

Warshall Transitive Closure Algorithm Pseudocode

```
Warshall-Transitive-Closure(G)
  n = |G.V|
  let  $T^{(0)} = (t_{ij}^{(0)})$  be a new  $n \times n$  matrix
  for  $i = 1$  to  $n$ 
    for  $j = 1$  to  $n$ 
      if  $i == j$  or  $(i, j) \in G.E$ 
         $t_{ij}^{(0)} = 1$ 
      else
         $t_{ij}^{(0)} = 0$ 
  for  $k = 1$  to  $n$ 
    let  $T^{(k)} = (t_{ij}^{(k)})$  be a new  $n \times n$  matrix
    for  $i = 1$  to  $n$ 
      for  $j = 1$  to  $n$ 
         $t_{ij}^{(k)} = t_{ij}^{(k-1)} \vee ( t_{ik}^{(k-1)} \wedge t_{kj}^{(k-1)} )$ 
  return  $T^{(n)}$ 
```