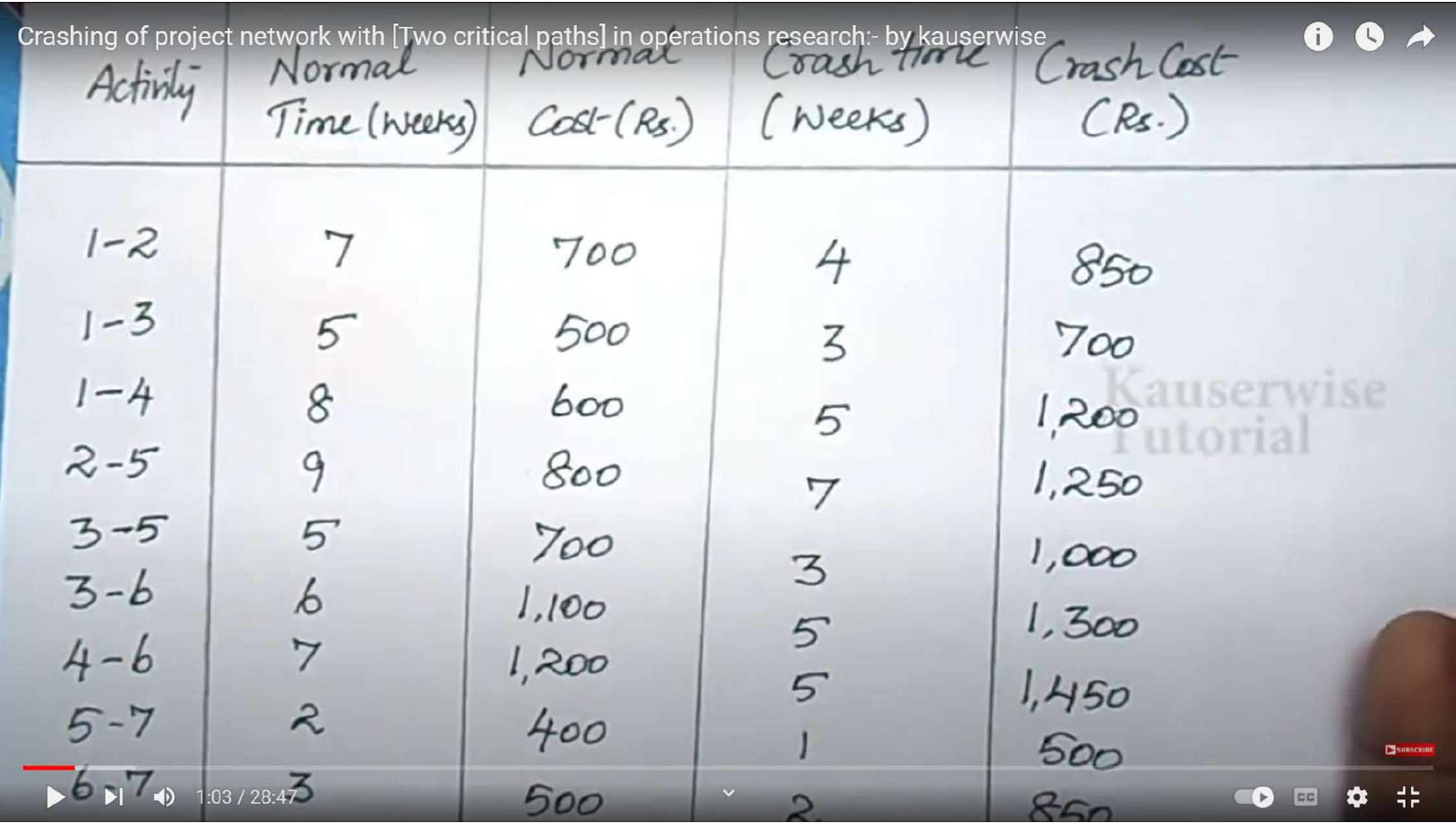
Crashing of project network with [Two critical paths] in operations research:- by kauserwise
Activity
Normal Time (weeks)
Normal Cost (Rs.)
Crash time (Weeks)
Crash Cost (Rs.)
1-2 7 700 4 850
1-3 5 500 3 700
1-4 8 600 5 1,200
2-5 9 800 7 1,250
3-5 5 700 3 1,000
3-6 6 1,100 5 1,300
4-6 7 1,200 5 1,450
5-7 2 400 1 500
6-7 3 500 2 850
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1:03 / 28:47

Crashing of project network with [Two critical paths] in operations research:- by kauserwise

1-4	8	600	5	1,200
2-5	9	800	7	1,250
3-5	5	700	3	1,000
3-6	6	1,100	5	1,300
4-6	7	1,200	5	1,450
5-7	2	400	1	500
6-7	3	500	2	850

If the Indirect Cost per week is Rs. 200, find the optimal Crashed Project Completion time.

