



**Innovative Teaching Practice: NPTEL Videos**

Faculty Name	P.ASHOK KUMAR
Course Name	Compiler Design
Academic Year	2023-24
Class	III/II SEM
Topic	Flow Graphs, Loop Optimization

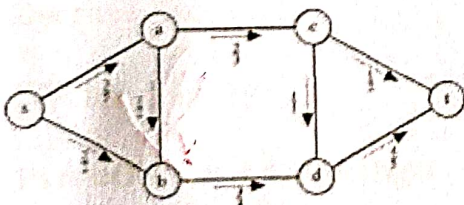
**Objective of the Activity:**

NPTEL (National Programme on Technology Enhanced Learning) offers a vast library of free online courses, primarily in engineering and science, accessible through video lectures, slides, and supplementary materials, with the option for optional certification exams. NPTEL are online courses that are open to a large number of participants. They are often provided by universities or educational platforms and cover a wide range of subjects. These courses can include video lectures, readings, assessments, and discussion forums.

NPTEL is an acronym for National Programme on Technology Enhanced Learning which is an initiative by seven Indian Institutes of Technology (IIT Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and Indian Institute of Science (IISc) for creating course contents in engineering and science. NPTEL provides E-learning through online Web and Video courses in Engineering, Science and Humanities streams.

**In-Class Activity:**

What is flow in a graph?

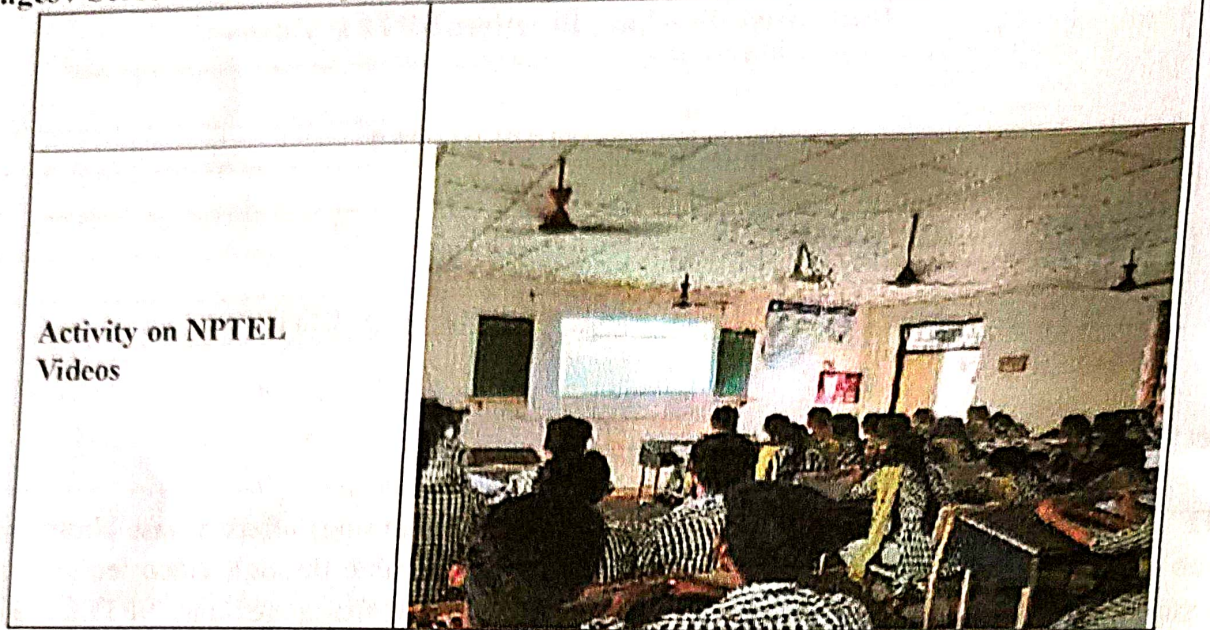


In graph theory, a flow network (also known as a transportation network) is a directed graph where each edge has a capacity and each edge receives a flow. The amount of flow on an edge cannot exceed the capacity of the edge.

Loop optimization is a code optimization technique that focuses on improving the performance of loops in computer programs. It aims to reduce the number of operations or iterations required to complete a loop. Techniques include loop unrolling, unswitching, invariant code motion, and software pipelining.

**Time Allotted for Activity: 50 Minutes**

**Images / Screenshot of the practice**



**Benefits of NPTEL Videos:**

- NPTEL are provide students with access to content from international experts, enabling them to learn at their own speed and expand their knowledge beyond traditional classroom settings.
- Career advancement: Learners or working professionals opt for NPTEL to acquire new skills. Seeking new skills and continuous learning can be advantages for career advancement, higher salaries, professional growth, or a better job opportunity.
- NPTEL certificates offer valuable recognition of specialized skills and knowledge, enhancing career prospects and demonstrating expertise in specific domains, making them a valuable asset for students and professionals alike.

  
**Signature of Faculty Member**

  
**HOD**

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