```
void dfs(ArrayList<ArrayList<Integer>> graph,boolean[
    //mark
    path[src] = true;
    psf.add(src);
    int totalVtx = graph.size()-1;
    if(psf.size() == totalVtx){
        //i have detected an hamiltonian path
        System.out.print(psf);

        int start =psf.get(0);

        for(int nbr: graph.get(src)){
            if(nbr == start){
                System.out.print("( Cycle Found )");
                break;
            }
        }

        path[src] = false;
        psf.remove(psf.size()-1);
        System.out.println();
        return;
    }

    for(int nbr: graph.get(src)){
        if(!path[nbr]) dfs(graph,path,nbr,psf);
    }

    path[src] = false;
    psf.remove(psf.size()-1);

}
```