

NPTEL

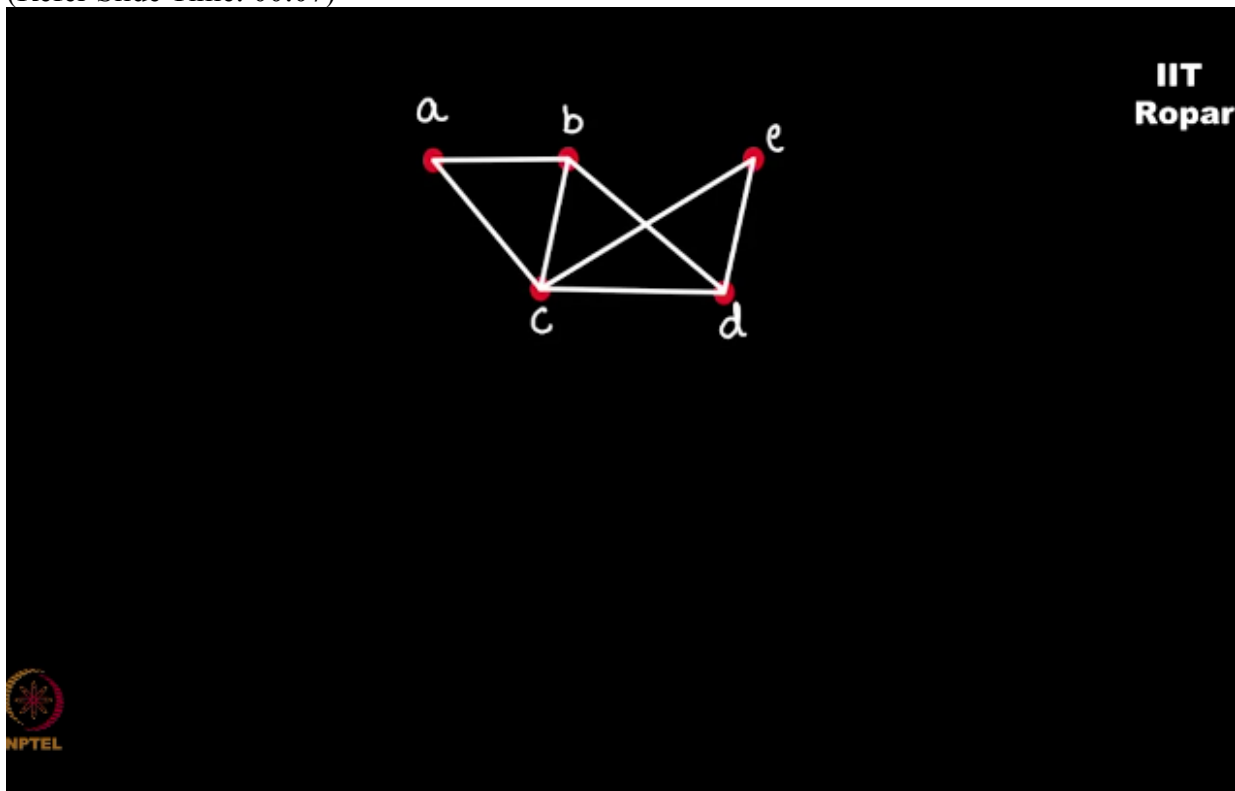
NPTEL ONLINE CERTIFICATION COURSE

Discrete Mathematics
Graph Theory - 1

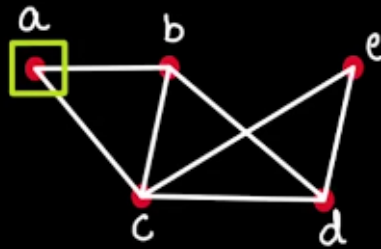
Examples of cycle and circuit

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Let us take this graph as an example
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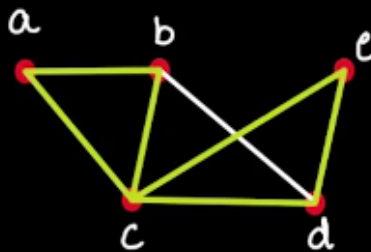
and find out a circuit which starts at A and ends at A,
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Find a circuit which starts at **a**
and ends at **a**.



