12. Strong Passwords

Program Name: Strong.java   **Input File: strong.dat**

The technology department requires that all teacher passwords be "strong" passwords. For a password to be considered "strong", it must:

- Contain at least one uppercase letter or a special character
- Special characters are: ! @ # $ % ^ & * ( ) _ + =
- Contain at least one digit: 0 1 2 3 4 5 6 7 8 9
- Must be at least 8 characters long
- Can contain only upper case and lower case alphabetic characters, special characters as defined above, and digits

It is your job to write a program to see if a given password is a "strong" password.

Input
The first line of input will contain a single integer n that indicates the number of passwords to follow. Each of the following n lines will contain a single string of characters with no spaces that represents one password.

Output
For each password, on a single line print "STRONG" if the password meets the criteria listed above or print "INVALID" if it does not.

Example Input File
```
4
MARY_HADaLITTLElamb
MARY_HAD1LITTLElamb
{RogerRabbit2}
R0gerR@bbit
```

Example Output to Screen
```
INVALID
STRONG
INVALID
STRONG
```