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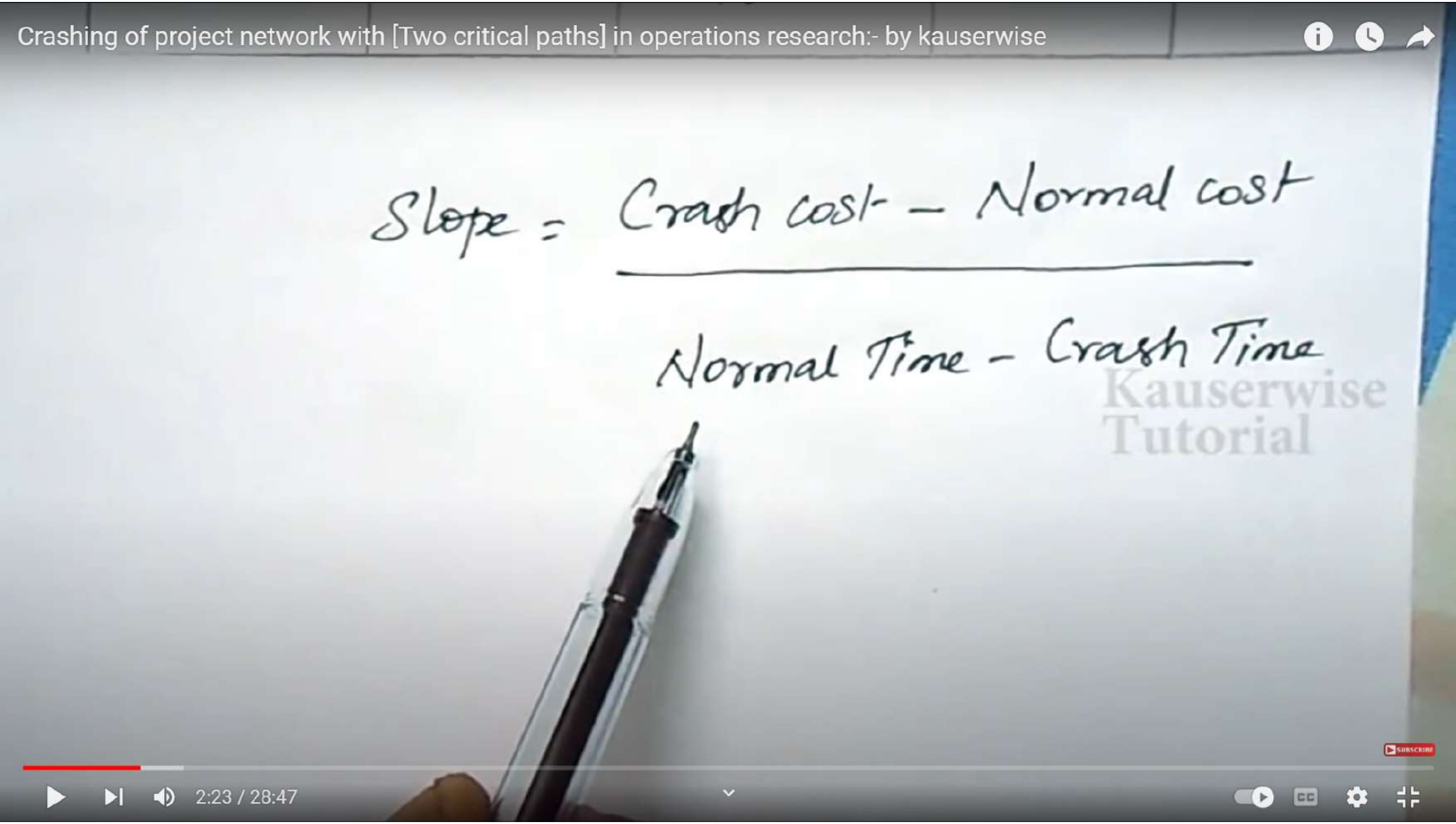
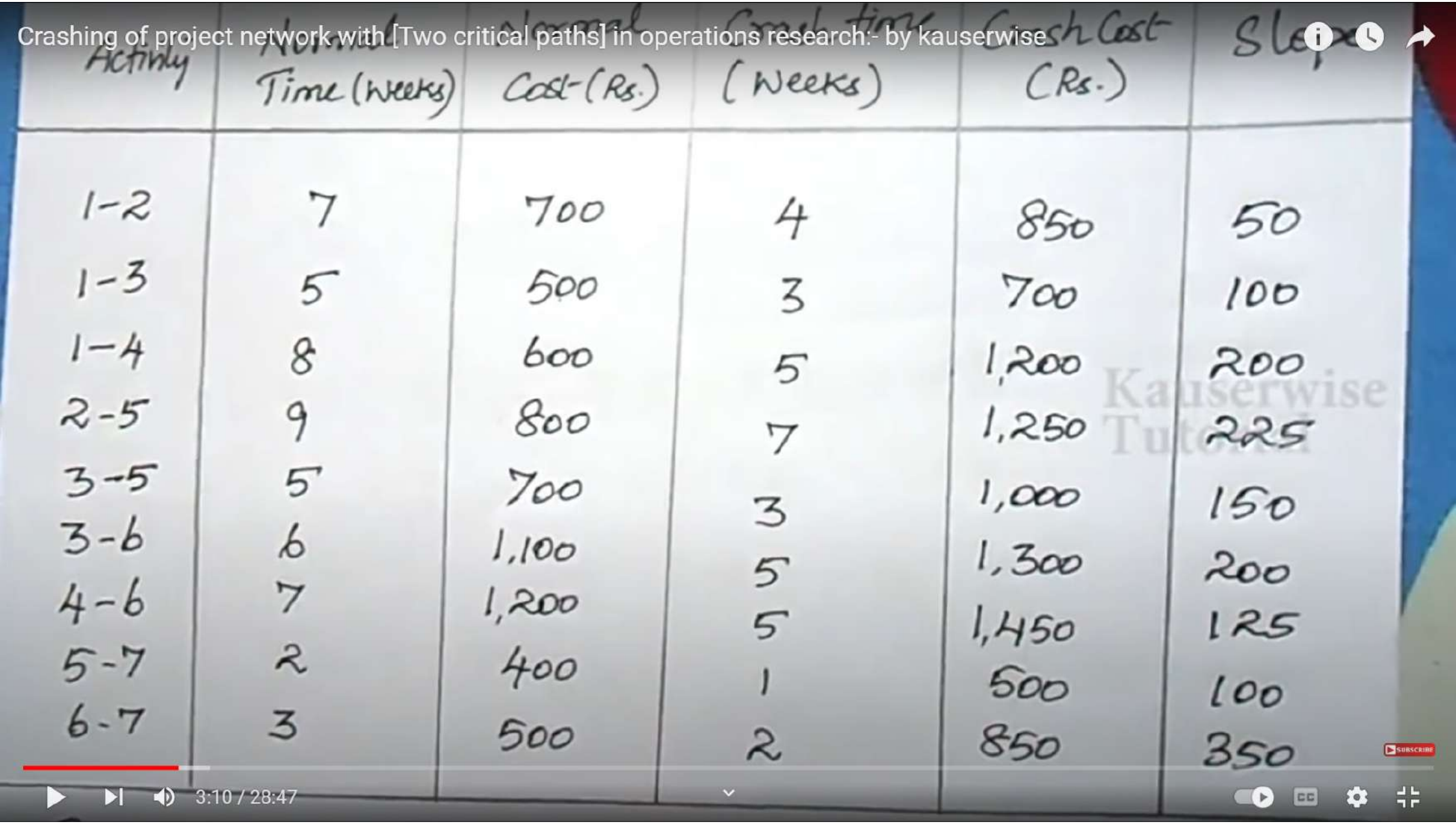

Crashing of project network with [Two critical paths] in operations research:- by kauserwise
Slope = Crash cost - Normal cost
Normal Time - Crash Time
Kauserwise
Tutorial
2:23 / 28:47


Crashing of project network with [Two critical paths] in operations research:- by kauserwise
Activity
Normal Time (weeks)
Normal Cost (Rs.)
Crash time (weeks)
Crash Cost (Rs.)
Slope
1-2 7 700 4 850 50
1-3 5 500 3 700 100
1-4 8 600 5 1,200 200
2-5 9 800 7 1,250 225
3-5 5 700 3 1,000 150
3-6 6 1,100 5 1,300 200
4-6 7 1,200 5 1,450 125
5-7 2 400 1 500 100
6-7 3 500 2 850 350
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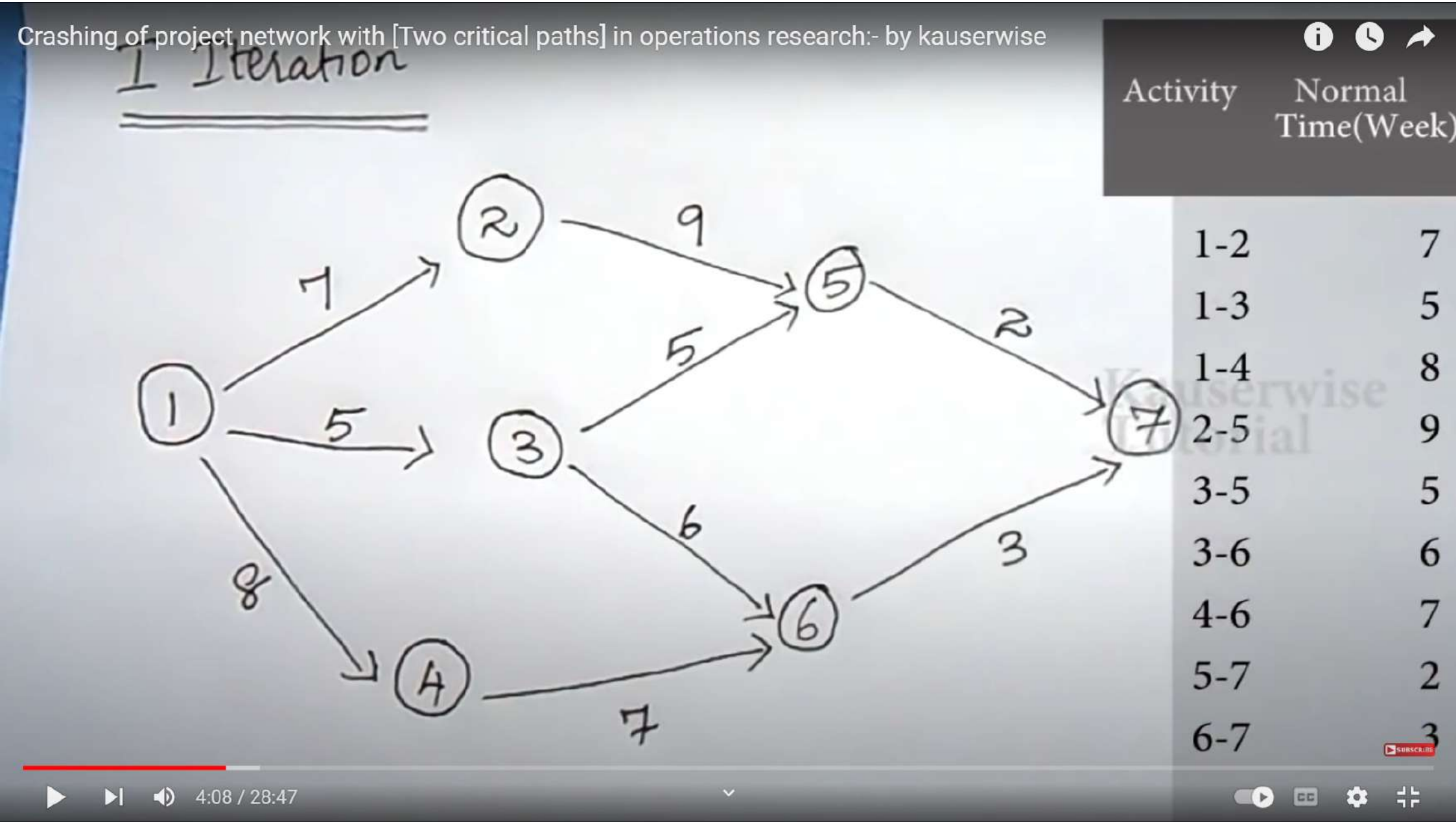
Crashing of project network with [Two critical paths] in operations research:- by kauserwise



