

Theorem

Floyd- Warshall algorithm works in any network without negative - weight cycle.

Theorem

G contains a negative cycle if and only if $D^{(n)}(G)$ contains a negative diagonal element.

What we learnt in this lecture?

- The **relationship** between shortest path and matrix multiplication.
- **Faster-All-Pairs-Shortest-Paths algorithm**
- **Floyd-Warshall algorithm.**