1.Specificarea mini-limbajului de programare

<program> ->

#include <iostream>

using namespace std;

int main() {

<declaration><instructions>

return 0;

}

<declaration> -> <type> <variables>”;” | <type> <variables>”;”<declaration>

<type> -> int | double | char | float | string | <user\_defined>

<user\_defined> -> struct ID{<declaration>}”;”

<variables> -> ID | <variables>, ID

<instructions> -> <instruction> | <instruction> <instructions>

<instruction> -> <initialization> | <looping> | <if\_statement> | <write> | <read>

<initialization> -> ID = <expression>”;”

<expression> -> “CONST” | ID | <expression> <operator> <expression> (de definit constanta)

<operator> -> + | - | / | \*

<looping> -> while (<boolean\_expression> ) <body>

<boolean\_exrpession> -> <expression> <relation> <expression>

<relation> -> == | < | > | <= | >= | !=

<body> -> { <instructions > }”;”

<if\_statement> -> if(<boolean\_expression>) <body> | if (<boolean\_expression>) <body> else <body>

<read> -> cin >> ID;

<write> -> cout << <expression>”;”

<letter> -> “a” | “b” | … | “z”

<ID> -> <letter> | <ID> <letter>

CONST = { „#define” yxy | x Î {{a, b, …, z} U {A, B, …, Z}}+ , y Î {“\_”, “ “}\* }

declaration = int ID ”;”

ID = character, { character} ;

character= "A" | "B" | "C" | "D" | "E" | "F" | "G"

| "H" | "I" | "J" | "K" | "L" | "M" | "N"

| "O" | "P" | "Q" | "R" | "S" | "T" | "U"

| "V" | "W" | "X" | "Y" | "Z" ;

digit= "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9" ;

number = [ "-" ], digit, { digit } ;

read = cin >> ID “;”

write = cout << ID”;”

operator = + | - | / | \*

expression = ID operator number | number operator ID | ID operator ID | number operator number

assignment = ID “=” expression “;”