Crashing of project network with [Two critical paths] in operations research:- by kauserwise

1-2-5-7 = 7+9+2 = (18) Critical path

1-3-5-7 = 5+5+2 = 12

1-3-6-7 = 5+6+3 = 14

1-4-6-7 = 8+7+3 = (18) Critical path.

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Normal Project Comp. time, 18 weeks

Critical path.

1-2-5-7

and

1-4-6-7

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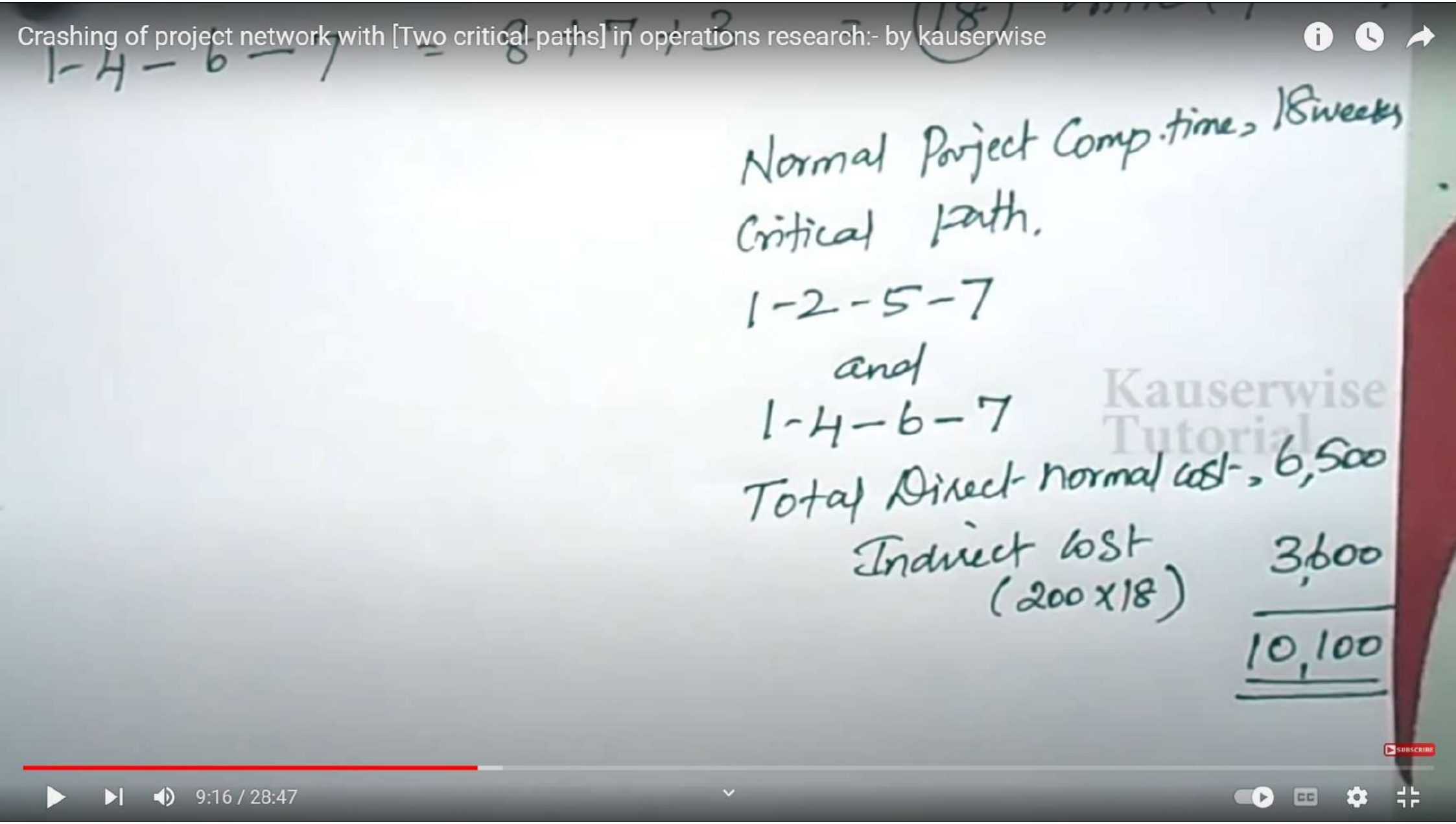