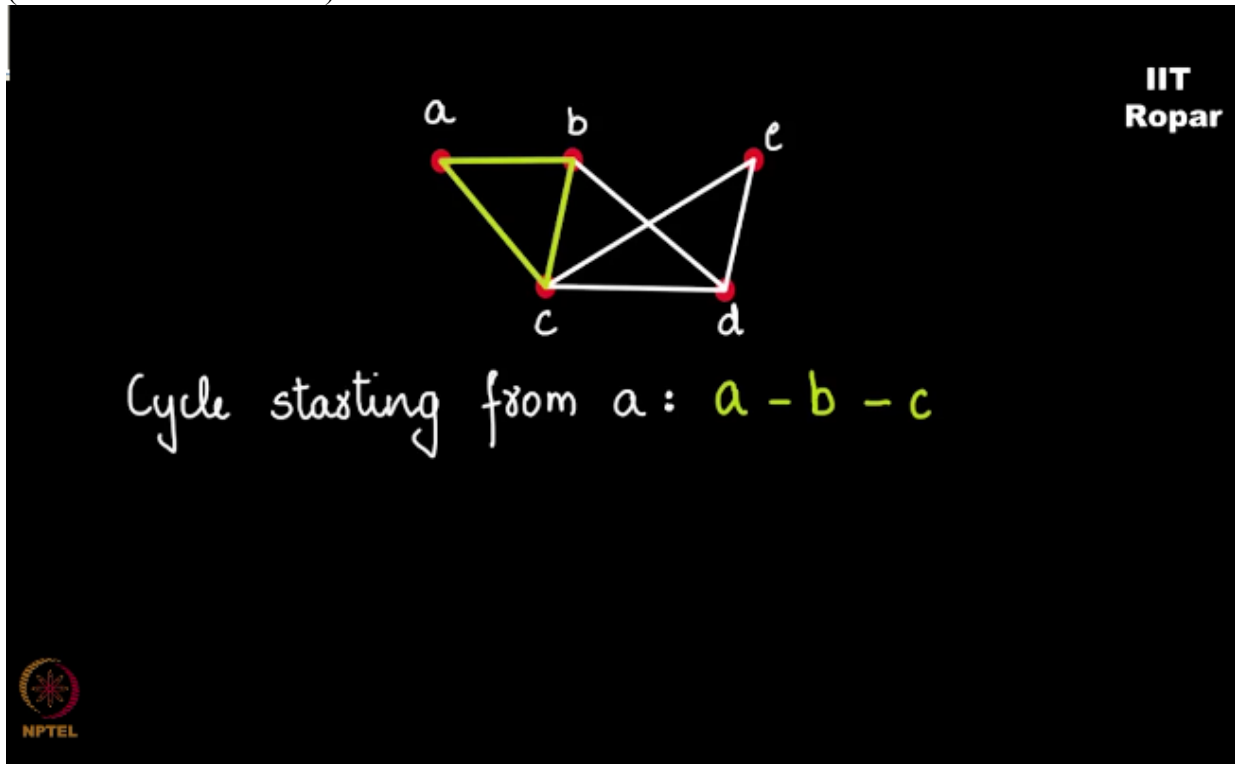
let me write that down A, B, C, D, E, C and A
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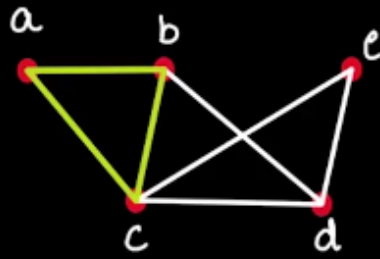
a - b - c - d - e - c - a



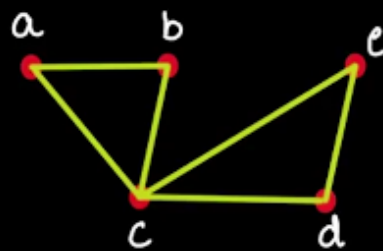
well this is a circuit, now can we think of an example of a cycle starting from A and coming back to A, so it's going to be A, B, C,
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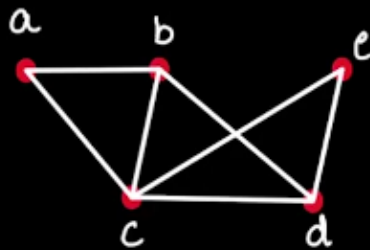
did you observe something? This is a part of the circuit,
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Cycle starting from a: $a-b-c-a$



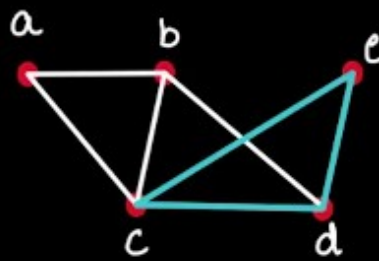
right, right, if you consider a cycle starting and C and coming back to C,
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Cycle starting from c:

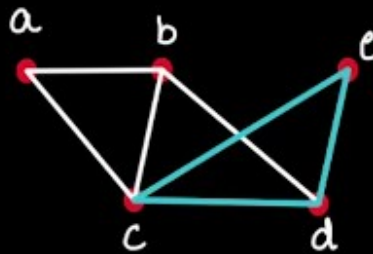


it is going to be something like one of the cycle is something like this, C, D, E, and again coming back to C,
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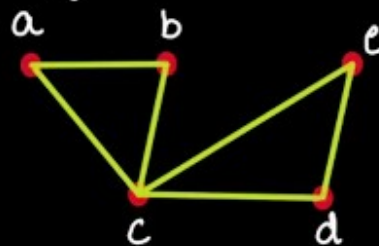


Cycle starting from c: $c-d-e-c$

well, this is also a part of this circuit
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Cycle starting from c: $c-d-e-c$



so as I've told you a cycle can be a part of a circuit, but a circuit cannot be a part of cycle.

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