Exercise 01

A memory contains 2048 bytes.

1. Provide its capacity in bits.
2. Provide its capacity in kilobits and kilobytes.
3. Determine the number of data lines.
4. Calculate the number of address lines.
5. Calculate the ending address in hexadecimal, knowing that the first address is 000H.

Exercise 02

We have a memory of 4KB that starts from address 1000H. Calculate the address of the last byte.

Exercise 03

A memory contains bytes stored between addresses (9400H) and (B3FFH). How many bytes does it contain? What is the total capacity in kilobits?

Exercise 04

A memory organized in bytes starts at address (400H) and ends at address (BFFH). Calculate its capacity.

Exercise 05

Considering a microprocessor with 11 address lines.

1. What is the maximum number of memory blocks (each 1KB) that can be connected to this setup?
2. Provide the memory ranges for each block, knowing that the first address is 000H.

Exercise 06

A system based on the 8085 microprocessor allows addressing a 2KB ROM starting from address 0000H, connected in series with a 4KB RAM. An I/O interface with 4 registers has a base address of 20H. Draw the schematic diagram of the design.