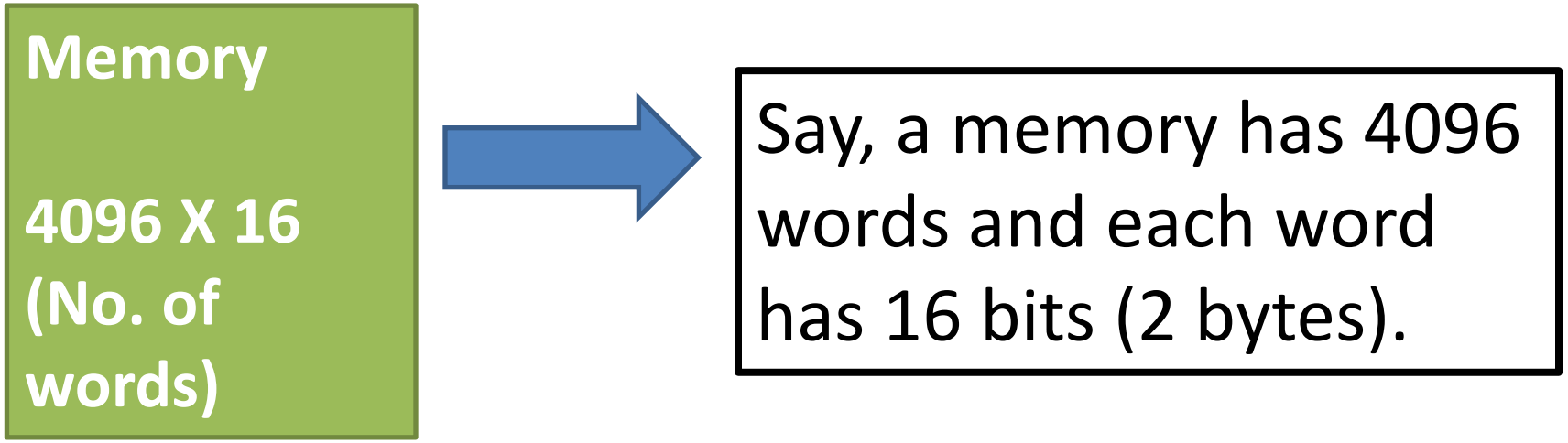
Registers and Types of Bus

Memory
4096 X 16 (No. of words)

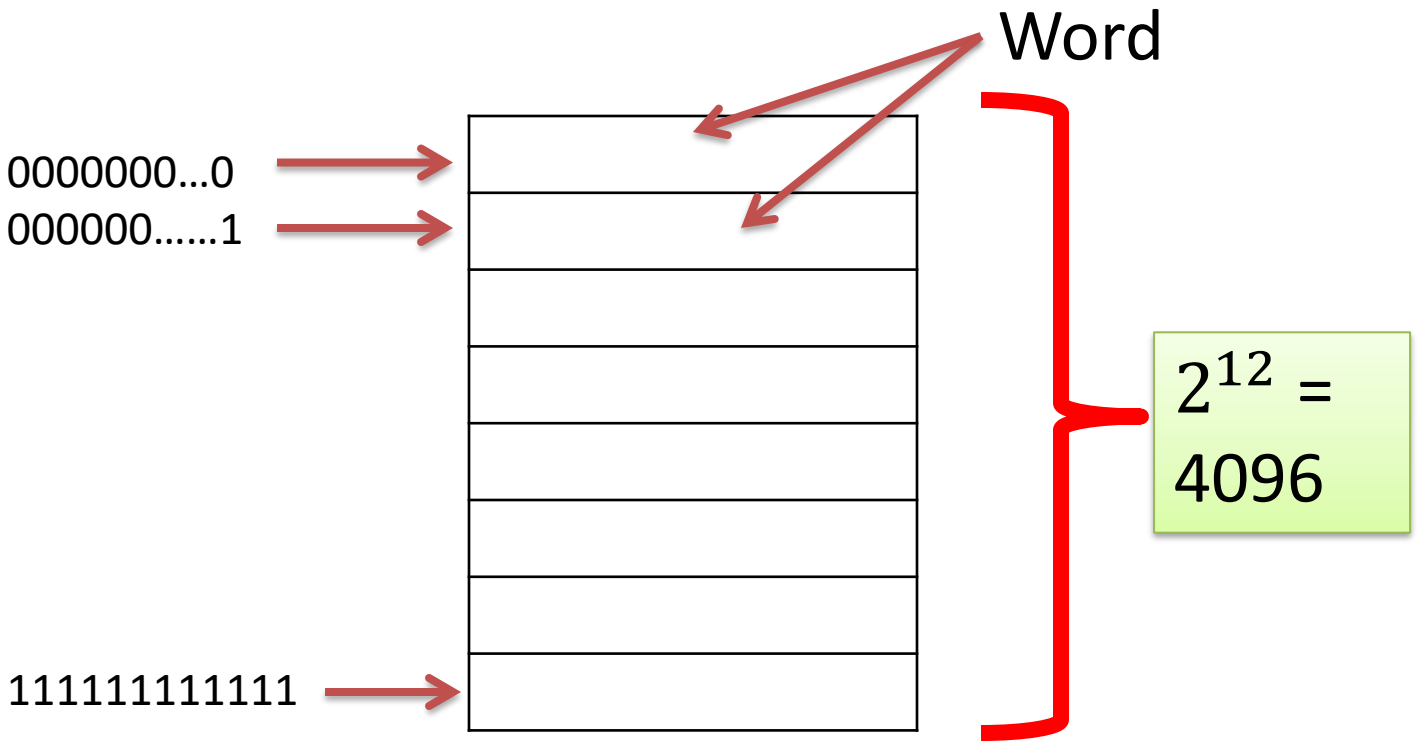
Word is a memory representation Unit.