Crashing of project network with [Two critical paths] in operations research:- by kauserwise
1-4-6-7 = 8+7+3 = (18)
Normal Porject Comp. time, 18weeks
Critical path.
1-2-5-7
and
1-4-6-7
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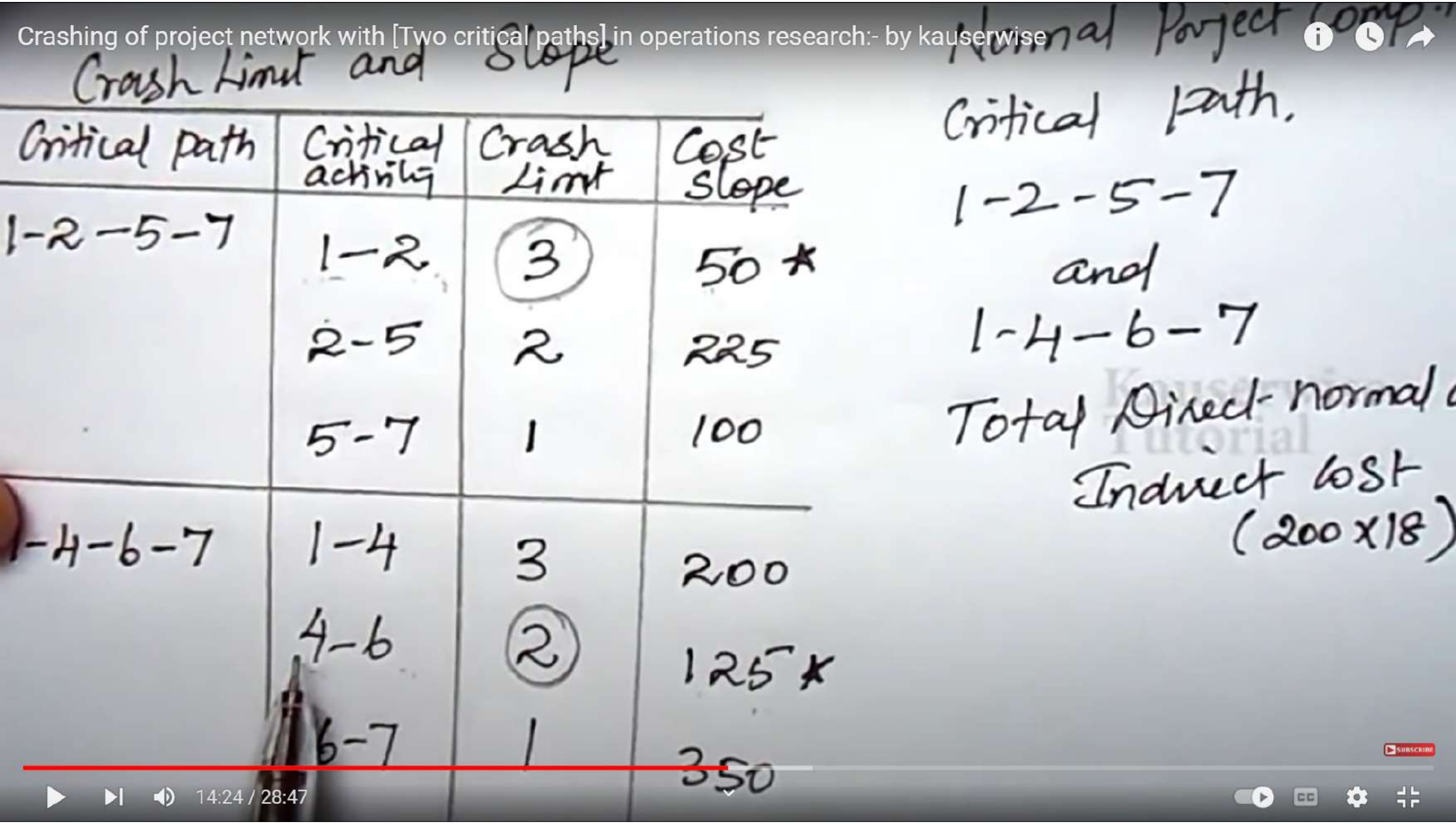
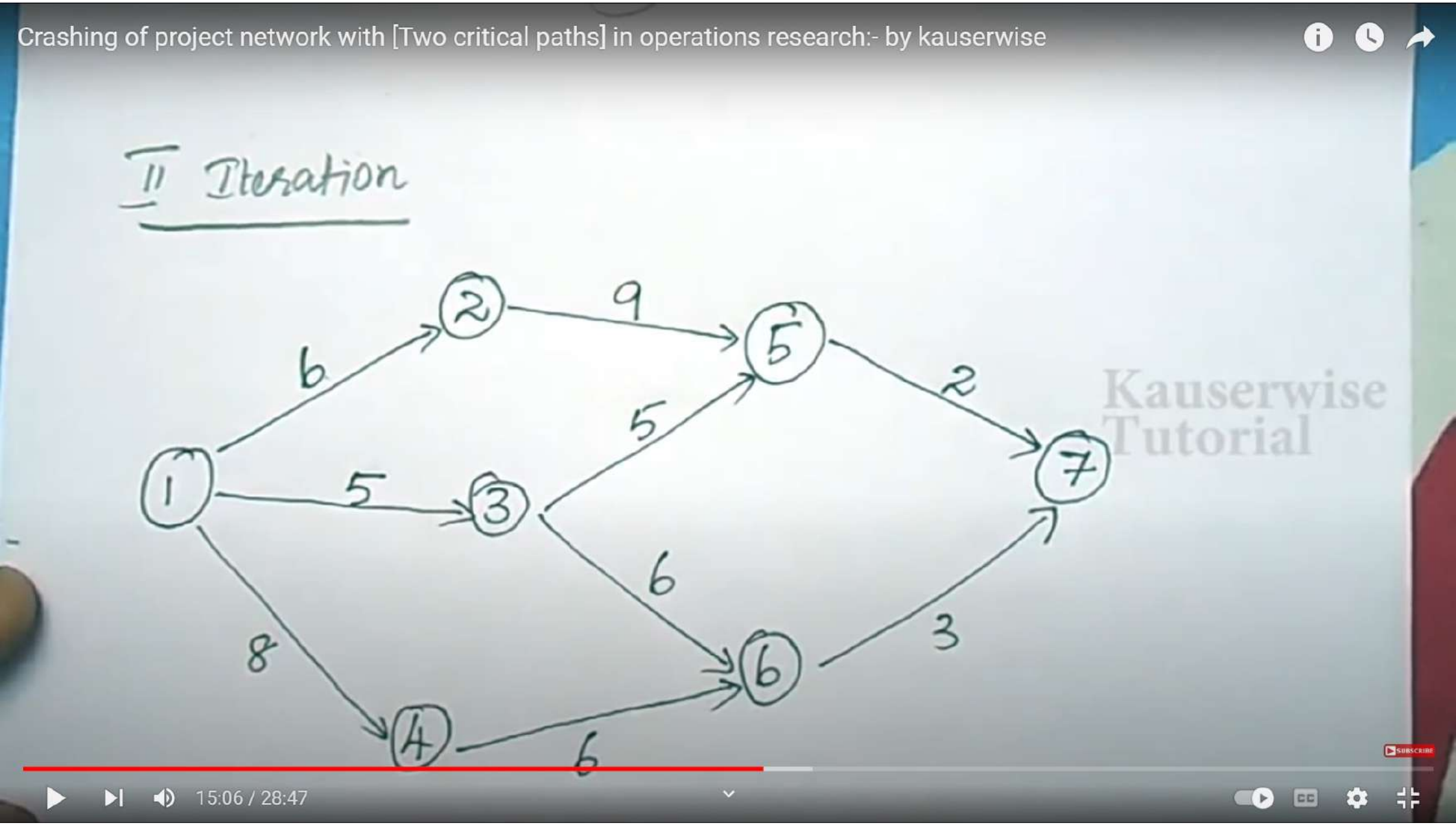
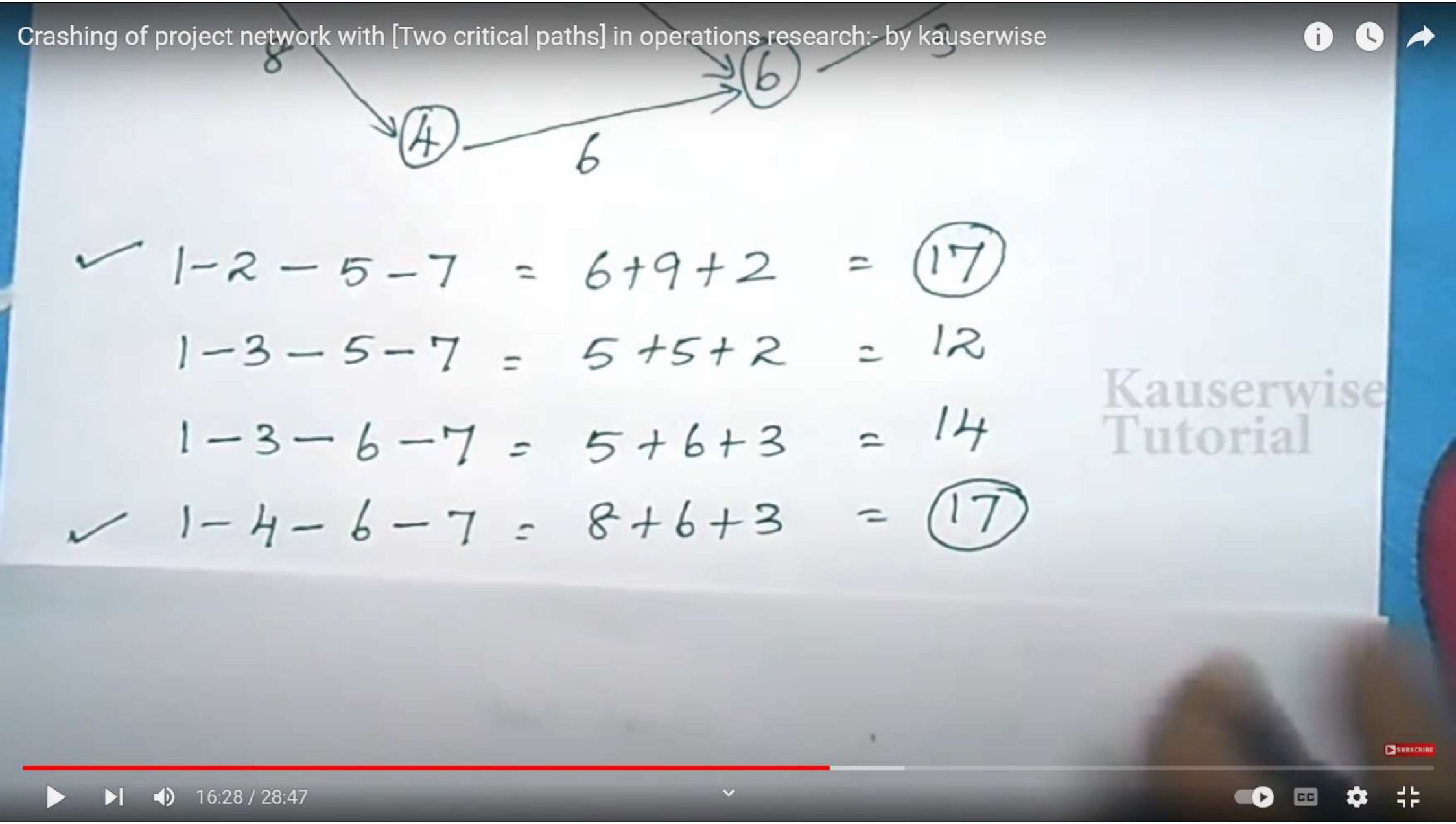
Total Direct normal cost- 6,500
Indirect cost (200 x 18) 3,600
10,100
9:16 / 28:47


