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**Problem 1:**

**(a):**

Yes, Friend’s Logic is right

**(b):**

Yes, it is true. By increasing the base of number x , the length of number decreases. For Example number 1024 can be represented by

* 1000000000 base 2 (10 bits)
* 1024 base 10 (4 digits)

**(c):**

Third argument is false. It is true for small n values but wrong for large n values.

**Problem 2:**

**(a):**

**Pseudo Code:**

friendSlower(A)

1. lis =[ ]
2. for i to len(A):
3. col=row+1
4. for j=i+1 to len(A):
5. If(A[0][i]>=A[0][j]:
6. Lis.append(tuple([i,j]))
7. return lis

**Description:**

Make a list to return output. Run two loops. Second loop index will run one plus from first loop index. If condition will check if our required is true. If it is true then it will append its index in the list and else next iteration will occur. As there are two nested loops so time complexity will be n^2.