```
#include <stdio.h>
#define N 10000
main()
{
    int i, j, p, q, t, id[N];

    for (i=0; i<N; i++)
      id[i]=i;

    while (scanf("%d %d\n", &p, &q)==2)
      {
      for (i=p; i!=id[i]; i=id[i]);
      for (j=q; j!=id[j]; j=id[j]);

      if (i==j)
        continue;

      id[i]=j;

      printf(" %d %d\n", p, q);
      }
}
```