Crashing of project network with [Two critical paths] in operations research:- by kauserwise
Crash Limit and Slope
Critical path
Critical activity
Crash Limit
Cost Slope
1-2-5-7
1-2
3
50 *
2-5
2
225
5-7
1
100
1-4-6-7
1-4
3
200
4-6
2
125 *
6-7
1
350
Normal Porject Comp
Critical Path.
1-2-5-7
and
1-4-6-7
Total Direct- normal
Indirect cost
(200 x 18)
14:24 / 28:47

Crashing of project network with [Two critical paths] in operations research:- by kauserwise



Crashing of project network with [Two critical paths] in operations research:- by kauserwise



✓ 1-2-5-7 = 6+9+2 = (17)

1-3-5-7 = 5+5+2 = 12

1-3-6-7 = 5+6+3 = 14

✓ 1-4-6-7 = 8+6+3 = (17)

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Proj. Comp. time = 17 weeks

1-2-5-7

and

1-4-6-7

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$10,100 + [50+125] - 200$

T. cost = 10,075

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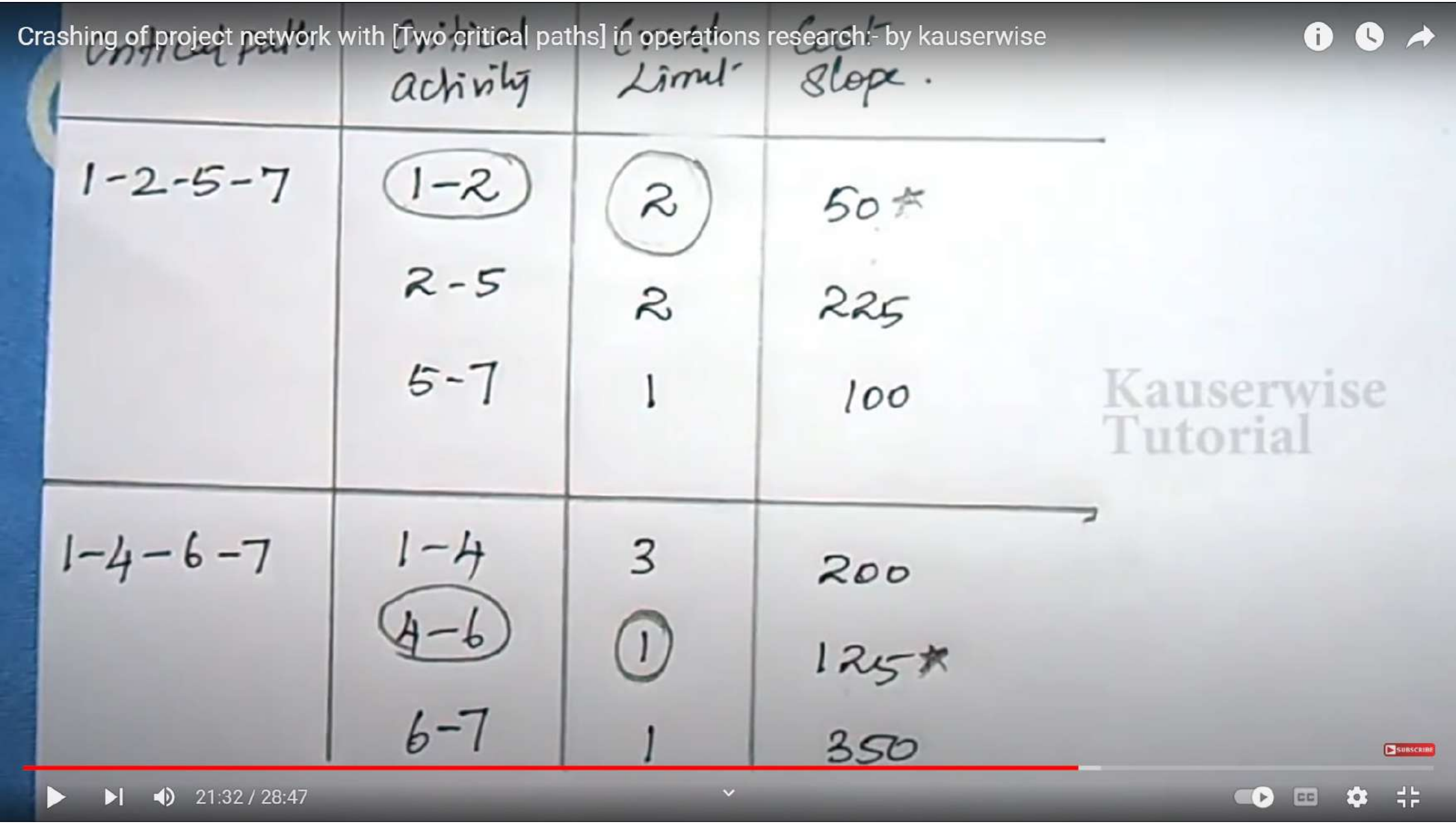
Crashing of project network with [Two critical paths] in operations research:- by kauserwise
Critical path
Critical activity
Limit
Cost Slope.
1-2-5-7
1-2
2
50*
2-5
2
225
5-7
1
100
1-4-6-7
1-4
3
200
4-6
1
125*
6-7
1
350
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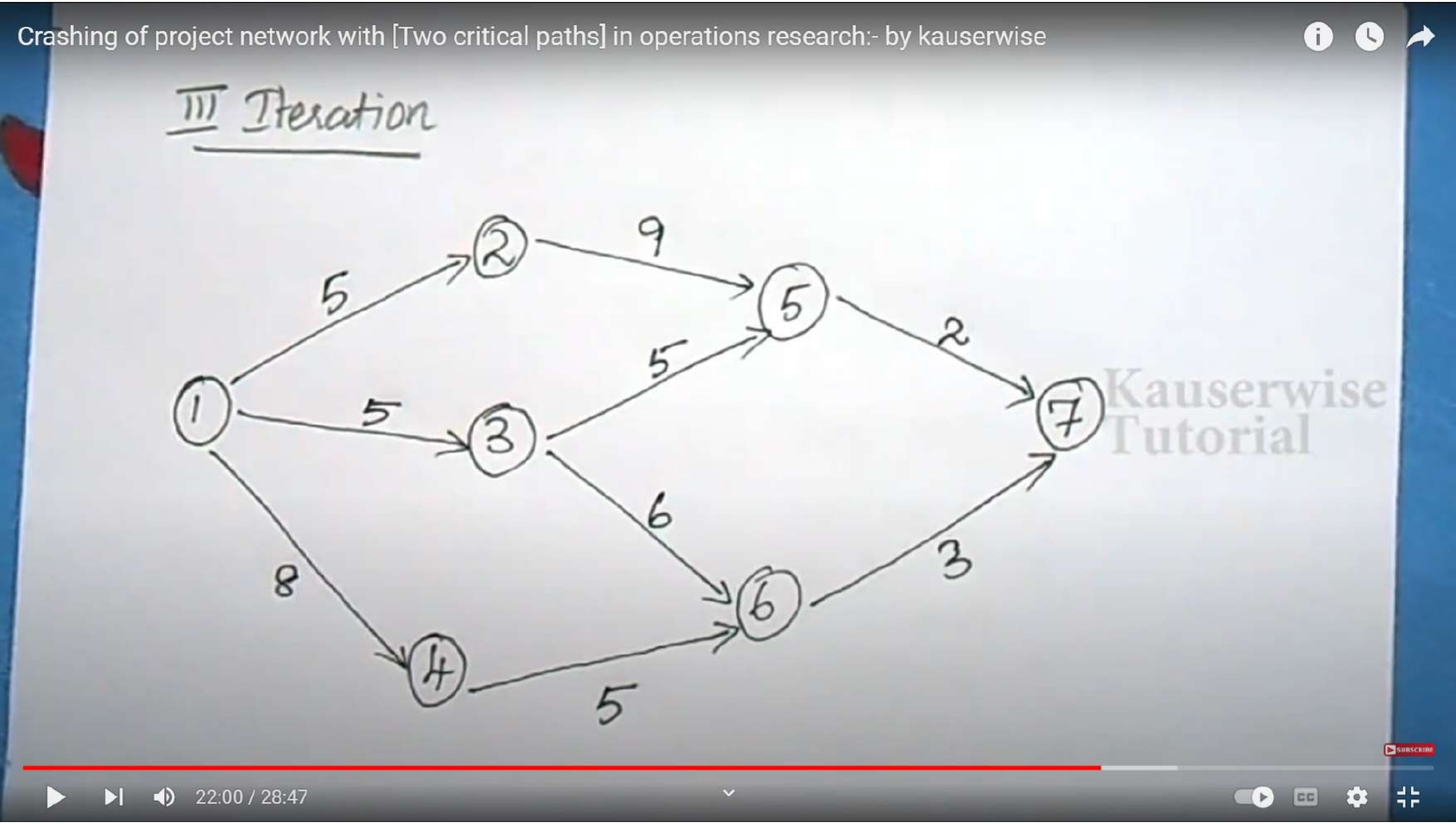
Crashing of project network with [Two critical paths] in operations research:- by kauserwise



