```
 1  program problem
 2
 3      use iso_fortran_env, only: dp=>real64
 4      use linspace_mod
 5      use tdma
 6
 7      implicit none
 8      !output utility
 9      integer, parameter :: outfile = 16
10      integer, parameter :: outfile2 = 17
11
12      !enter problem you want to solve here
13      !problem 5
14      !declarations
15      integer, parameter :: n = 7
16      double precision, dimension(1:n) :: line = (/100.0, 0.0, 0.0, 0.0, 0.0, 0.0, 600.0/)
17      double precision, dimension(1:n) :: a = (/1.0, 3.0, 2.0, 2.0, 2.0, 3.0, 1.0/)
18      double precision, dimension(1:n) :: b = (/0.0, 1.0, 1.0, 1.0, 1.0, 0.0, 0.0/)
19      double precision, dimension(1:n) :: c = (/0.0, 0.0, 1.0, 1.0, 1.0, 1.0, 0.0/)
20      double precision, dimension(1:n) :: d = (/100.0, 204.0, 12.0, 20.0, 28.0, 1236.0, 600.0/)
21      integer :: i
22      call inmatsolve(n,a,b,c,d,line)
23      print*, line
24
25  end program problem
26
```