```fortran
       program string
       real y(1000,3)
       x0=0.3
       sigma=1000.0
       open(7,file="wave.v2")
 111   format(2 (2x,e12.5))
       open(8, file="matrix.v2")
 112   format(1000 (2x,e12.5))
       print*, "Enter the number of time steps"
       read(5, *) nts
       y=0.0
       do i=2,999
           x=0.001*(i-1)
           y(i,1)=exp(-sigma*(x-x0)**2)
           y(i,2)=y(i,1)
       enddo
       do ii=1, nts                ! time steps to make
           do i=2,999
               y(i,3)=y(i+1,2)+y(i-1,2)-y(i,1)
           enddo
           y(1,3)=0.0
           y(1000, 3)=0.0
           do i=1,1000
               do nt=2,3
                   y(i, nt-1)=y(i,nt)
               enddo
           enddo
           ni = ii/20
           si = 0.05*ii
           if (abs(ni - si) < 1.0e-6) then
               print*,ii
               write(8,112) (y(i,3), i = 1,1000)
           endif
       enddo                       ! time steps to make

       do i=1,1000                 ! data output
           x=0.001*i
           write(7,111) x,y(i,3)
       enddo
       end
```