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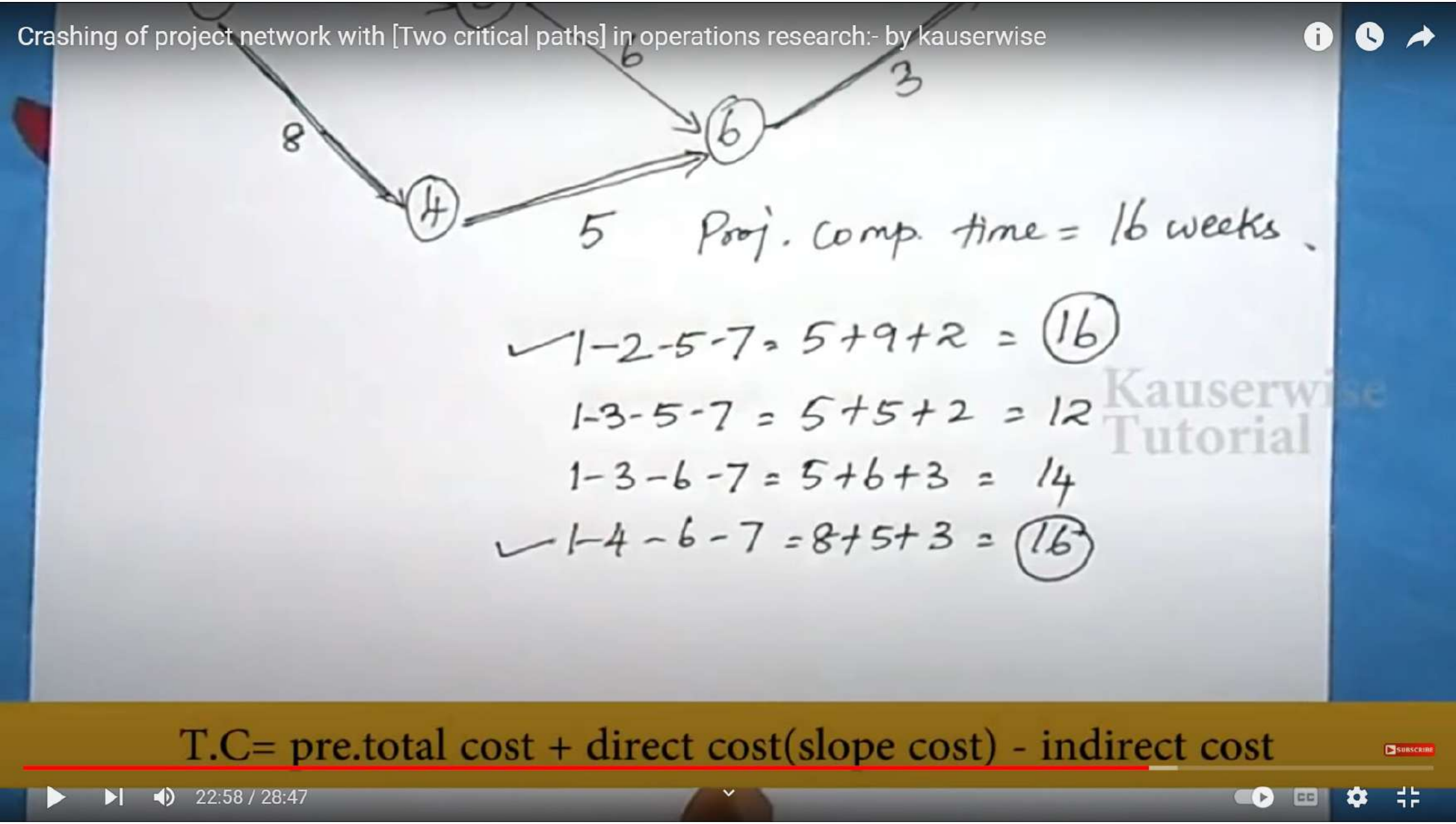
Crashing of project network with [Two critical paths] in operations research:- by kauserwise



