```
      program simpson
      double precision F,a,b,val,h,x
c     REAL F,a,b,val,h,x
      integer n
      external F
      WRITE(*,*)'Entre com o valor de A:'
      READ(*,*)a
      WRITE(*,*)'Entre com o valor de B:'
      READ(*,*)b
      WRITE(*,*)'Entre com o numero n de subintervalos:'
      READ(*,*)n
      val=0.0
      if((-1)**n.ne.1)stop 'O número de intervalos deve ser PAR!'
      h=(b-a)/n
      h2=0.5*h
      s2=f(a+h2)
      s=0.0
      do i=1,n-1
        x=a+i*h
        s2=s2+f(x+h2)
        s=s+f(x)
      enddo
      val=h*(f(a)+4.0*s2+2.0*s+f(b))/6.0
      write(*,*)'Integral =',val
      end
      !!!!!!!!!!!!!!!!!!!!!!!!!
      FUNCTION f(x)
      DOUBLE PRECISION f,x
c     REAL f,x
c      f = (x**2)*exp(-x)
c      f = sqrt(1+x)
c      f = (x**2)*alog(x)
c      f = x*sin(x)
c      f = sqrt(1+x**2)
c      f = (5-x)**0.333333333333
c      f = sqrt(4-x**2)
c      f = alog(x**2+3)
c      f = alog(x+1)
c      f = cos(x**2 + 3)
c      f = sin(x**3 + 2)
c      f = exp(x**2 + 3)
c      f = exp(x**3 + 2)
c      f = exp(0.69314718*x**2)
c      f = 2**(x**2)
      f = sqrt(1+x)
      END
```