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|  | **Namal University Mianwali**  **Department of Computer Science** |

**Lab Report**

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| Course | CSC-241-L Computer Organization and Assembly Language | | |
| Instructor | Ramzan Shahid Khan | Session / Semester | 2024-2028 (3rd) |

**Name** Rehan Tariq **Registration No.:** NUM-BSCS-2024-66

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| Lecture # | 01 |
| Topic | Introduction to MASM, Lab Setup and Basic Assembly Commands |
| Objective | The objective of this first lab is to introduce students to Microsoft Assembler (MASM), guide them through the installation and setup process, and familiarize them with basic assembly commands. |

**Task 1 (Assemble and run):**

Program assembled and ran successfully. As provided in the handout (without initializing ECX), the displayed sum may be unpredictable because ECX is uninitialized.

**Task 2 (Register contents shown by the program):**

* EAX = 30
* EBX = 20
* ECX (with original code) = undefined/unpredictable because ECX was never initialized before add.

**Task 3 (Does ECX match the expected result?):**

No. ECX doesn’t reliably equal 50 because it was not initialized. Required step: initialize ECX to 0 before the add instructions (e.g., mov ecx, 0 or xor ecx, ecx).

**Task 4 (Modify to get the right result):**

Insert one of the following before the add instructions:

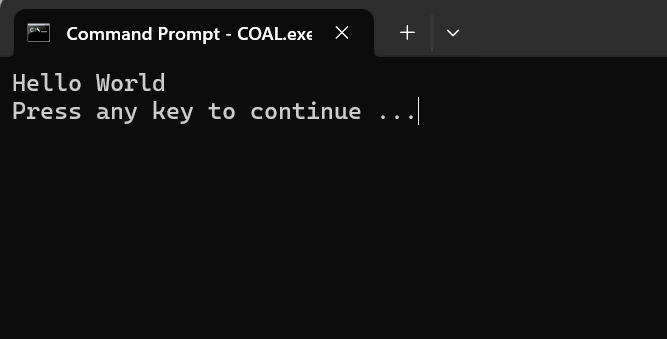
* mov ecx, 0
* xor ecx, ecx

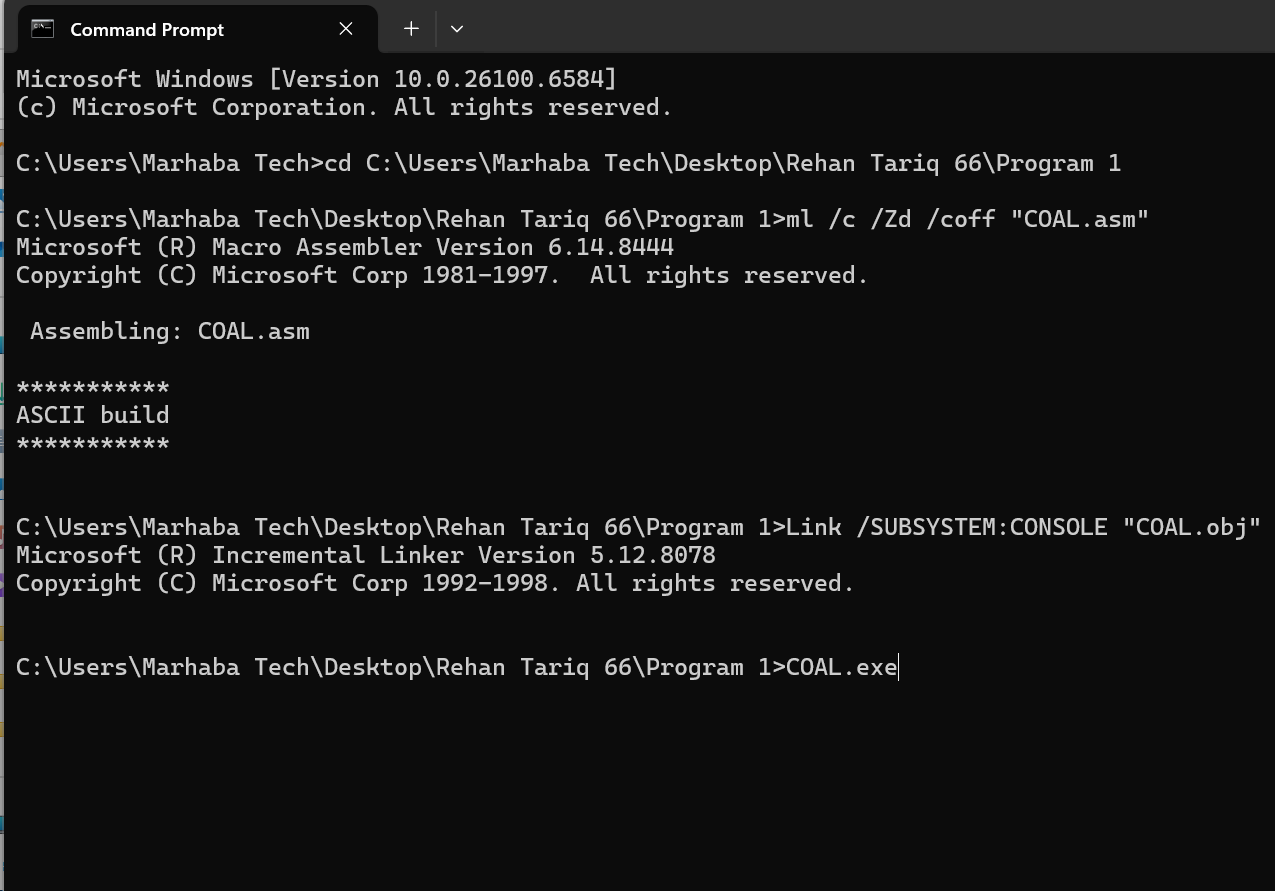
Then re-assemble and re-run.

