Choose Bigger

Problem Statement

Under the huge city , there is a mysterious casino.The casino is filled with strange people.

In the corner of the casino, there is a person squatting, who everyone don't know what he is doing.

As a member of the adventure team, Tom certainly is curious about what the man is doing. So he go up and approach him.

This strange man also find Tom, he say to Tom: "If you play a game with me, then I will tell you what I am doing?"

Tom say,"sure."

This game is like this:

This strange man will give Tom N cards, but Tom did not know the specific number in of the N cards. Then the man will tell the Tom M relationships.For each relationships,the man will give Tom two numbers A and B, indicating that the number of the Ath card is greater than or equal to the number of the Bth card.

Then this strange man will ask Tom Q questions. The strange man will give Tom two numbers A and B for each question. and asked Tom the size relation between the number of the Ath card and the number of the Bth card .The answer will be one of ">=", "<=", "=","?",the four relations.It represents A is greater than or equal to B,A is less than or equal to B, A is equal to B and Tom didn't know the relationship between the two numbers.

Tom can't solve it now, can you help him?

Input Format

The first line contains an positive integer T, represents there are T test cases.

For each test case:

The first line contains three integers N,M,Q, represents the man will give Tom N cards , M relationships and Q questions.

The next M lines,contains two integers A[i] and B[i],represents the number of the Ath card is greater than or equal to the number of the Bth card.

The next Q lines,contains two integers C[i] and D[i],represents the man want to know the size relation between the number of the Ath card and the number of the Bth card.

1<=T<=10,1<=N<=100,1<=M<=5000,1<=Q<=5000,1<=A[i],B[i],C[i],D[i]<=N

Output Format

For each test case,output Q lines a non-negative integer, represent the value of the answer.

Sample Input

```
1
4 3 3
1 2
2 1
1 3
1 2
```

```
1 3
1 4
```

Sample Output

```
=
>=
?
```