import java.io.*;
import java.lang.*;

public class hanoi3   // iterative hanoi. corners : 0, 1 and 2. Discs 0,1, .. N-1
{

    static public void main(String args[])
    {

        int N = 4;        // number of discs
        int nummoves,second,third,pos2,pos3,j,i = 1;

        int [] locations = new int[N+2];         // remembers which corner each disc is on
        for (j=0; j<N; j++) locations[i] = 0;    // initially all are on 0
        locations[N+1]=2;                        // 2 is destination

        nummoves = 1;
        for (i=1; i<=N; i++) nummoves*=2;
        nummoves -= 1;

        for (i=1; i<= nummoves; i++)
        {
            if (i%2==1)
            {
                // odd numbered move - move disc 1
                second = locations[1];              // remember where disc 1 moved from
                locations[1] = (locations[1]+ 1) %3;
                System.out.print("Move disc 1 to ");
                System.out.println((char)('A'+locations[1]));
            }
            else
            {
                // even numbered move make only move possible not involving disc 1
                third = 3 - second - locations[1];

                // find smallest values on the other 2 corners
                pos2 = N+1; for (j=N+1; j>=2; j--) if (locations[j]==second) pos2=j;
                pos3 = N+1; for (j=N+1; j>=2; j--) if (locations[j]==third) pos3=j;

                System.out.print("Move disc ");

                // move smaller on top of larger
                if (pos2<pos3)
                {
                    System.out.print(pos2);
                    System.out.print(" to ");
                    System.out.println((char)('A'+third));
                    locations[pos2]=third;
                }
                else
                {
                    System.out.print(pos3);
                    System.out.print(" to ");
                    System.out.println((char)('A'+second));
                    locations[pos3]=second;
                }
            }
        }
    }
}
Move disc 1 to B
Move disc 2 to C
Move disc 1 to C
Move disc 3 to B
Move disc 1 to A
Move disc 2 to B
Move disc 1 to B
Move disc 4 to C
Move disc 1 to C
Move disc 2 to A
Move disc 1 to A
Move disc 3 to C
Move disc 2 to C
Move disc 1 to C
Press any key to continue . . .