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//Enloe Int 5
//Contest 4

filename = "sample1.txt"

inputs = []
with open(filename) as file_object:
    for line in file_object:
        inputs.append(line.rstrip())

for x in inputs:
    inputString = x
    inputArray = []
    #put all the numbers into an array
    while (len(inputString) >1):
        pos = inputString.find(" ")
        inputArray.append(inputString[:pos])
        inputString = inputString[pos+1:]
    inputArray.append(inputString)
    #print(inputArray)
    #idenify the pieces in the array
    opponentMarks = inputArray[:3]
    playerMarks = inputArray[3:6]
    numDieRolls = int(inputArray[6])
    dieRolls = inputArray[7:]
    #setUp
    corners = [6, 11, 16, 21, 26, 34, 39, 44, 49]
    perfectSquare = [8, 15, 24, 35, 48]
    primeNumbers = [2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47]
    board = []
    for y in range(52):
        if (str(y+1) in playerMarks):
            board.append(1)
        elif (str(y+1) in opponentMarks):
            board.append(2)
        else:
            board.append(0)
    #print(board)
    markerLostTurn = False
    #playing the game
    for turns in range(numDieRolls): #game plays the num of times the dice dieRolls
        #figure out which piece to move
        if (1 not in board):

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    break
else:
    posMoving = board.index(1)
moves = int(dieRolls[turns])
#print(moves)
#print(posMoving)
#moving
#first check if trying to move over 52
if((posMoving + moves) > 51):
    markerLostTurn = True
#now check if occupied
elif(board[posMoving+moves] != 0):
    markerLostTurn = True
#now we know its not occupied
#check if you have to pass a corner piece
else:
    #check if 52
    if ((posMoving+moves) == 51):
        #print("entered")
        board[posMoving] = 0
    #check 7
    elif ((posMoving+moves+1) in primeNumbers and (posMoving+moves+1<52)):
        #print("prime num is: " + str(posMoving+moves+1))
        board[posMoving+moves] = 1
        board[posMoving] = 0
        done = False
        count = 1
        while(not done and count<=6):
            if(board[posMoving+moves+count] != 0):
                #print("entered doesn't work")
                done = True
            else:
                board[posMoving+moves+count-1] = 0
                board[posMoving+moves+count] = 1
                count+=1
    #check 8
    elif ((posMoving+moves) in perfectSquare and posMoving+moves<52):
        #print("entered perfect square")
        board[posMoving+moves] = 1
        board[posMoving] = 0
        done = False
        count = 1
        while(not done and count<=6):
            #print("entered perfect square check")
            if(board[posMoving+moves-count] != 0):

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        #print('entered didnt work')
        done = True
    else:
        board[posMoving+moves-count+1] = 0
        board[posMoving+moves-count] = 1
        count+=1
#else just moves
else:
    #check number 9
    passCorner = False
    for cor in corners:
        if (posMoving<cor):
            if (cor<posMoving+moves):
                passCorner = True
                #print("Cor: " + str(cor))
                #print("entered true corner")
                #print("posMoving" + str(posMoving))
    #if 9 is true:
    if (passCorner):
        counter = 1
        while (counter<=moves):
            if(board[posMoving+counter] == 0 and (posMoving+counter+1)%moves == 0
and posMoving+counter<52):
                #it's multiple and not occupied
                board[posMoving] = 0
                board[posMoving+counter] = 1
                #print("counter" + str(counter))
                counter = moves
                counter+=1
            else:
                board[posMoving+moves] = 1
                board[posMoving] = 0

    #if(board[51] == 1):
    #board[51] = 0
    #print(board)

answers = []
for p in range(len(board)):
    if board[p] == 1:
        answers.append(p+1)
if (len(answers) == 0):
    print("GAME OVER")
else:
    for num in range(len(answers)):

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print(answers[num], end = " ")  
print("")
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