

**EAX** - Main register used in arithmetic calculations. Also known as accumulator, as it holds results of arithmetic operations and function return values.

**EBX** - The Base Register. Pointer to data in the DS segment. Used to store the base address of the program.

**ECX** - The Counter register is often used to hold a value representing the number of times a process is to be repeated. Used for loop and string operations.

**EDX** - A general purpose registers. Also used for I/O operations. Helps extend EAX to 64-bits.

**ESI** - Source Index register. Pointer to data in the segment pointed to by the DS register. Used as an offset address in string and array operations. It holds the address from where to read data.

**EDI** - Destination Index register. Pointer to data (or destination) in the segment pointed to by the ES register. Used as an offset address in string and array operations. It holds the implied write address of all string operations.

**EBP** - Base Pointer. Pointer to data on the stack (in the SS segment). It points to the bottom of the current stack frame. It is used to reference local variables.

**ESP** - Stack Pointer (in the SS segment). It points to the top of the current stack frame. It is used to reference local variables.

**EIP** - Instruction Pointer (holds the address of the next instruction to be executed)