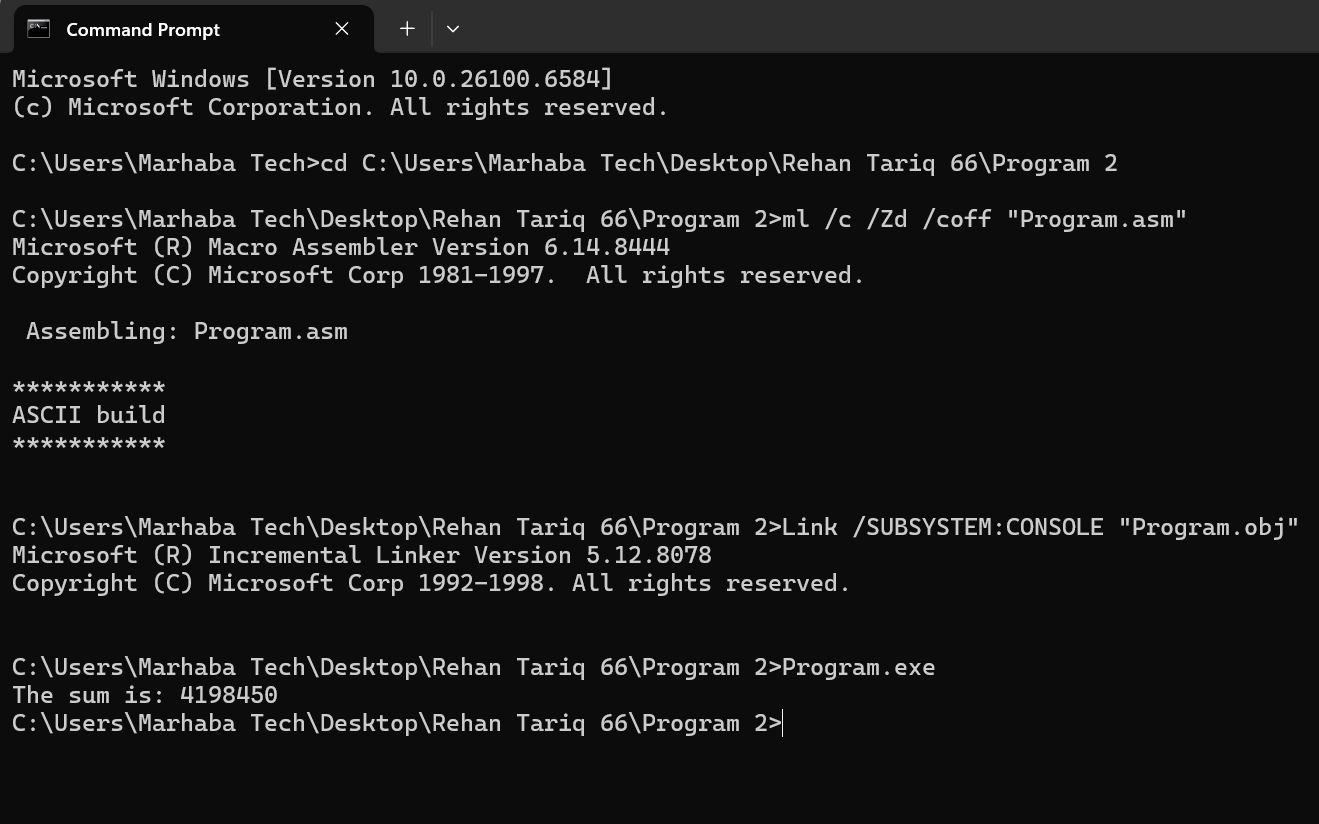
**Task 5 (Verify ECX):**

After the fix, ECX = 50, matching the expected result (30 + 20).

**Screenshots:**

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