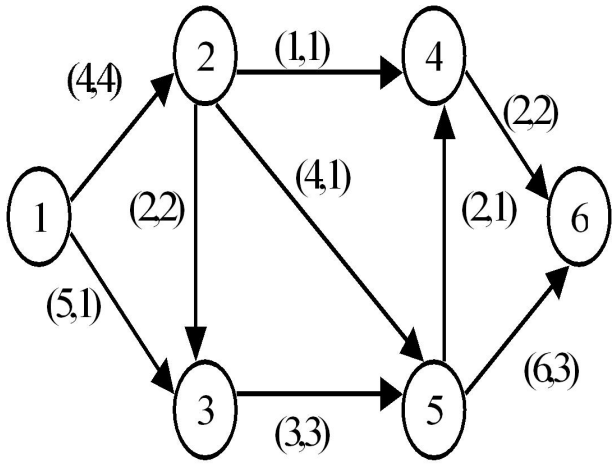
MP305 Practical 2020/2021 - Network Flows I

The `Python` notebook `Network_Flows_I` that contains the maximal network flow algorithm can be accessed via any web browser. See the **MP305 Blackboard** web page for details and instructions.

****** tbc **** Solutions to **all** questions with **(*)** have to be shown (and explained) to the instructor at the practicals in order to get 3% that count towards your overall mark.

1. Find the maximal flow for minimal capacity for the network below:

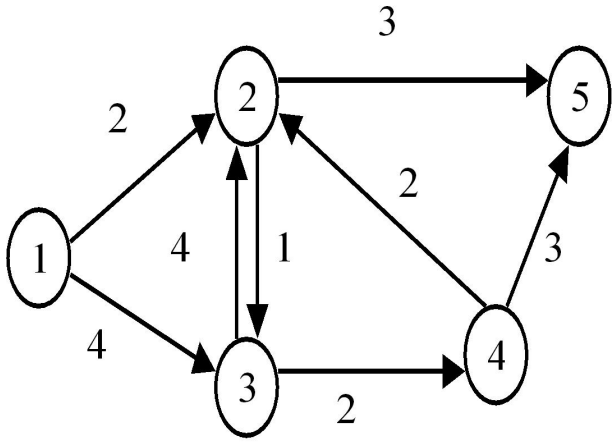


This is the example discussed in class. You may read in the data for this example from the `Python` notebook `Network_Flows_I`. See the **MP305 Blackboard** web page for details and instructions.

Find the incremental networks and capacities at each iteration. Set the initial flow to 0 at each arc and find the incremental networks and capacities at each iteration.

In the following two problems, first define the network and its capacities following the template of problem 1 and then run the `Python` code.

2. (*) Find the maximal flow through the 5 node network shown where the capacities are shown on each arc. Find the incremental networks and capacities at each iteration.



3. (*) A road network is shown below with the capacity on each road indicated. Find the maximal flow through the network. Compare this to flow from B to A.