#Lab 13

def readData(fileName):

inFile = open(fileName)

dataList = []

for line in inFile:

dataList += line.split()

for i in range(len(dataList)):

dataList[i] = int(dataList[i])

return dataList

def isInLinear(searchVal, values):

i = 0

while i < len(values) and values[i] != searchVal:

i += 1

if i == len(values):

rtnVal = False

else:

rtnVal = True

return rtnVal

def isInBinary(searchVal, values):

low = values[0]

high = len(values) - 1

mid = (low + high)//2

while low <= high and values[mid] != searchVal:

if searchVal < values[mid]:

high = mid - 1

else:

low = mid + 1

mid = (low + high)//2

if values[mid] == searchVal:

rtnVal2 = True

else:

rtnVal2 = False

return rtnVal2

def selSort(values):

n = len(values)

front = 0

for front in range(0, n-1):

minPos = front

for i in range(front+1, n):

if values[i]< values[minPos]:

minPos = i

temp = values[minPos]

values[minPos] = values[front]

values[front] = temp

def main():

fileName = "dataSorted.txt"

values = readData(fileName)

print(values)

searchVal = 80

rtnVal = isInLinear(searchVal, values)

if rtnVal == True:

print("Found in list")

else:

print("Not found")

rtnVal2 = isInBinary(searchVal, values)

if rtnVal2 == True:

print("Found in list")

else:

print("Not found")

values2 = [5, 2, 9, 3, 1]

selSort(values2)

print(values2)

main()