NPTEL

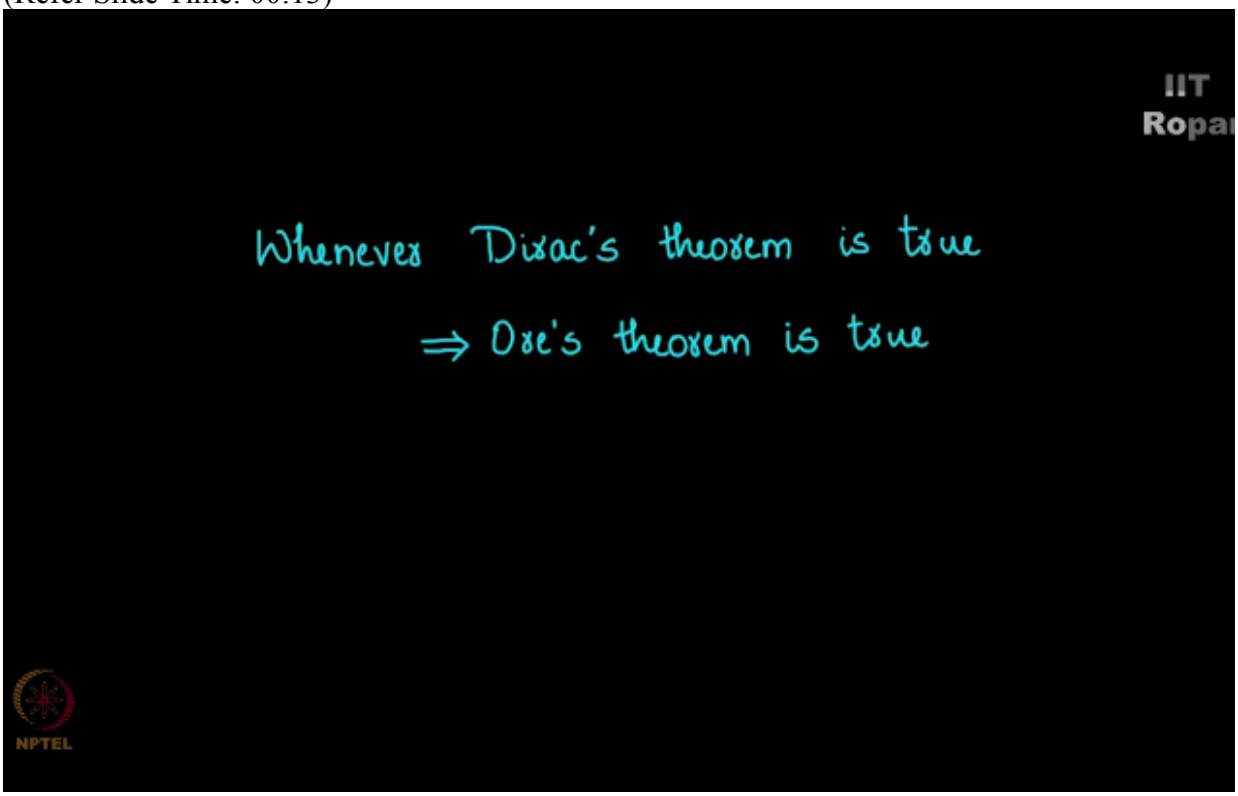
NPTEL ONLINE CERTIFICATION COURSE

Discrete Mathematics
Graph Theory - 2

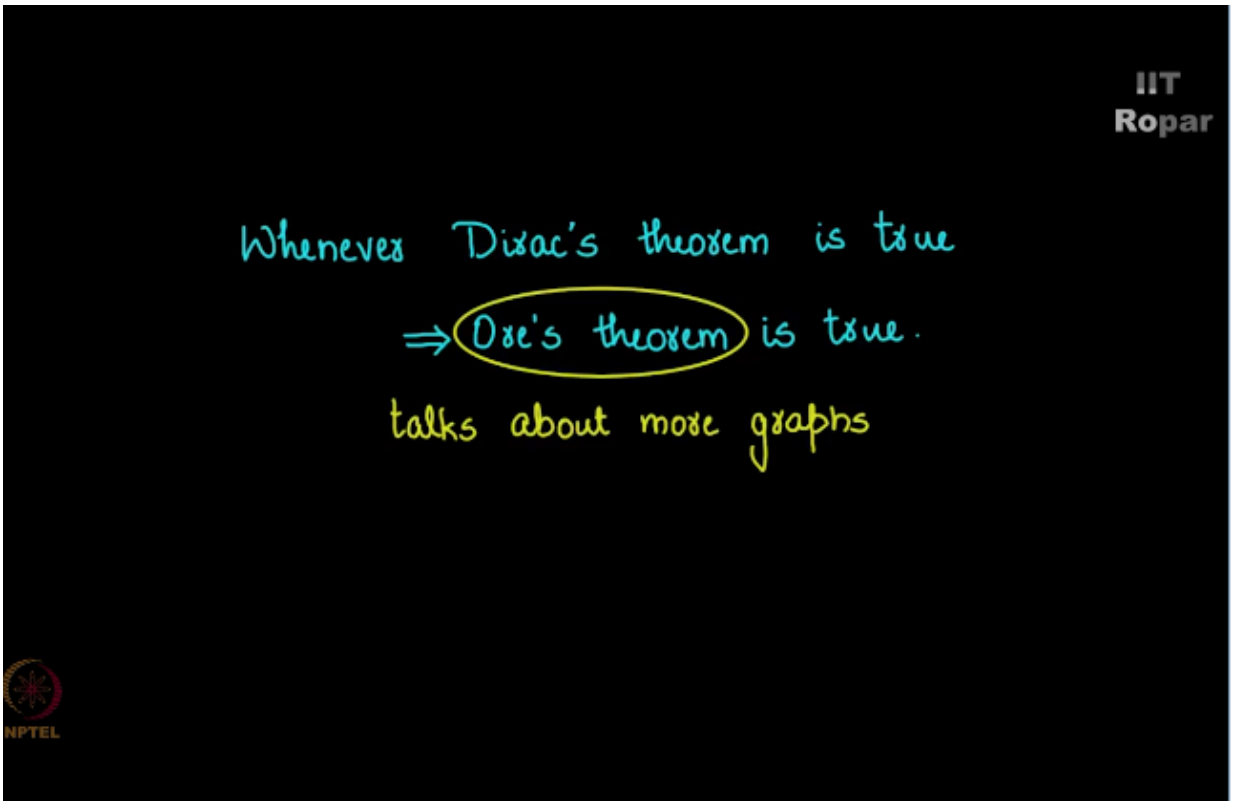
Dirac's Theorem v/s Ore's Theorem

By
Prof. S.R.S Iyengar
Department of Computer Science
IIT Ropar

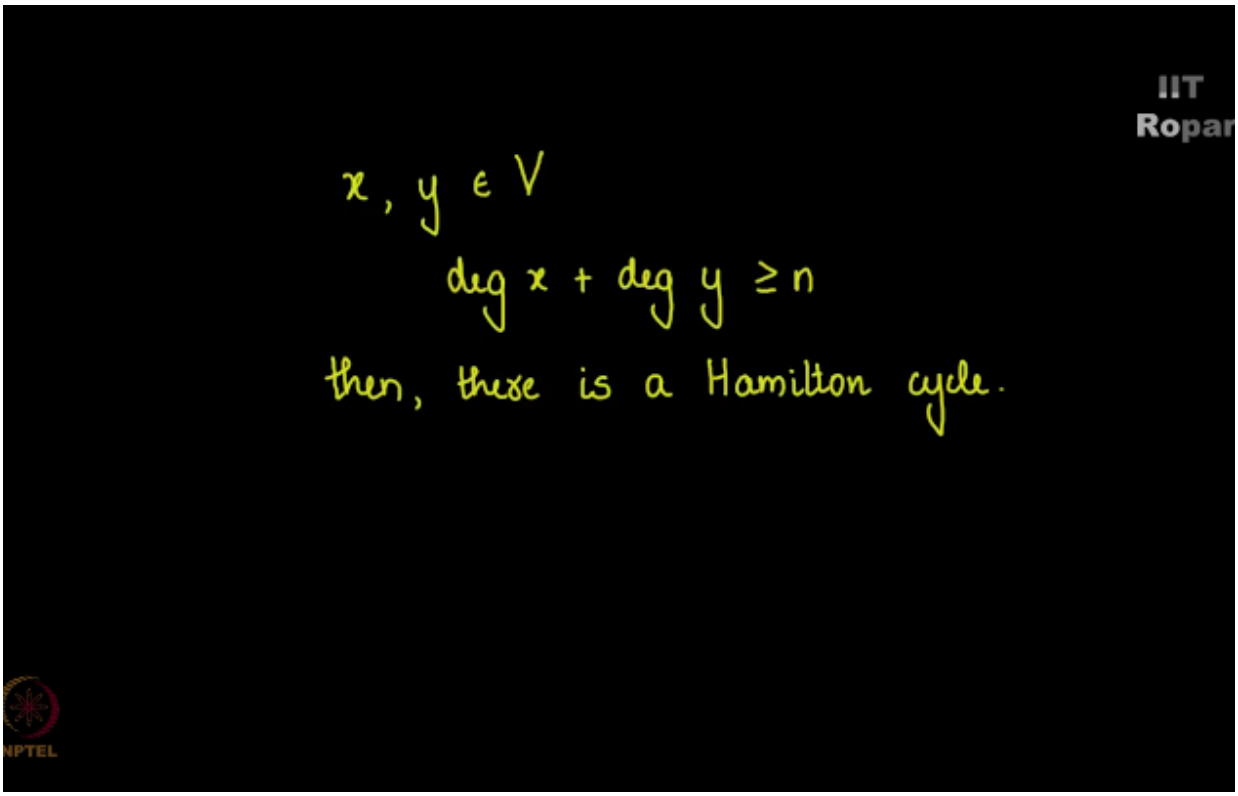
Look at the Ore's theorem, whenever Dirac's theorem statement is true, Ore's theorem statement is indeed true,
(Refer Slide Time: 00:13)



which means graphs that satisfy the requirement of Dirac's theorem, obviously satisfies the requirement of Ore's theorem as well, but not vice-versa, by that I mean Ore's theorem talks about more graphs than what the Dirac's theorem talks about, think about it, correct.
(Refer Slide Time: 00:34)



Now what is Ore's theorem state? It says take any pair of vertices, if the sum of the degrees is greater than or equal to n, then there is a Hamilton cycle, correct,
(Refer Slide Time: 00:48)



The proof of Ore's theorem goes exactly on the lines of Dirac's theorem, I leave it to you all to think about it and look up if possible, right, so we will not be discussing the proof of Ore's theorem, it is left as an exercise for you people, in case you don't understand kindly get back to us over email and we will send you some reference, but trust me on this Ore's theorem is on almost in the same lines as Dirac's theorem, and it can be seen as an exercise problem if one understands the proof of the Dirac's theorem.

IIT MADRAS PRODUCTION

Founded by
Department of Higher Education
Ministry of Human Resources Development
Government of India

www.nptel.iitm.ac.in