**TINY CFG**

1. Program 🡪 Function\_Statements Main\_Function |Function\_Statement Main\_Function |Main\_Function

Program 🡪 Program’ Main\_Function

Program’ 🡪 Function\_Statements | Function\_Statement | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

1. Fuction\_Statements 🡪 Function\_Statements Function\_Statement| Function\_Statement|[**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

Fuction\_Statements 🡪 Function\_Statement Fun\_Ss

Fun\_Ss 🡪 Function\_Statement Fun\_Ss | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

1. Function\_Statement 🡪 Function\_DeclerationFunction\_Body
2. Main\_Function 🡪 Datatype main () Function\_Body
3. Function\_Decleration 🡪 Datatype Identifier(Parameters |[**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon))
4. Function\_Body 🡪 { **Statements** Return\_Statement}
5. Datatype 🡪 int | float | string
6. Function\_Name 🡪 identifier
7. Parameters 🡪 Parameters , Parameter | Parameter

Left Factoring :

Parameters 🡪 Parameter Ps\_c

Ps\_c 🡪 , Parameter Ps\_c | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

**10.**Parameter 🡪 Datatype identifier

**Statements → Statement State**

State 🡪 statements | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

**11**. Statement 🡪 Write\_Statement **|** Read\_Statement **|** If\_Statement **|** Assignment\_Statement **|** Declaration\_Statement **|** Return\_Statement **|** Repeat\_Statement

**12.** Write\_Statement 🡪 write (Expression |endl) ;

**13.** Read\_Statement 🡪 read identifier ;

**14.** If\_Statement 🡪 if Condition\_Statement then **Statements**

(Else\_If\_Statement **|** Else\_Statement**|**end)

**15.** Assignment\_Statement 🡪identifier := Expression

**16.** Declaration\_Statements 🡪 Datatype (IdentifiersAssignment\_Statement **) ;**

**Declaration\_Statement 🡪 Datatype Assignment\_Statements**  ;

**Assignment\_Statements 🡪Assignment\_Statement   Assigns\_coma | Identifiers Idens\_coma**

**Assigns\_coma 🡪  ,  Assignment\_Statements | Ɛ**

**Identifiers 🡪Identifier Idens\_coma**

**Idens\_coma 🡪 , Assignment\_Statements |**[Ɛ](https://en.wikipedia.org/wiki/Latin_epsilon)

**17.** Return\_Statement🡪 return Expression ;

**18.** Repeat\_Statement 🡪 repeat **Statements** until

Condition\_Statement

**19.**Condition\_Statement 🡪 Condition (MoreConditions |[**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon))

**20.** Else\_If\_Statement 🡪 elsif Condition\_Statement then

**Statements** (Else\_If\_Statement **|** Else\_Statement**|**end)

Left Recursion :

Else\_If\_Statement 🡪 elsif Condition\_Statement then SetOfStatements

( Else\_Statement Else\_If\_Statement ‘ **|**end Else\_If\_Statement ‘) Else\_If\_Statement‘

Else\_If\_Statement ‘ 🡪 Else\_If\_Statement ‘ | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

**21.** Else\_Statement 🡪 else **Statements** end

**24.** Condition 🡪 Identifier Condition\_Operator Term

**25.**MoreConditions 🡪 MoreConditions | Boolean\_Opeartor Condition

MoreConditions 🡪 Boolean\_Opeartor Condition MoreConditions ‘

MoreConditions ‘ 🡪 MoreConditions | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)

**26**.Expression🡪 string | Term | Equation

**27.** Term🡪 number | identifier | Function\_Call

**28.** Equation 🡪 Equation AddOp Equation | Ter

**29.** AddOp 🡪 + | -

**30.** Ter 🡪 Ter MulOp Ter | Factor

**31.** MulOp 🡪 \* | /

**32.** Factor 🡪 (Equation) | number

**33.** Function\_Call 🡪 Identifier (Identifiers)

**34.** MoreTerms 🡪 MoreTerms|Term Arithmetic\_Operator Term

MoreTerms 🡪Term Arithmetic\_Operator Term MoreTerms ‘

MoreTerms ‘ 🡪 MoreTerms | [**Ɛ**](https://en.wikipedia.org/wiki/Latin_epsilon)