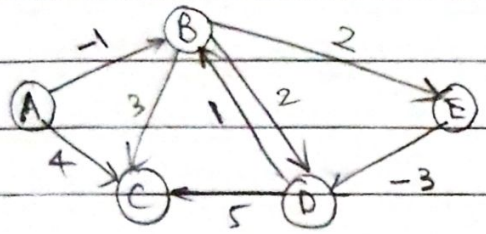
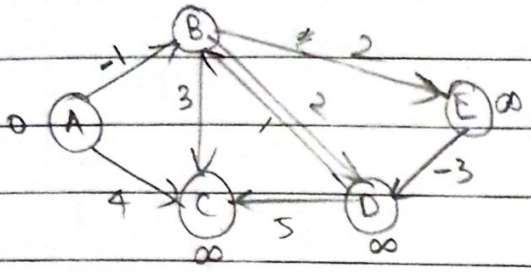
14.03.2020.

11. Apply Bell-man-ford algorithm on the graph given below. Assume vertex A as source vertex.



(i) Initialize: ∞



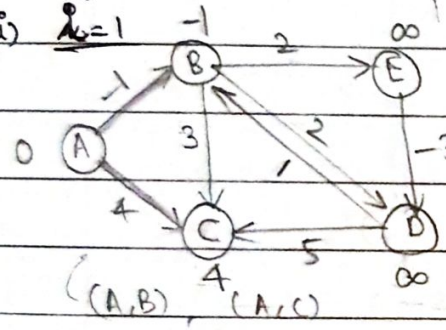
	A	B	C	D	E
Π	-	-	-	-	-

$n = |V| = 5$

$\therefore n-1 = 4$

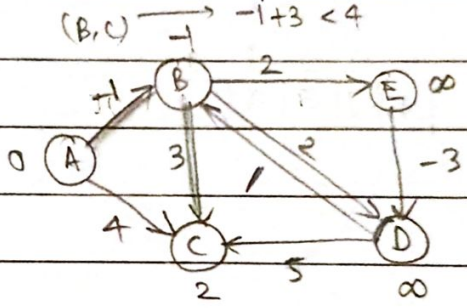
Edges: (A,B), (A,C), (B,C), (B,D), (B,E), (D,B), ~~(E,D)~~ (D,C), (E,D)

(ii) i=1

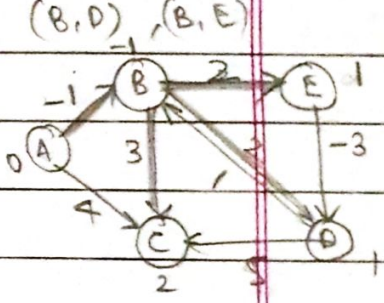


(A,B), (A,C)

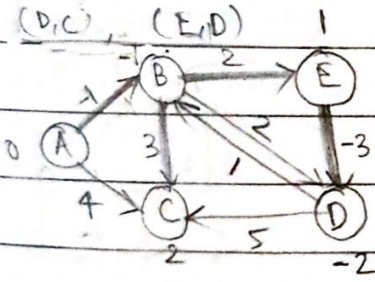
(B,C) → -1+3 < 4



(B,D), (B,E)



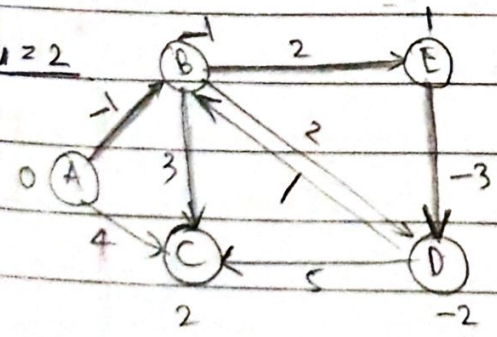
(D,C), (E,D)



1+-3 < 1

	A	B	C	D	E
Π	-	A	B	E	B

i = 2



(A,B): -1 → no change

(A,C): 0+4 > 2 → no change

(B,C) ~~:~~ -1+3 < 2 → "

(B,D): -1+2 > -2 → "

(B,E): -1+2 < 1 → "

(D,B): -2+1 < -1 ∴ no change

(D,C): -2+5 > 2 ∴ "

(E,D): 1-3 < -2 ∴ "

	A	B	C	D	E
Π	-	A	B	E	B

Even if we continue till 4th iteration, no more new updates will be there to be made.