Assignment 1

This assignment should be completed individually and is worth 15 marks.

This assignment will be marked in the class.

Task: Network planning

A university has a main campus and a remote campus at another location. The default router to the Internet on the main campus has an IP address of 10.0.0.1/24. The main campus network is connected to the Internet through a router called RouterA. The main campus has no more than 15000 staff and students. The remote campus network is connected to the main campus network through a router called RouterB. The remote campus has no more than 200 staff and students. All staff and students should be able to access to the Internet and to the resources on both campuses.

Your task is to plan the campus networks.

a) Propose appropriate subnet ranges for both campuses from the 16-bit prefix block of IPv4 private addresses. Answer the question with your calculation.

b) Draw a diagram to depict the networks with IP addresses notated with CIDR notation assigned to the all interfaces of bother routers for two campuses. Label the interfaces of routers on the diagram using eth0 or eth1.

Show the routing table of the RouterA that meets the requirements of both campuses. Show the columns of Destination, Gateway, Genmask, Flags and Iface in the routing table as shown by the Linux command route.

Submission

Submit a file answer.pdf containing your answer to the task.