Exercise sheet 3

Exercise group Boole

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Task 1) **__ /10p.**

1. A sensor node typically includes a microcontroller consisting of memory and a processor, a communications device, some sensors and/or actuators and a power supply.

   The sensor and/or communications device signals are read by the microcontroller, which holds the state and sensor data in it's memory, while doing calculations on this data. If necessary, some portion of the computed data is sent via the communications device. Everything is powered by the power supply.

2. Transceivers have a sleep state to conserve power when not in use. While sleeping, a transceiver cannot receive signals, so communications might get lost.

3. - A *passive sensor* measures energy from the environment, e.g. a temperature sensor, or microphone.
   - An *active sensor* measures the response to an emitted signal, e.g. radar or laser distance sensor.

Task 2) **__ /16p.**
See git.

Total points: **__ /26p.**