**Lab Terminal**   
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**Submitted By :Nida Eman**

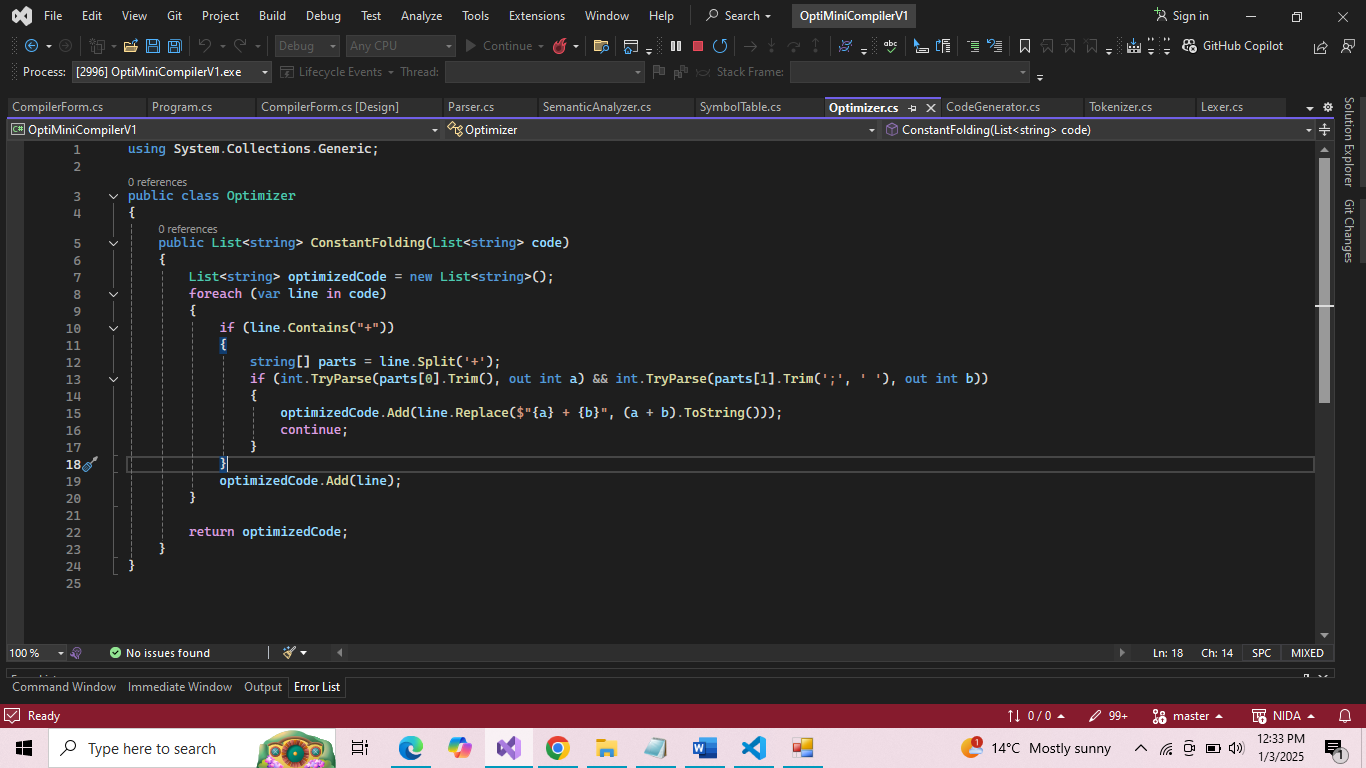
**Reg No: fa21-bcs-002**

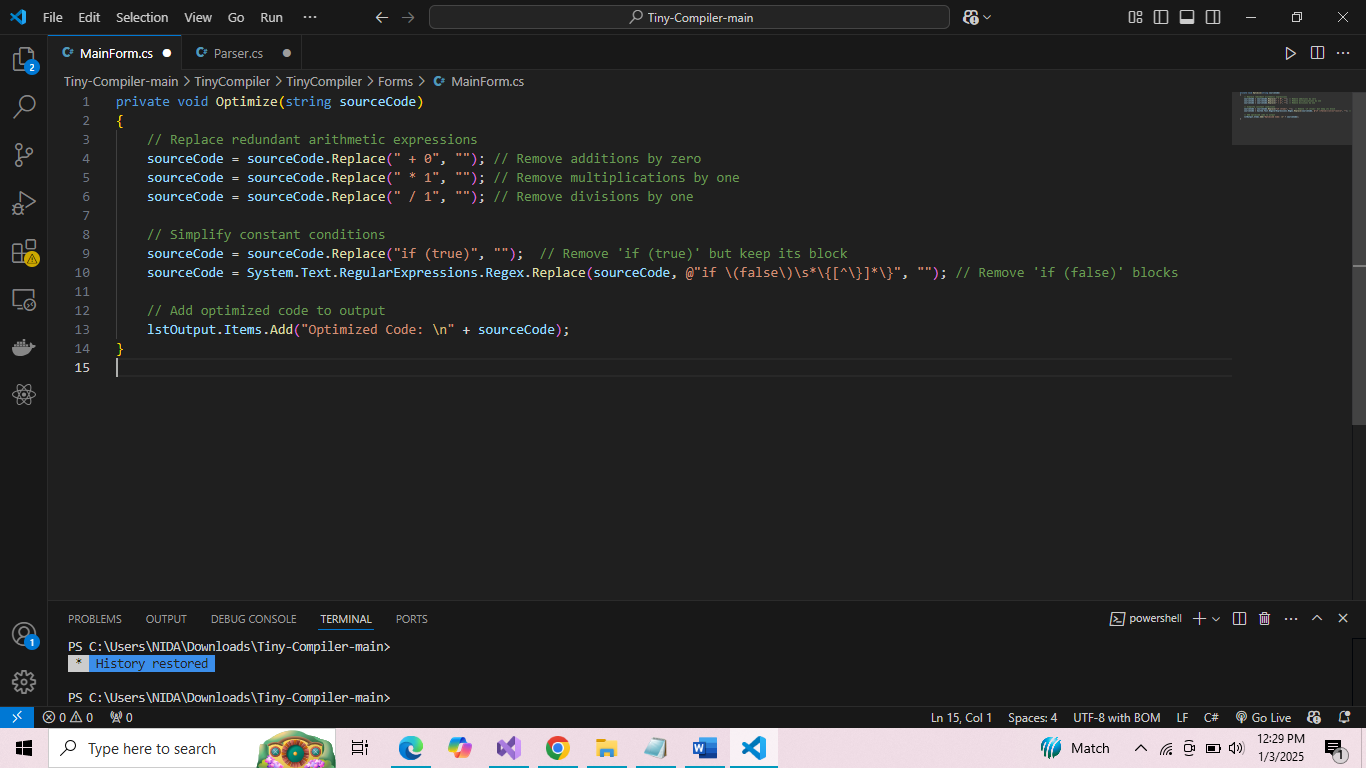
**Submitted to : Sir Bilal Haider**

**Course: Compiler Construction**

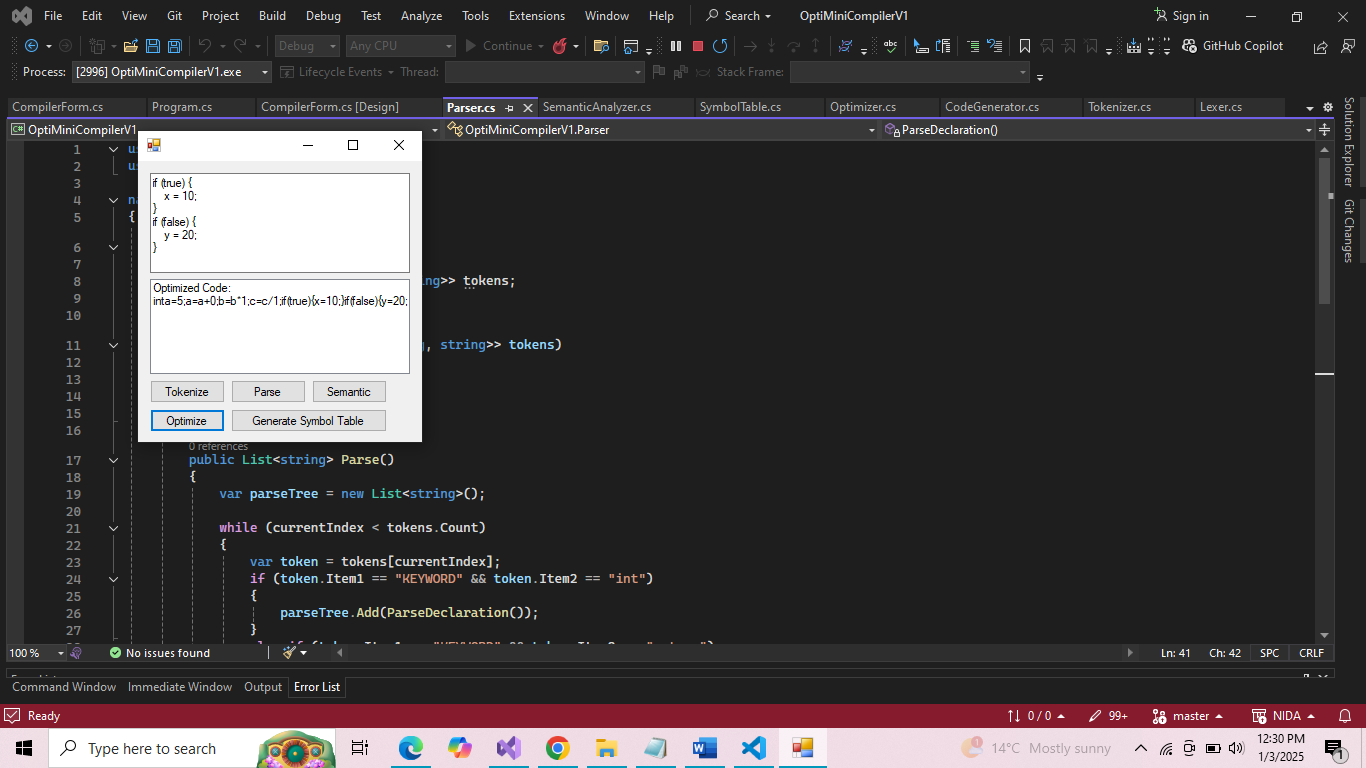
**Date: 3/1/2025**

**Qs 3: Optimization Example in MiniCompiler.**





Ouput:



**Steps for Optimization**

**Remove Redundant Arithmetic Operations:**

* Replace a = a + 0; with a; because adding zero does not change the value.
* Replace b = b \* 1; with b; because multiplying by one does not change the value.
* Replace c = c / 1; with c; because dividing by one does not change the value.

**Constant Condition Simplification:**

* Remove blocks with constant false conditions (e.g., if (false) is skipped entirely).
* Include blocks with constant true conditions (e.g., if (true) is always executed).

**Dead Code Elimination**

* Remove unreachable or unnecessary code.