HINT: Common friend (or mutual friend)

For simply, a list of users and their list of friend are as follows:

Friends of A are B, **C**, D, E , **F**.
Friends of B are A, **C**, **F**.
Friends of C are A, B, E
So A and B have C, F as their mutual friends.
A and C have B, E as their mutual friends.
B and C have only A as their mutual friend.

In map-phase, you need to change every split as the following:

Split : A > B, C, D, E, F

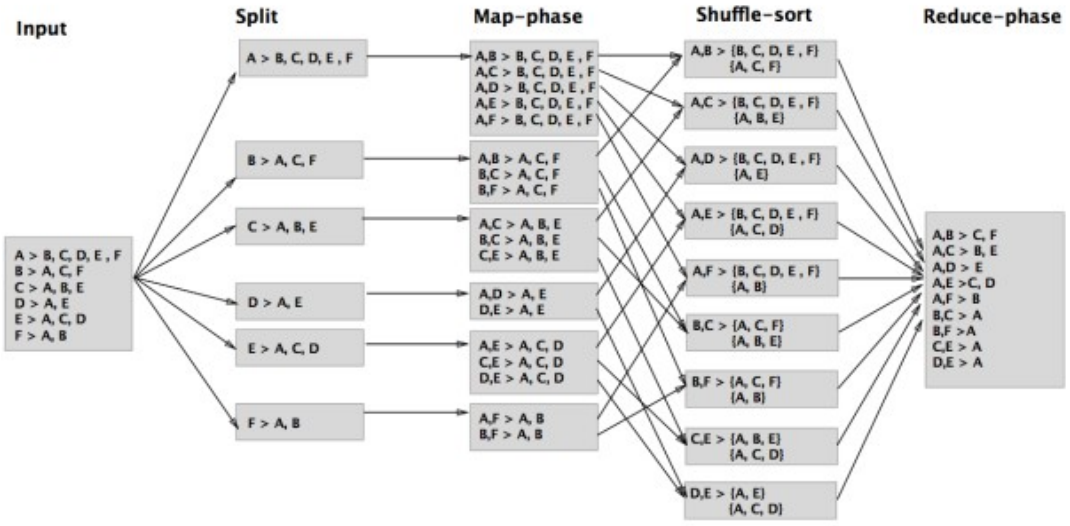
(Friends of A are B, C, D, E , F)
Map input:

A,B > B, C, D, E , F
A,C > B, C, D, E , F
A,D > B, C, D, E , F
A,E > B, C, D, E , F
A,F > B, C, D, E , F

After map phase is shuffling data item into group by key.
A,B > B, C, D, E , F
A,B > A, C, F

Shuffling into {A,B} group
A,B > {B, C, D, E , F}, {A, C, F}

Finally, try to find out the intersect of each collection.
The intersect is the result(mutual friends)



For Q2, you are allowed to use job chaining.