# Task (2)

## CFG document

- Function_call → Identifier (Arguments)
- Arguments → Expression Arg | Ɛ
- Arg → , Expression Arg | Ɛ

- Term → Number | Identifier | Function_call

- Arithmetic_operator → + | - | * | /

- Equation → Term Eq | (Equation) Eq
- Eq → Arithmetic_operator E Eq | Ɛ
- E → Term | (Equation)

- Expression → Term | String | Equation

- Assignment_statement → Identifier := Expression ;

- Datatype → int | float | String

- Declaration_Statement → Datatype Declaration;
- Declaration → Dec Declist
- Declist → , Dec Declist | Ɛ
- Dec → Identifier | Assignment_Statement

- Write_Statement → write W_statement ;
- W_statement → Expression | endl

- Read_Statement → read Identifier ;

- Return_Statement → return Expression ;

- Condition_Statement → Condition condStmts
- condStmts → Bool_Operator Condition condStmts | Ɛ
- Condition → Identifier Condition_Operator Term
- Condition_Operator → < | > | = | <>
- Bool_Operator → (&&) | (||)

- Statements → Statement State
- State → Statement State | Ɛ
- Statement → Assignment_Statement | Decleration_Statement | Write_Statement | Read_Statement | Repeat_Statement | If_Statement | Comment_Statement | Ɛ

- If_Statement → if Condition_Statement then Statements Else
- Else → Else_If_Statement | Else_Statement | end
- Else_If_Statement → else if Conditional_Statement then Statements Else
- Else_Statement → else Statements end

- Repeat_Statement → repeat Statements until Condition_Statement

- Function_Deleration → Datatype Function_Name (Parameters)
- Parameters → Parameter Par | Ɛ
- Parameter → Datatype Identifier
- Par → , Parameter Par | Ɛ
- Function_Name → Identifier

- Function_Body → { Statements Return_Statement }

- Program → Function Main_Function
- Function → Function_Statement Function | Ɛ
- Function_Statement → Function_Decleration Function_Body
- Main_Function → Datatype main() Function_Body