Solving Arithmetic Equations in Assembly

Start

Identify the Arithmetic Equation
- Determine the mathematical operation to implement (e.g., addition, multiplication, negation, etc.)
- Assign values to variables as per the problem statement.

Translate the Equation to Assembly Logic
- Break down the equation into individual operations compatible with assembly instructions.
- Plan how to use registers and memory variables.

Write the Assembly Code
- Declare variables in the appropriate section (`.data or .bss`).
- Implement operations step by step according to your translation.

Assemble the Code
- Use an assembler (e.g., NASM) to convert the source code to an object file.

Link the Object File
- Use a linker to produce an executable.

Test the Executable
- Run the program to ensure it executes without errors.

Debug and Inspect Output
- Use a debugger (e.g., GDB) to run the program.
- Inspect key variables (like `result`) to verify correct computation.

Validate the Result
- Compare the output with the expected result of the original equation.
- If output is incorrect, return to step 4 to revise the code.

Document and Repeat
- Document the process and outcome.
- Repeat the process for each new equation.

Finish