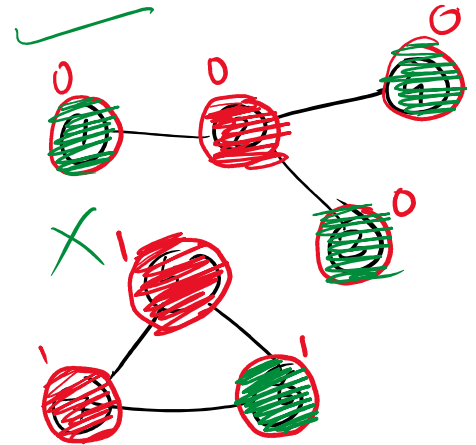
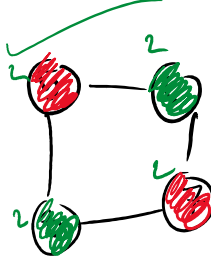


DFS - Application

↳ Count number of components?

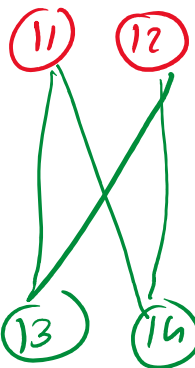
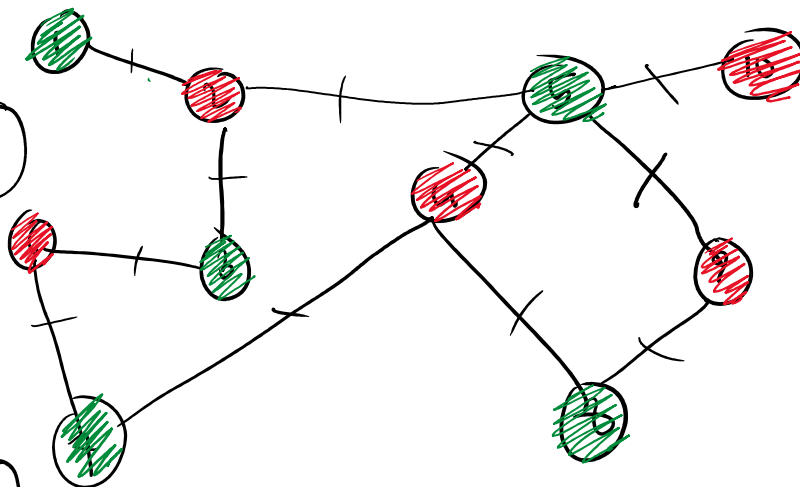
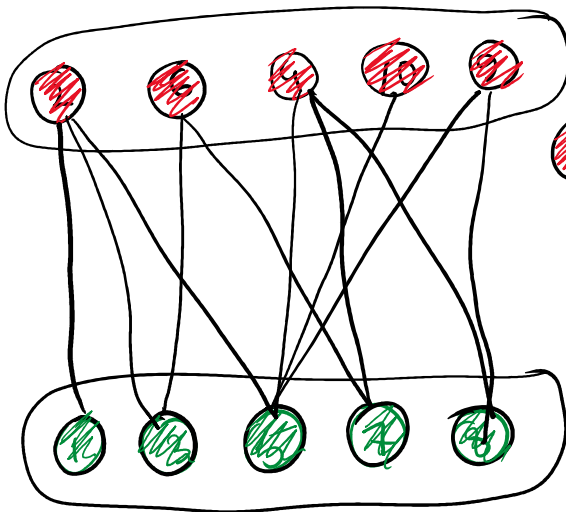
↳ Is bicolourable?

↳ Graph cyclic?

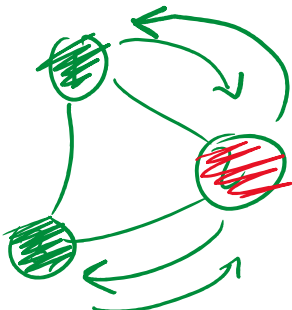


mark[] → 0 0 0 0 1 1 1
1 2 3 4 5 6 7

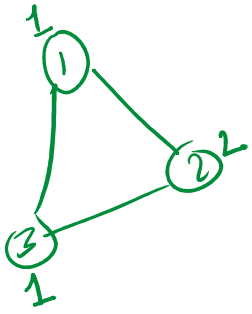
BPM



$dfs(v, 3-col[u])$ / $if (col[u] == 1)$
 $dfs(v, 2)$
 $else if (col[u] == 2)$
 $dfs(v, 1)$



$void dfs(int u, int clr, bool &isBC) \{$



$col[u] = clr;$

```
for(auto v: gr[u]) {
    if(!col[v]) {
        dfs(v, 3-clr, isBC);
    }
}
```

$if (clr == col[v]) \{ isBC = false; \}$

}

