Crux of Register + Offset Addressing

REGISTER + OFFSET ADDRESSING

Direct and indirect addressing using a single register are basic forms of memory access.

A combination of direct and indirect references is also possible. Instead of storing the exact address in the register,

the register can hold an index to calculate the exact address during memory access.

This allows for the same register to access different arrays and perform index comparisons.

Example:

- BX is initialized as an index rather than holding the array base.
- BX is incremented by 2 (word size) for accessing consecutive elements.
- Higher-level languages automatically handle index increments, while in assembly, manual calculations in bytes are necessary.

Key Takeaways:

- Memory access format: "mov ax, [num1+bx]" means the sum of the array base and the BX register determines the exact memory address.
- This addressing method falls under the 'register indirect' family, known as 'base + offset' or 'index + offset' depending on the register used.