Computer Netzwerke und verteilte Systeme

Summer Term 2019

https://moodle.informatik.tu-darmstadt.de/course/view.php?id=374

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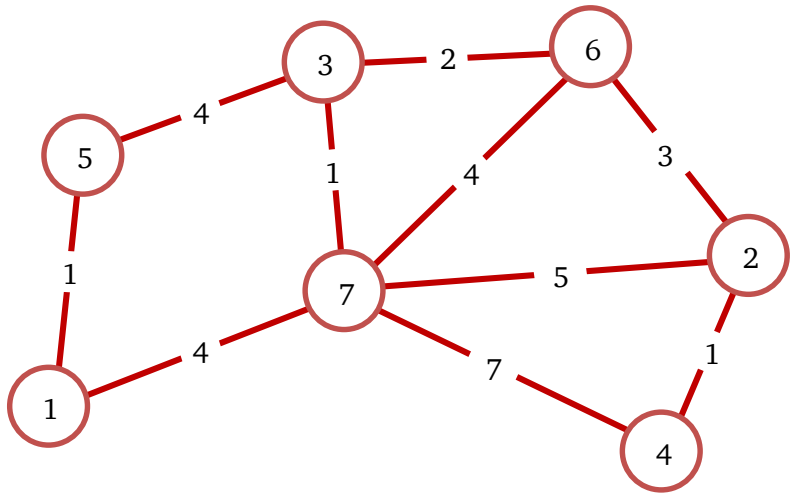
Exercise 1 – Routing

Submission: Via Moodle in your exercise group until May 8th 2019, 08:59 as PDF file.

Task 1.1: Dijkstra's Shortest Path Algorithm (7 P.)



Calculate the shortest paths from vertex 1 to the other vertices using the "Dijkstra's Shortest Path Algorithm". Your calculations have to be comprehensible (use a table like below, P_i = predecessor of vertex i, C_i = cost from vertex 1 to vertex i). (7 P.)

Visited vertices	P_2	C_2	P_3	C_3	P_4	C_4	P_5	C_5	P_6	C_6	P_7	C_7

Task 1.2: Multiplexing (5 P.)

a) What would be the disadvantage of an Internet without Multiplexing? (1 P.)

b) Briefly explain Time Division Multiplexing (TDM) and Frequency Division Multiplexing (FDM). (2 P.)

c) Do some further research on Code Division Multiplexing (CDM) and Space Division Multiplexing (SDM). Write a short summary about both methods. (2 P.)