Algorithm 1: Naive downhill search

Input: graph vertices P, directed graph edges E, query point Q, search start index v

Output: nearest neighbour index v

```
1 for each edge E_i with start vertex P_v do
2     u ← index of end vertex of E_i
3     if distance(Q, P_u) < distance(Q, P_v) then
4         v ← u
5 return v
```