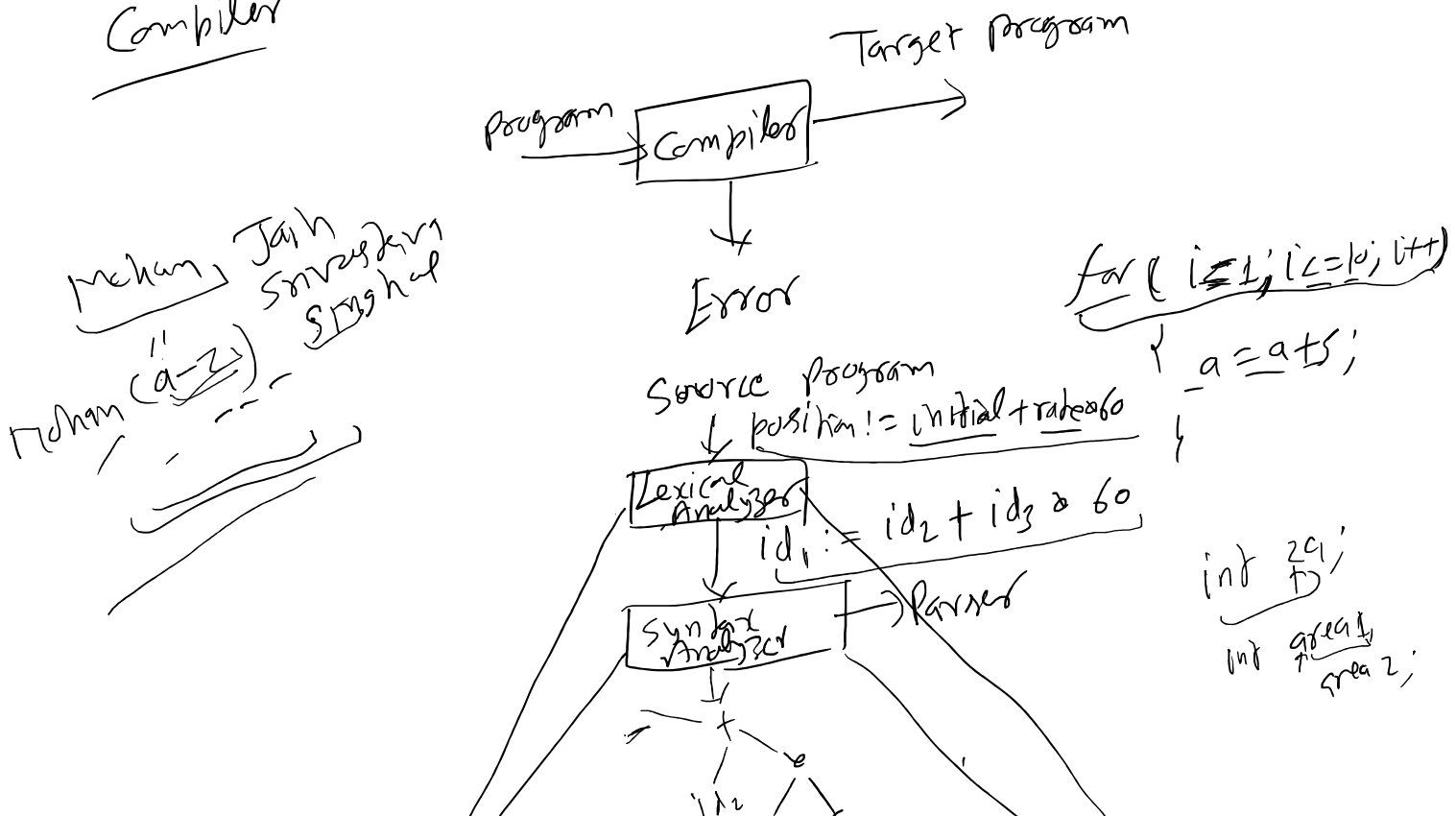


Automation : An automation is defined as a system where energy, materials and information are transformed, transmitted and used for performing some functions without direct participation of man.

Examples: Automatic machine tools, automatic packing machines, automatic photo printing machines; etc.

In computer science, the term 'automation' means 'discrete automation' and is defined in a more abstract way as shown in Fig. below

Compiler

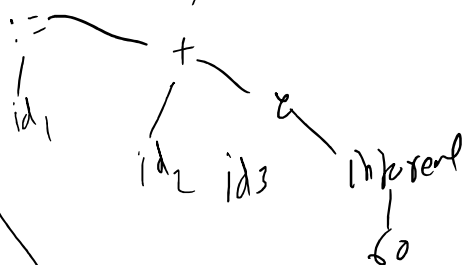


$a_1 = b + c \times 60$
 $D_1 = R_1$
 $R_2 = R_2$
 $R_3 = R_3$

Error Handler

Semantic Analysis

Symbol Table Management



Intermediate Code Generator

$t_1 := \text{literal}(60)$
 $t_2 := id_3 \times t_1$
 $t_3 := id_2 + t_2$
 $id_1 := t_3 \leftarrow \text{copy statement}$

assignment statements

TAC Code

Code Optimizer

$t_1 := id_3 \times 60.0$
 $id_1 := id_2 + t_1$

TAC

Code Generator



MOVF R₁, #60.0
 MOVF R₂, id₃
 MULF R₁, R₂
 MOVF R₁, id₂
 ADDF R₁, R₂
 MOVF id₁, R₁

$L = \{w \mid w \text{ has } 3n \text{ 1's, } n \geq 0\}$



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