Number:	2. Assignment
Issued:	28.10.10
Tutorial:	04.11.10
Lecturer:	Prof. Dr. Güneş, Dipl.-Inf. Blywis
Contact:	{guenes, blywis}@inf.fu-berlin.de

General information about the exercises
Accompanying the lecture, we will hand out some assignments. These exercises should be solved but you do not have to submit your solutions. The solutions will be presented in the tutorial sessions. We expect each student to have solved the exercises.

Exercise 1, Required Reading - IETF:

Read RFC 2026 and discuss the Internet Engineering Task Force (IETF) standardization process. What types of documents are published by the IETF? What are important differences to other standardization bodies, e.g., the IEEE?

Exercise 2, Reference Models:

Repeat and discuss the differences in the ISO/OSI and TCP/IP models. Take a look at the session and presentation layer functions of the ISO/OSI model. Where are they implemented in the TCP/IP model? Discuss whether this is a good design decision.

Exercise 3, Classification of Computer Networks:

List and explain the different classes of computer networks. Additionally, explain what body area, vehicular, wireless sensor, and wireless mesh networks are. Name example application scenarios for these classes and who is usually managing these networks.

Exercise 4, Multilevel Signals:

Represent the following sequence of bits as a quaternary signal with a baud rate of 5/s in a time-voltage-diagram: 00011011001110011010. Determine the bitrate.

Exercise 5, Transmission medium:

What is a transmission medium? Give examples! Is a transmission medium always required for communication?

Exercise 6, Units:

What is the difference between 1 kb, 1 kB, and 1 KiB?

Exercise 7, Noise and Attenuation:

Every signal is subjected to noise. Can you specify what noise is and how it affects the signal? Name sources of noise. What is attenuation and how does it influence a signal?

Exercise 8, Important Terms:

What do the terms overhearing, eavesdropping, and crosstalk mean in the context of Telematics? Give examples.