**Grammar**

start symbol:Program

**reserved words**:  
Identifier  
Value  
Condition

|  |  |  |
| --- | --- | --- |
| Program | ::= StatementCol |  |
| StatementCol | ::= StatementCol Statement  | Statement |  |
| Statement | ::= Declaration  | Assignment  | ControlFlow |  |
| Block | ::= **:** StatementCol **..**  | **:** StatementCol **>> Identifier;..** |  |
| Type (bool, number, string) | ::= **½**  | **#**  | **§** |  |
| Declaration | ::=Type **Identifier;**  | Type **Identifier** Assignment  | **Identifier-**ParamList**->**Type Block |  |
| Assignment | ::= **Identifier** = **Value;**  | **Identifier = Identifier;** |  |
| ParamList | ::= Type **Identifier** ParamListTail  | ε |  |
| ParamListTail | ::= **,** Type **Identifier** ParamListTail  | ε |  |
| ControlFlow (if,  if else,  while) | ::= **? Condition** Block  | **? Condition** Block **¤** Block  | **! Condition** Block |  |
| FunctionCall | ::= **Indentifier-** ArgumentList **-;** |  |
| ArgumentList | ::= **Identifier** ArgumentListTail  | **Value**  | ε |  |
| ArgumentListTail | ::= **, Identifier** ArgumentListTail  | **, Value** ArgumentListTail  | ε |  |
| ConsoleOut | ::= **Identifier >>;** |  |
| ConsoleIn | ::= **Identifier <<;** |  |

**V2:**

|  |  |
| --- | --- |
| Program | ::= StatementCol |
| StatementCol | ::= (Statement)\* |
| Statement | ::= Declaration  | Assignment  | ControlFlow  | ConsoleOut  | ConsoleIn |
| Block | ::= **:** StatementCol (**-> Identifier;**) **..** |
| Type (bool, number, string) | ::= **½**  | **#**  | **§** |
| Declaration | ::=Type **Identifier** (**=** (Calculation|**Identifier**));  | <->**Identifier(**ParamList**)**Type Block |
| Assignment | ::= **Identifier** = Calculation**;** |
| ParamList | ::= Type **Identifier** ParamListTail  | ε |
| ParamListTail | ::= **,** Type **Identifier** ParamListTail  | ε |
| ControlFlow (if,  if else,  while) | ::= **? Condition** Block  | **? Condition** Block **¤** Block  | **! Condition** Block |
| FunctionArguments | ::= **(** ArgumentList **);** |
| ArgumentList | ::= **Identifier** ArgumentListTail  | **Value**  | ε |
| ArgumentListTail | ::= **, Identifier** ArgumentListTail  | **, Value** ArgumentListTail  | ε |
| Calculation | ::= (**Value**|**Identifier** (FunctionArguments)) (**+**|**-**|**\***|**/**) (Calculation) |
| ConsoleOut | ::= >> **Identifier** (FunctionArguments)**;** |
| ConsoleIn | ::= << **Identifier** (FunctionArguments)**;** |