- Address Register (AR)
- Instruction Register (IR)
- Data Register (DR)
- Temporary Register (TR)
- Accumulator
- Input Register (INPR)
- Program counter
- Output Register (OUTR)



Word is a memory representation unit.

- A word may comprises of 2 byte, 4 byte etc.
- In this example, a word comprises of 2 byte(16 bits)



Functions of Various Registers

PC (Program Counter) Holds the address of the next instruction to be executed.

IR (Instruction register) Holds the instruction code (operation code) currently being executed.

SP (Stack Pointer) Holds the address of the top element of the memory stack.

BR (Base Register) Holds the starting address of the memory stack.

Functions of Various Registers

MAR (Memory Address Register) Holds the address of the data item to be retrieved from the main memory.

MBR or DR Holds the data item retrieved from the main memory. (Memory Buffer Register or Data Register)

Functions of Various Registers

SR or PSW (Status Register or Program Status Word) - Holds the condition code flags and other information that describe the status of the currently executing program.

Register

Sizes.

11 0

Address Register (12)

15 0

Accumulator (16)

15 0

Data Register (16)

11 0

Program Counter (12)

15 0

Instruction Register (IR)

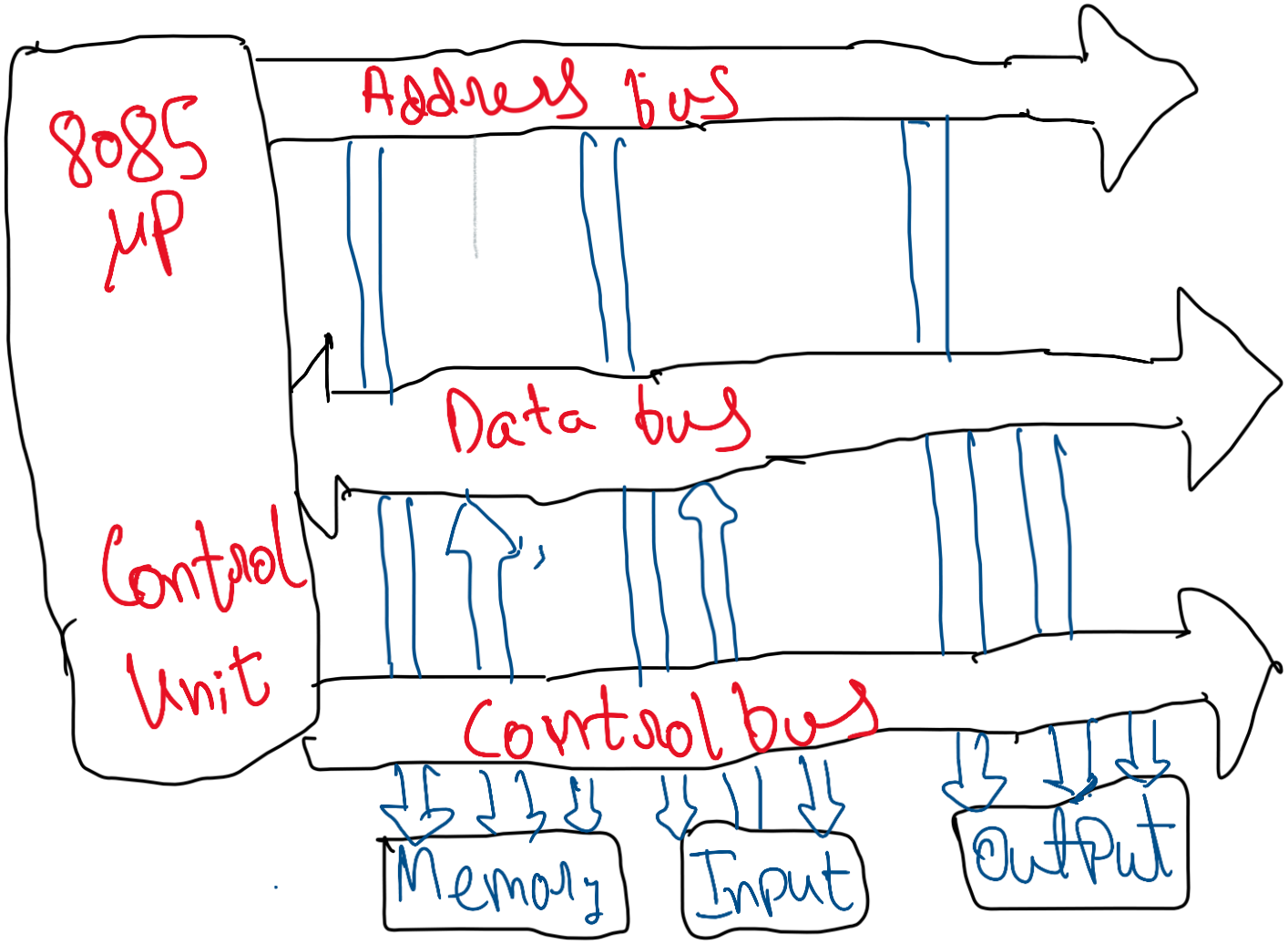
Input Register (INPR) 8 bits.

15 0

Temporary Register (TR)

Output Register (OUTR) 8 bits.

Types of Bus


8085 µP
Control Unit
Address bus
Data bus
Control bus
Memory
Input
Output

Types of Instructions

Data Transfer Instructions

Arithmetic Instructions

Logical Instructions

Shift Instructions

Types of Instructions

Program control Instructions.

Thank you