sqmec1 = a(29)
      sqm1 = a(30)
      sqm2 = a(31)
C
      au1=a(34)
      au2=a(35)
      ad1=a(36)
      ad2=a(37)
      al1=a(38)
      al2=a(39)
C
      yu1=yukl(1)
      yu2=yukl(2)
      yd1=yukl(3)
```



```
       yd2=yukl(4)
       yl1=yukl(5)
       yl2=yukl(6)
C
       return
       END

*==> solve2.f <==
      SUBROUTINE solve2(g,h,x1,x2)
      IMPLICIT DOUBLE PRECISION (a-h,o-z)
      de = g**2-4.d0*h    !  always non negative
      q1 = -1.d0/2.d0*(g+dsign(1.d0,g)*dsqrt(de))
      x1 = q1
      x2 = h/q1
      return
      END

*==> dpyth.f <==
       DOUBLE PRECISION FUNCTION pythag(a,b)
       IMPLICIT DOUBLE PRECISION (a-h,o-z)
       absa = dabs(a)
       absb = dabs(b)
       if(absa.gt.absb)then
          pythag = absa*dsqrt(1.d0+(absb/absa)**2)
       else
         if(absb.eq.0.d0)then
          pythag = 0.d0
         else
          pythag = absb*dsqrt(1.d0+(absa/absb)**2)
         endif
       endif
       return
       END

*==> dfx.f <==
      DOUBLE PRECISION FUNCTION dfx(a,b)
      IMPLICIT DOUBLE PRECISION (a-h,o-z)
      rat=dabs(a/b)
      u1=dsqrt(1.d0/3.d0)
      u2=dsqrt(3.d0)
      if(rat.gt.u1 .and. rat.lt.u2)then
        c1=a+b
        c2=a-b
        dfx=c1*c2
      else
        pa=a*a
        pb=b*b
        dfx=pa-pb
      endif
      return
      END
```