5. Eduardo

Program Name: Eduardo.java **Input File: eduardo.dat**

Eduardo has discovered a new way to encrypt his messages so only his buddies can understand them. The process involves taking the binary ASCII value of each character in his message, padding them to 8 characters with 0's at the front, rotating them left by 4, then replacing the 0's with A and the 1's with B.

For example, encrypting the message "HI" looks like:

Letter	Binary ASCII	Rotated	Replaced
H	01001000	10000100	BAAAABAA
I	01001001	10010100	BAABABAA

The final encrypted message would be: "BAAAABAA ABAABAAB"

Input:
The first line consists of a number N, representing the number of lines of data to follow. N will be in the range of [1, 30]. The next N lines of data consists of a message that Eduardo wants to encrypt.

Output:
The output will each encrypted message on separate lines. Each encrypted message has every character separated by spaces.

Sample input:
4
HI
$10
abc123
s3cr3t

Sample output:
BAAAABAA BAABABAA
ABAAAABA AAABAABB AAAAAABB
AAABABBA AABAABBA AABBABBA AAABAABB AABAAABB AABBAABB
AABBABBB AABBAABB AABBABBA AABAABBB AABBAABB ABAAABBB