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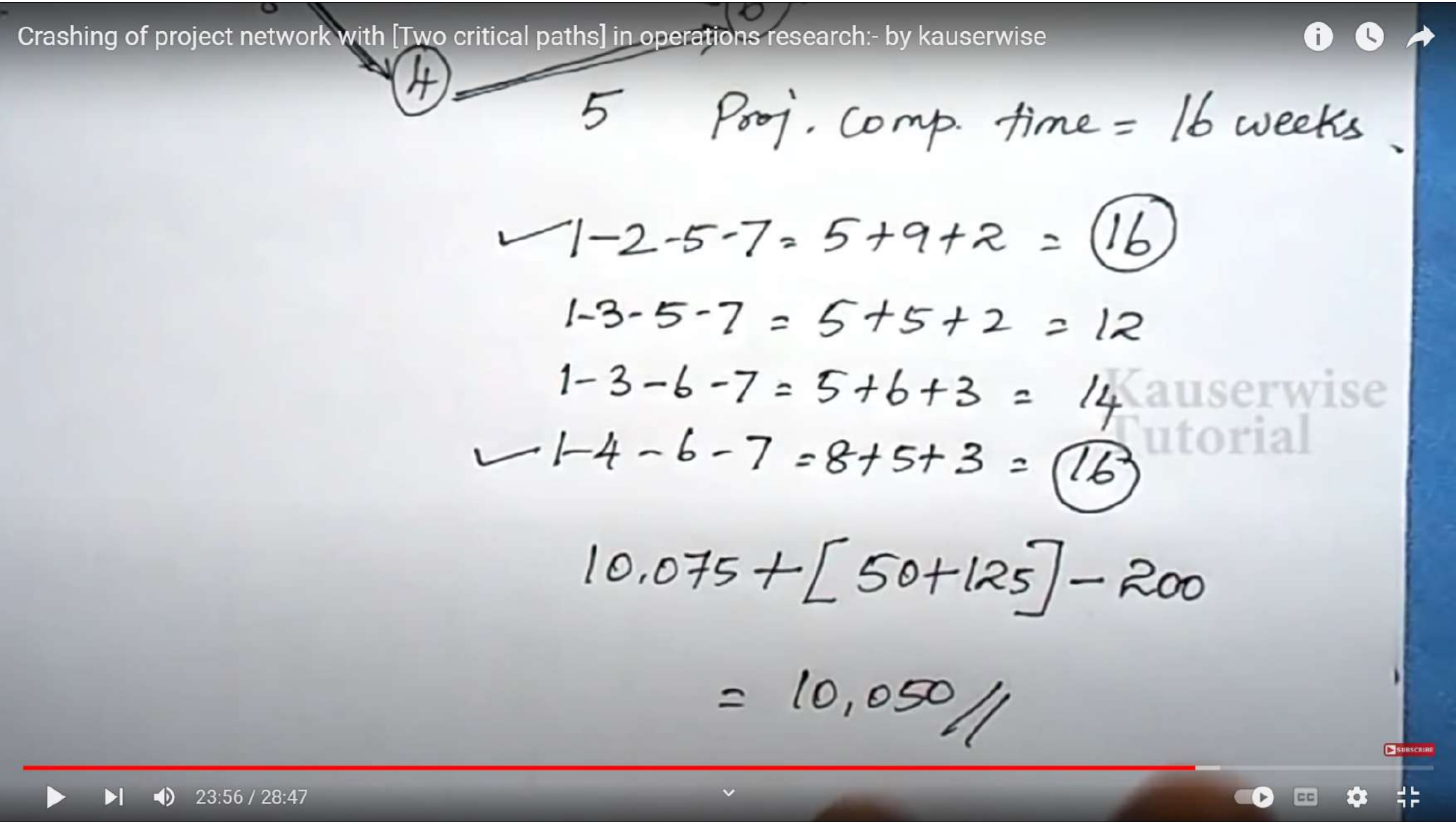
Crashing of project network with [Two critical paths] in operations research:- by kauserwise
4
5
Proj. comp. time = 16 weeks
1-2-5-7 = 5+9+2 = 16
1-3-5-7 = 5+5+2 = 12
1-3-6-7 = 5+6+3 = 14
1-4-6-7 = 8+5+3 = 16
10,075 + [50+125] - 200
= 10,050 //
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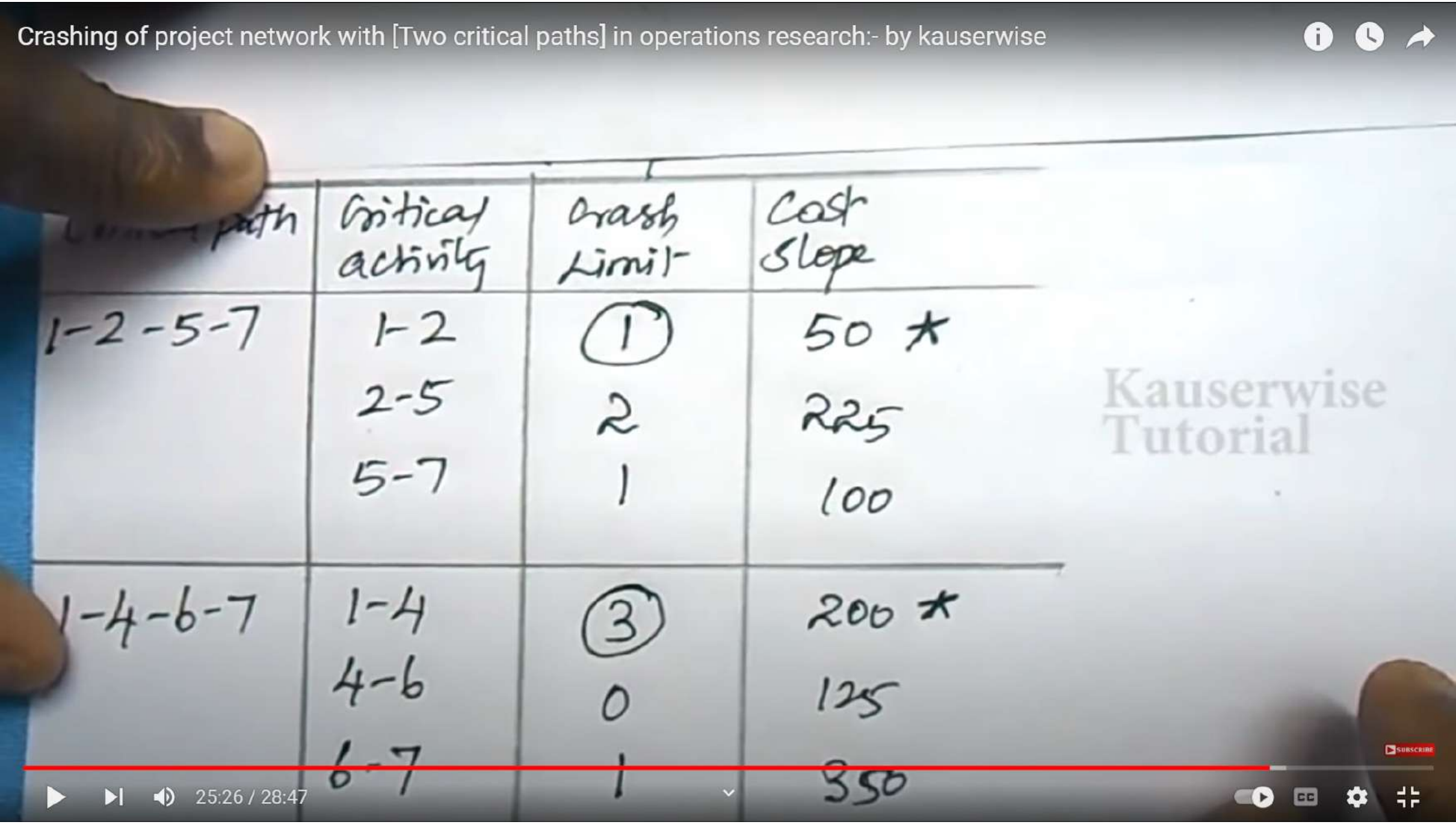
Crashing of project network with [Two critical paths] in operations research:- by kauserwise
Critical activity
Crash Limit-
Cost Slope
1-2-5-7
1-2
2-5
5-7
1
2
1
50 *
225
100
1-4-6-7
1-4
4-6
6-7
3
0
1
200 *
125
350
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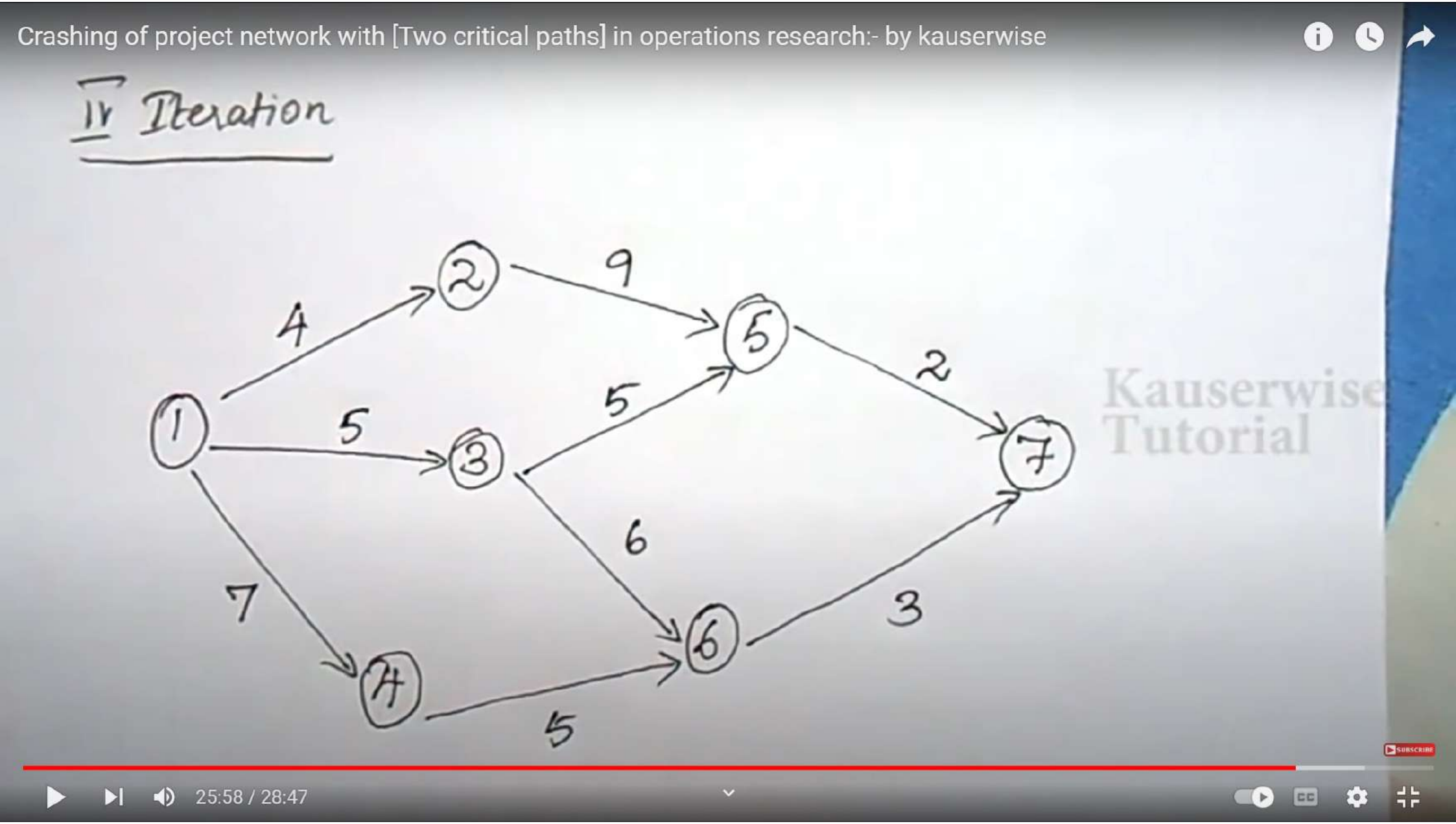
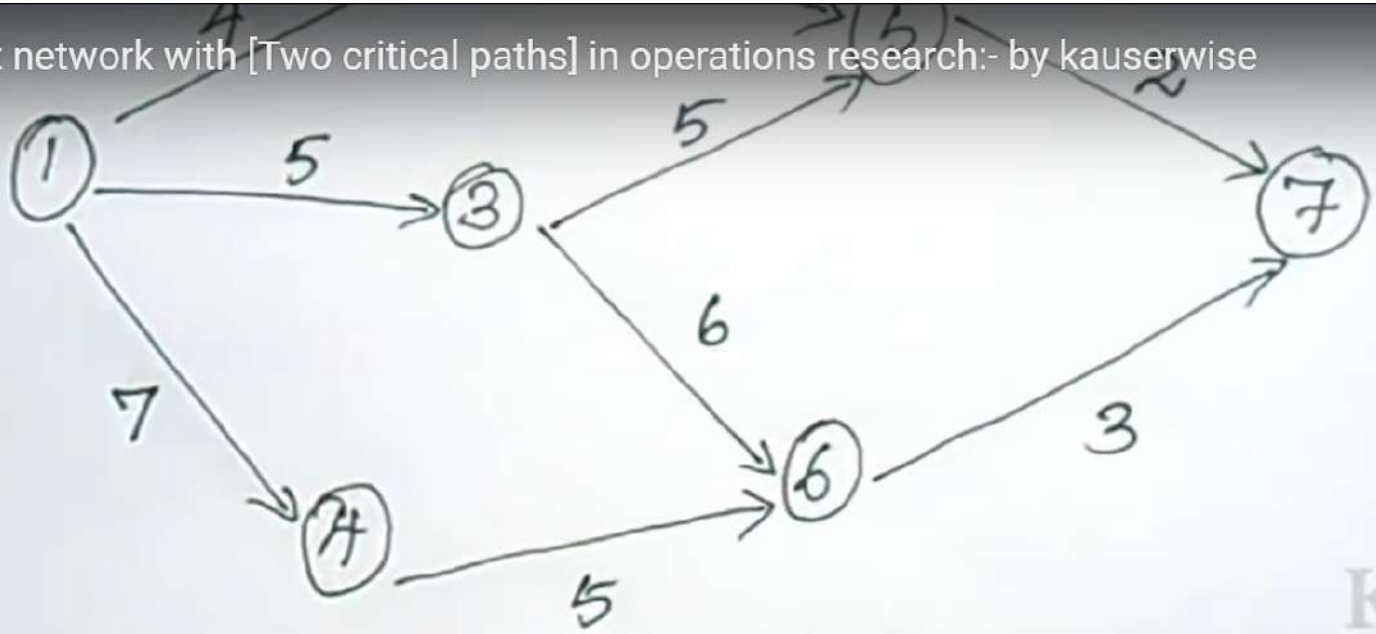
Crashing of project network with [Two critical paths] in operations research:- by kauserwise



Crashing of project network with [Two critical paths] in operations research:- by kauserwise



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1-2-5-7 = 4+9+2 = 15

1-3-5-7 = 5+5+2 = 12

1-3-6-7 = 5+6+3 = 14

1-4-6-7 = 7+5+3 = 15

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1-3-5-7 = 5+5+2 = 12

1-3-6-7 = 5+6+3 = 14

1-4-6-7 = 7+5+3 = 15

Proj. comp. time = 15 weeks.

1-2-5-7 and 1-4-6-7

10,050 + 250 − 200

= 10,100

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Proj. Comp. time = 15 weeks

1-2-5-7 and 1-4-6-7

10,050 + 250 − 200

= 10,100

Final Result:

Since the total cost of the iteration (IV) is more than that of the previous iteration Stop the procedure and treat the Solution of the previous iteration (III) as the best Solution for implementation.

The final Crashed project Completion time is 16 weeks.

Corresponding Critical paths 1-2-5-7 and

1-4-6-7

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