

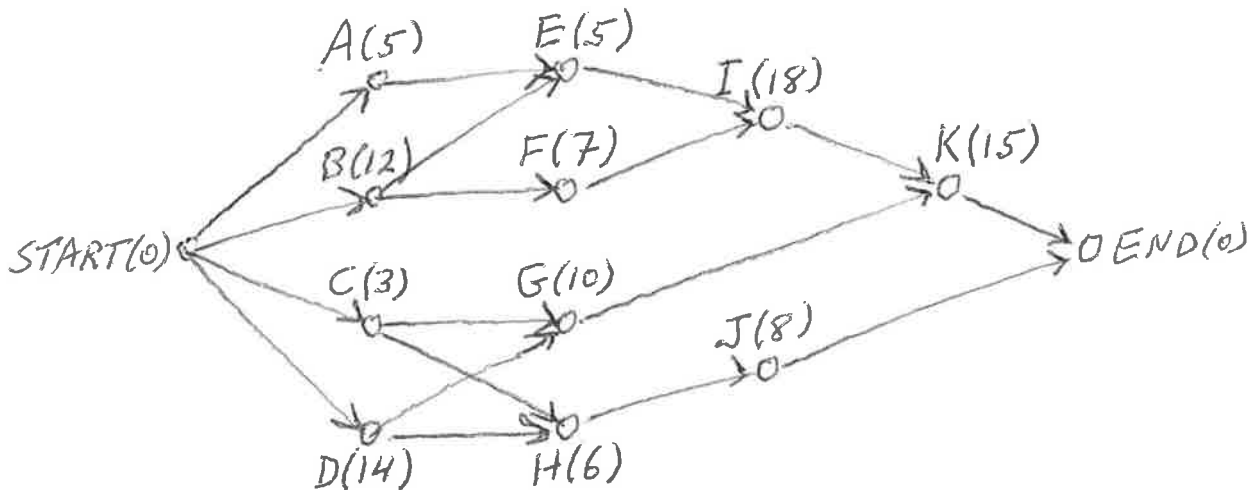
MATH 1300 - Nature of Mathematics
Spring 2014

Assignment #4

Due date: Friday, Mar 21

1. Describe what a project digraph is for a scheduling problem.
2. Describe what a critical path for a project is.
3. Consider the digraph with vertex-set $\{V, W, X, Y, Z\}$ and arc-set $\{VW, VZ, WZ, XY, XZ, YW, ZY, ZW, YV\}$.
 - a) Draw the digraph.
 - b) Find the indegree and outdegree of X .
 - c) Find the indegree and outdegree of Z .
 - d) Find a path from vertex W to vertex V .
4. p.255 #44

5. Consider the following project digraph:



- a) Use the backflow algorithm to find the critical time for each vertex.
- b) Schedule the project with $N = 3$ processors using the critical-path algorithm. Show the timeline, and give the project finishing time.