

```
1 BFS(G) :
2   Input: Graph, G
3   Output: A labeling of the edges on
4           G as discovery and cross edges
5
6   foreach (Vertex v : G.vertices()):
7       setLabel(v, UNEXPLORED)
8   foreach (Edge e : G.edges()):
9       setLabel(e, UNEXPLORED)
10  foreach (Vertex v : G.vertices()):
11      if getLabel(v) == UNEXPLORED:
12          BFS(G, v)
```

```
14 BFS(G, v) :
15   Queue q
16   setLabel(v, VISITED)
17   q.enqueue(v)
18
19   while !q.empty():
20       v = q.dequeue()
21       foreach (Vertex w : G.adjacent(v)):
22           if getLabel(w) == UNEXPLORED:
23               setLabel(v, w, DISCOVERY)
24               setLabel(w, VISITED)
25               q.enqueue(w)
26           elseif getLabel(v, w) == UNEXPLORED:
27               setLabel(v, w, CROSS)
```