#--Question 1

octave:9> a = [1,1,0;2,0,7;0,2,-7]
a =
     1   1   0
     2   0   7
     0   2  -7

octave:10> b = [-8; -3; -5]
b =
      -8
      -3
      -5

octave:11> a\b
warning: matrix singular to machine precision, rcond = 0
warning: attempting to find minimum norm solution
warning: dgelsd: rank deficient 3x3 matrix, rank = 2
ans =
     -2.64706
     -2.68627
       0.13725

#--
#    2.64706      0.13725
# -----<------------->-----
#     |
#     |
#  ^ 2.68627
#     |
# ----->-------------<----
#

#------Question 2

octave:17> a = [2, 1; 1, -2]
a =
     2   1
     1  -2

octave:18> b = [ 1 ; 0]
b =
      1
      0

octave:19> i = a\b
i =
     0.40000
     0.20000

octave:22> r = 1/(3*i(1))
r = 0.83333
# I(1) is the current on 8-6, 8-7 or 8-4.
# I(2) is the current on 6-5, 6-2, 7-3, 7-5, 4-3, or 4-2
# so I(2) = 1/2 * I(1)
# the equivalent resistance is V/I, here V = 1
# and I = 3 * I(1) since I split to 3 direction on node 8
#