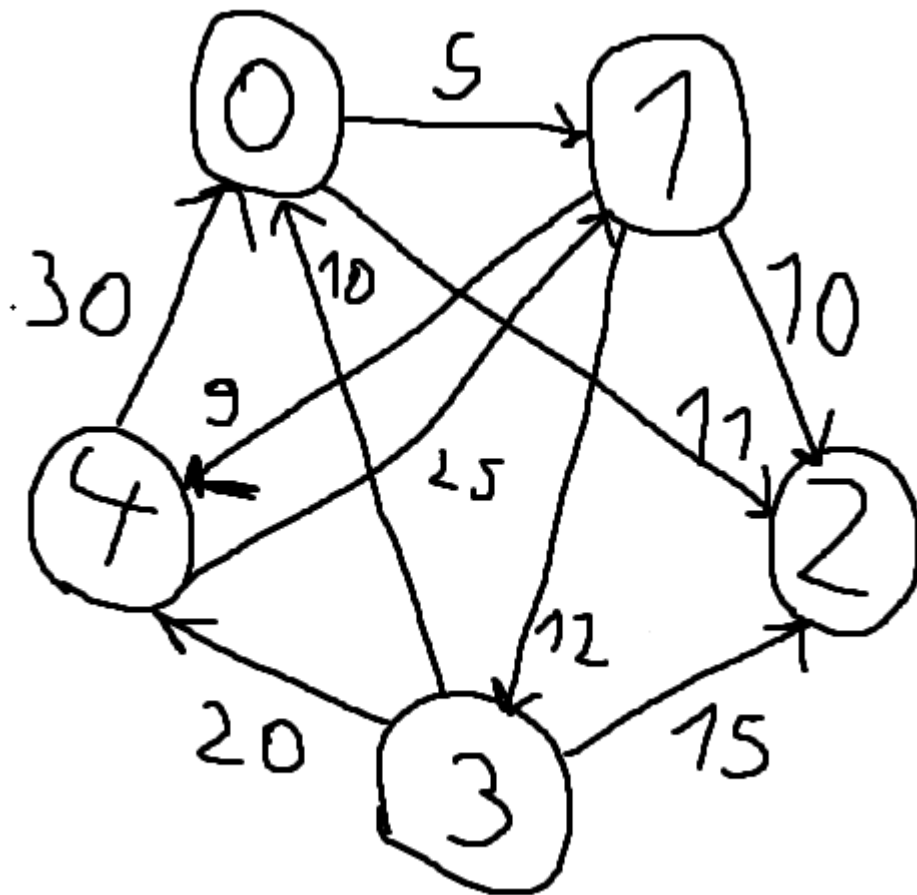# Manual executions

Graph:

Djikstra's algorithm:

- the minimum cost walk from a vertex s to all the other vertices

- graph with non-negative costs

s=0, t=4

	x	y	dist: dictionary	q: priority queue	prev: dictionary
initialization			0 0	<-|(0,0)|<-	
iteration 1 iteration 1.1 iteration 1.2	0	 1 2	 0　　1 0　　5 0　1　2 0 | 5 | 11	 <-|(1,5)|<- <-|(1,5)|(2,11)|<-	 1 0 1　2 0 | 0
iteration 2 iteration 2.1 iteration 2.2 iteration 2.3	1	 2 3 4	 0　1　2 0 | 5 | 11 0　1　2　3 0 | 5 | 11 | 17 0　1　2　3　4 0 | 5 | 11 | 17 | 14	<-|(2,11)|<- <-|(2,11)|<- <-|(2,11)|(3,17)|<- <-|(2,11)|(4,14)|(3,17)|<-	 1　　2　　3 0 | 0 | 1 1　2　3　4 0 | 0 | 1 | 1
iteration 3	2			<-|(4,14)|(3,17)|<-	
Iteration 4	4				

The minimum cost walk from s=0 to t=4 is built backwards from prev:

t=4; prev[4] = 1; prev[1] = 0 = s

0->1->4, cost = dist[4] = 14

s=2; t=3

	x	y	dist: dictionary	q: priority queue	prev: dictionary
initialization			2 0	<-|(2,0)|<-	
iteration 1	2				

There is no walk from 2 to 3, because 2's outer degree is 0.