```
G_r = graph_reverse(G) //flip all edges in graph, O(m)
         return find_longest_path(G_r, v) - v.time for each vertex v in G
     graph_reverse(G): //O(m)
         for all edges in G:
             edge(u,v) = edge(v,u)
 8
         return G
10
11
     find longest path(G, v):
         if v has no children:
12
             return v.time
13
14
         return v.time + max(find_longest_path for each of v.children)
15
```

main(G):