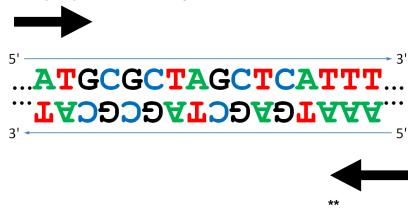# CSE 208
## Online 4 (Hashing)
## Section A
### Time: 20 minutes

Given a list of $n$ DNA sequences of length $l$ represented by strings of nucleotide bases (A, T, C, and G), identify pairs of sequences that are reverse complements of each other. A reverse complement of a DNA sequence is formed by replacing each nucleotide with its complementary base (A with T, T with A, C with G, and G with C), and then reading the resulting sequence in the reverse direction.

The run-time complexity of your solution program should be $O(ln)$.



## Input

The first line contains two integer numbers $n$ $(1 \leq n \leq 100)$ and $l$ $(1 \leq l \leq 100)$, where $n$ is the number of DNA sequences and $l$ is the length of the DNA sequences.

Each of the next $n$ lines contains a DNA sequence. The DNA sequences will be a string of length $l$ and will have characters A, C, T and G.

## Output

Your program should print all the pairs of reverse complements on the console. Each pair should be printed on separate lines and the sequence pairs will have a space between them.

## Sample Input/Output

| Input | Output |
|---|---|
| 5 4<br>ATGC<br>GCAT<br>TACG<br>CGTA<br>TTAA | ATGC GCAT<br>TACG CGTA |
| 4 5<br>TTAAG<br>AATTC<br>CTTAA<br>CTTAA | TTAAG CTTAA<br>TTAAG CTTAA |