

NPTEL

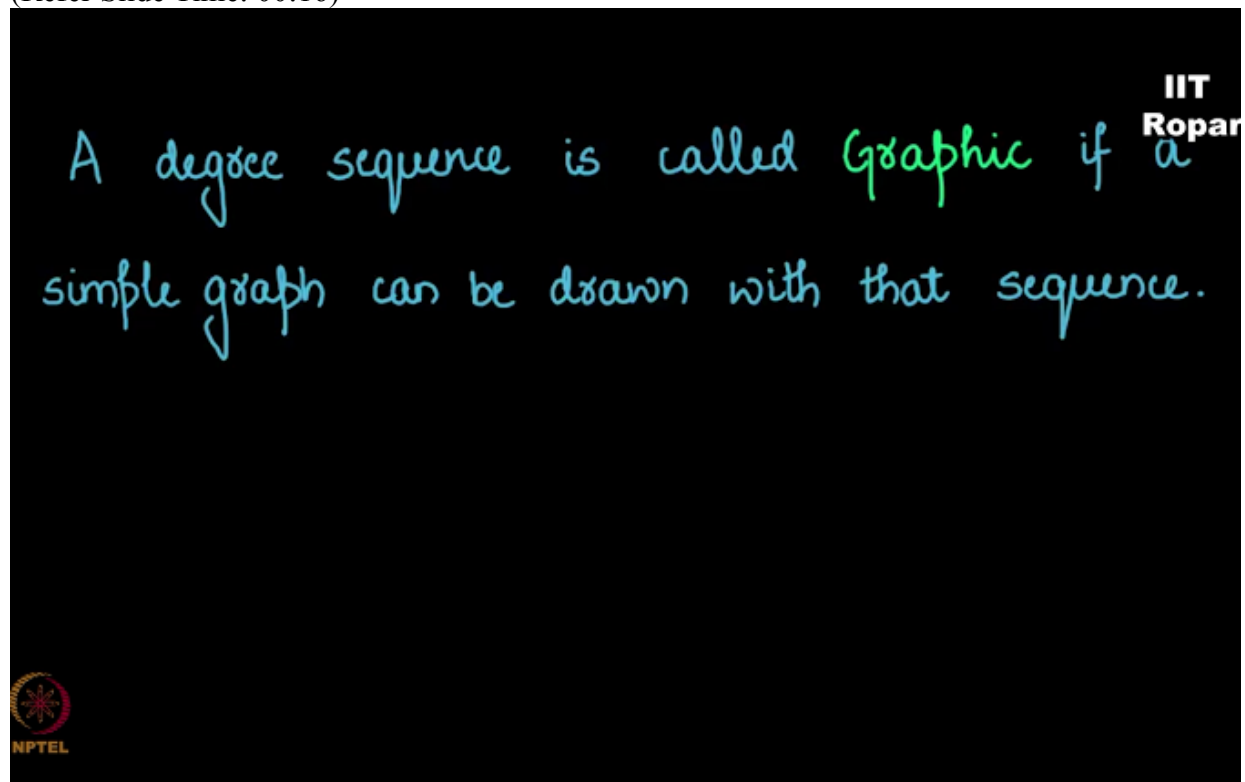
NPTEL ONLINE CERTIFICATION COURSE

Discrete Mathematics  
Graph Theory - 1

Havel Hakimi theorem - Part 4

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

If you are given a degree sequence it is called as graphic, if you can draw a simple graph  $G$  with that particular sequence,  
(Refer Slide Time: 00:16)



like the one which we just did now, 5, 5, 3, 3, 2, 2, 2, now this is a graphic sequence, 2, 2, 2, just 2, 2, 2, this is also a graphic sequence, why?  
(Refer Slide Time: 00:29)

A degree sequence is called Graphic if a simple graph can be drawn with that sequence.

$\langle 5, 5, 3, 3, 2, 2, 2 \rangle$  – Graphic sequence

$\langle 2, 2, 2 \rangle$  – Graphic sequence



Because I can draw a graph, a simple graph on this sequence  
(Refer Slide Time: 00:34)

A degree sequence is called Graphic if a simple graph can be drawn with that sequence.

$\langle 5, 5, 3, 3, 2, 2, 2 \rangle$  – Graphic sequence

$\langle 2, 2, 2 \rangle$  – Graphic sequence



so a sequence on which a graph can be drawn is called as a graphic sequence, keep this definition in mind, it will be helpful for the further videos.

**IIT MADRAS PRODUCTION**

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

[www.nptel.iitm.ac.in](http://www.nptel.iitm.ac.in)

**Copyrights Reserved**