Floyd's algorithm solves all-pairs shortest paths problem

example: consider a directed graph that consists of 4 vertices, a,b,c,d and
5 edges, (a,c), (b,a), (d,a), (c,d), (c,b). assume that each has
has the following weights:

(a,c) - 3
(b,a) - 2
(d,a) - 6
(c,d) - 1
(c,b) - 7

the distance matrix for this graph is as follows:

0	infinity	3	infinity
2	0	infinity	inginity
infinity	7	0	1
6	infinity	infinity	0

Floyd algororithm is as follows:

```
D <- distance matrix of the input directed graph
for k = 1 to n
  for i = 1 to n
    for j = 1 to n
      D[i,j] = min{D[i,j], D[i,k] + D[k,j]}
return D
```

which runs in Theta(n^{3}) time