**Emulating a simple 16-Bit microprocessor**

Objective:

Design and implement a C++ program that emulates the core functionality of a simple 16-bit microprocessor. This simulation will model basic register operations, memory access, instruction parsing and arithmetic operations using oops principle.

Architecture:

* 16-bit Microprocessor.
* Registers

1. AX
2. BX
3. CX
4. DX

* Memory: 64 KB, byte addressable memory(1 byte to be the same size of the int )

Features:

* Program Counter - to manage the flow of instruction execution.
* Used STL containers map and vector.
* Instructions are parsed, validated and executed according to the specifications.

Instructions Executed:

* MOV
* ADD
* SUB
* MUL
* DIV
* HLT – stops further execution of the assembly code.