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Bellman Ford Algorithm

Date: / /

* chart showing running time vs. input :-

(1) number of vertices :- 5

adjacency matrix :-

0 2 0 0 1
3 0 0 2 0
0 2 0 0 -1
0 -1 3 0 3
0 2 1 3 0

By Bellman ford algorithm
Running time. → 0.247 ms

(2) number of vertices :- 8

adjacency matrix :-

0 2 0 0 1 3 0 2
0 0 0 2 0 -1 0 -1
3 3 0 0 2 1 3 1
2 0 0 0 3 2 0 1
-1 1 3 3 0 -1 1 1
0 2 0 1 -1 0 0 2
0 1 3 0 1 0 0 0
0 0 2 -1 1 3 3 0

By Bellman ford algorithm.
Running time. → 1.168 m

(3) number of vertices :- 10

adjacency matrix :-

Date : / /

0 2 0 0 1 3 0 2 0 0
2 0 0 -1 0 -1 3 3 0 2
1 3 0 1 2 0 0 3 2 0
1 -1 1 0 3 3 -1 1 1 0
2 0 1 -1 0 0 2 0 1 3
0 1 0 0 0 0 0 2 -1 1
3 3 0 1 1 1 0 0 1 1
0 0 0 0 3 2 3 0 0 3
2 0 0 2 2 0 -1 3 0 1
0 1 1 3 2 2 0 0 0 0

By Bellman ford algorithm
Running time ⟶ 2.755 ms

(4) number of vertices :- 100
adjacency matrix
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. . . . . .

By Bellman ford algorithm:-
Running time ⟶ 31072.8 ms

* As the no. of input increases the running time increases