

```
1  class DetectCycleInUndirectedGraph
2  {
3      public boolean isCycle(int V, ArrayList<ArrayList<Integer>> graph)
4      {
5          boolean visited[] = new boolean [V];
6          for(int i=0;i<visited.length;i++){
7              if(!visited[i]){
8                  boolean stack[] = new boolean[visited.length];
9                  visited[i]=true;
10                 stack[i]=true;
11                 boolean hasCycle = dfs(i,graph,visited,stack,-1);
12                 stack[i]=false;
13                 if(hasCycle){
14                     return true;
15                 }
16             }
17         }
18         return false;
19     }
20
21
22     public static boolean dfs(int current,ArrayList<ArrayList<Integer>> graph,boolean[]
visited,boolean stack[],int parent){
23         int size=graph.get(current).size();
24         for(int j=0;j<size;j++){
25             int nextNode = graph.get(current).get(j);
26             if(nextNode==parent){continue;}
27             if(stack[nextNode]==true){
28                 return true;
29             }
30             else{
31                 if(!visited[nextNode]){
32                     visited[nextNode]=true;
33                     stack[nextNode]=true;
34                     if(dfs(nextNode,graph,visited,stack,current)){return true;}
35                     stack[nextNode]=false;
36                 }
37             }
38         }
39         return false;
40     }
41 }
```