**Problem 3**

Def MajorityElement(A):

IF len(A) == 1:

Return A[0]

n\_half = floor{len(A)/2}

A1\_majority = MajorityElement(A[0,1,2….n\_half]): // first half of the list

A2\_majority = MajorityElement(A[n\_half+1, ….n]): // second half of list

IF A1\_majority == A2\_majority:

Return A1\_majority

count\_A1 = 0

count\_A2 = 0

FOR i in range(len(A)):

IF A[i] == A1\_majority:

count\_A1 ++

ELIF A[i] == A2\_majority:

count\_A2 ++

IF count\_A1 > n\_half + 1:

Return A1\_majority

ELIF count\_A2 > n\_half + 1:

Return A2\_majority

ELSE:

Return -1