

```
1  const int MAXN = 100010;
2  vi adj[MAXN];
3  int d[MAXN], low[MAXN], visi[MAXN], t;
4  bool art[MAXN];
5  set<pii> bs;
6
7  void dfs(int u, int p=-1) {
8      visi[u] = true;
9      d[u] = low[u] = t++;
10     bool found = false;
11     int ct=0;
12     for(auto v : adj[u]) {
13         if(!visi[v]) {
14             ++ct;
15             dfs(v,u);
16             low[u] = min(low[u],low[v]);
17             if(low[v]>=d[u]) found = true;
18             if(low[v]>d[u]) bs.insert(mp(min(u,v),max(u,v)));
19         }
20         else if(v!=p) {
21             low[u] = min(low[u], d[v]);
22         }
23     }
24     art[u] = (u ? found : ct>1);
25 }
26 //call with FOR0(i,n) if (!visi[i]) dfs(i);
27
```