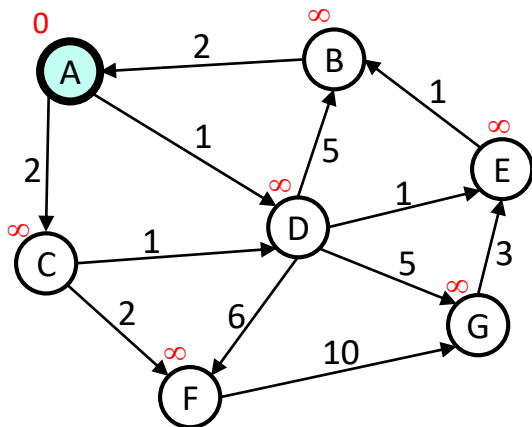


# Dijkstra's Algorithm: Example #2



Order Added to Known Set:

Vertex	Known?	Distance	Previous
A		$\infty$	
B		$\infty$	
C		$\infty$	
D		$\infty$	
E		$\infty$	
F		$\infty$	
G		$\infty$	

# Runtime, First Approach

```
dijkstra(Graph g, Vertex start) {  
  foreach vertex v in g:  
    v.distance =  $\infty$   
    v.known = false  
  start.distance = 0  
  
  while there are vertices in g  
  that are not known:  
    select vertex v with lowest cost  
    v.known = true  
    foreach unknown edge (v, u) in g:  
      d1 = v.distance + g.weight(v, u)  
      d2 = u.distance  
      if (d1 < d2)  
        u.distance = d1  
        u.previous = v  
}
```

}

}

}

*Total:*