|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Non-Terminals | hold | comment | PrimaryMission | struct | unit | digit | joe | company | response | inquire | go | phase | miss |
| <program> | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |  | 1 |
| <Prod\_comment> | 3 | 2,3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| <GlobDec> | 7,8 | 8 | 8 | 6,8 | 4,8 | 4,8 | 4,8 | 4,8 | 4,8 | 8 | 8 | 8 | 5,8 |
| <Declare1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <functRet1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <struct1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareOption> | 16 |  |  | 15 | 13 | 13 | 13 | 13 | 13 |  |  |  | 14 |
| <Declare> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <functRet> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <struct> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <const> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Literal> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Literal2> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <datatype> |  |  |  |  | 32 | 33 | 34 | 35 | 36 |  |  |  |  |
| <DeclareChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <InitChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addID> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <N1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <N2> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <index> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Smath> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <arrayAID> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ElemChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Element> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addElem> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <M\_Elem> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <M2\_Elem> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <memDec> |  |  |  |  | 61 | 61 | 61 | 61 | 61 |  |  |  |  |
| <initDec> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <initDecChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <dtypeA> |  |  |  |  | 68 | 68 | 68 | 68 | 68 |  |  |  |  |
| <ExdtypeA> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <returnParam> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <main> |  |  | 75 |  |  |  |  |  |  |  |  |  |  |
| <body> | 76 | 85 |  | 76,80 | 76 | 76 | 76 | 76 | 76 | 79 | 82 | 83 | 76 |
| <print> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <postval> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ConcatLit> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExConcatLit> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <scan> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <scanVal> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addScan> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExtaddScan> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignChoice> |  |  |  | 106 |  |  |  |  |  |  |  |  |  |
| <AccessAssignDtype> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignValueChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignmentInit> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <structInitial> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <AccessValueChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <structCall> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <varStruct> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <StructArray> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addStructvar> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <functCall> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <param> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addparam> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <initStruct> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <AssignSym> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <oper1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignValue> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <mntCond> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <mnt> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <for> |  |  |  |  |  |  |  |  |  | 145 |  |  |  |
| <val1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <valPP> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <operator> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <RelOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <RelopExt> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <op1> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <LogOper> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ifelse> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ifcondition> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <break> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <LogOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExtLogOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <elseif> | 174 | 174 |  | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 | 174 |
| <else> | 176 | 176 |  | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 |
| <do\_while> |  |  |  |  |  |  |  |  |  |  | 177 |  |  |
| <while> |  |  |  |  |  |  |  |  |  |  | 178 |  |  |
| <switch> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <case> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <default> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <MathOp> | 185 | 185 |  | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 |
| <operCond> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <operand> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <OperationMath> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <structMath> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <operExt\_s> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <simMathOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <S\_MathExt> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <operCondExt> |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <end> |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Non-Terminals | post | capture | inorder | order | otherorder | action | operation | campaign | deploy | abort | backup |
| <program> |  |  |  |  |  |  |  |  |  |  |  |
| <Prod\_comment> | 3 | 3 | 3 |  |  |  |  | 3 | 3 | 3 | 3 |
| <GlobDec> | 8 | 8 | 8 |  |  |  |  | 8 |  |  |  |
| <Declare1> |  |  |  |  |  |  |  |  |  |  |  |
| <functRet1> |  |  |  |  |  |  |  |  |  |  |  |
| <struct1> |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareOption> |  |  |  |  |  |  |  |  |  |  |  |
| <Declare> |  |  |  |  |  |  |  |  |  |  |  |
| <functRet> |  |  |  |  |  |  |  |  |  |  |  |
| <struct> |  |  |  |  |  |  |  |  |  |  |  |
| <const> |  |  |  |  |  |  |  |  |  |  |  |
| <Literal> |  |  |  |  |  |  |  |  |  |  |  |
| <Literal2> |  |  |  |  |  |  |  |  |  |  |  |
| <datatype> |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <InitChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <addID> |  |  |  |  |  |  |  |  |  |  |  |
| <N1> |  |  |  |  |  |  |  |  |  |  |  |
| <N2> |  |  |  |  |  |  |  |  |  |  |  |
| <index> |  |  |  |  |  |  |  |  |  |  |  |
| <Smath> |  |  |  |  |  |  |  |  |  |  |  |
| <arrayAID> |  |  |  |  |  |  |  |  |  |  |  |
| <ElemChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <Element> |  |  |  |  |  |  |  |  |  |  |  |
| <addElem> |  |  |  |  |  |  |  |  |  |  |  |
| <M\_Elem> |  |  |  |  |  |  |  |  |  |  |  |
| <M2\_Elem> |  |  |  |  |  |  |  |  |  |  |  |
| <memDec> |  |  |  |  |  |  |  |  |  |  |  |
| <initDec> |  |  |  |  |  |  |  |  |  |  |  |
| <initDecChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <dtypeA> |  |  |  |  |  |  |  |  |  |  |  |
| <ExdtypeA> |  |  |  |  |  |  |  |  |  |  |  |
| <returnParam> |  |  |  |  |  |  |  |  |  |  |  |
| <main> |  |  |  |  |  |  |  |  |  |  |  |
| <body> | 77 | 78 | 81 |  |  |  |  | 84 |  | 86 | 86 |
| <print> | 87 |  |  |  |  |  |  |  |  |  |  |
| <postval> |  |  |  |  |  |  |  |  |  |  |  |
| <ConcatLit> |  |  |  |  |  |  |  |  |  |  |  |
| <ExConcatLit> |  |  |  |  |  |  |  |  |  |  |  |
| <scan> |  | 97 |  |  |  |  |  |  |  |  |  |
| <scanVal> |  |  |  |  |  |  |  |  |  |  |  |
| <addScan> |  |  |  |  |  |  |  |  |  |  |  |
| <ExtaddScan> |  |  |  |  |  |  |  |  |  |  |  |
| <assignChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <AccessAssignDtype> |  |  |  |  |  |  |  |  |  |  |  |
| <assignValueChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <assignmentInit> |  |  |  |  |  |  |  |  |  |  |  |
| <structInitial> |  |  |  |  |  |  |  |  |  |  |  |
| <AccessValueChoice> |  |  |  |  |  |  |  |  |  |  |  |
| <structCall> |  |  |  |  |  |  |  |  |  |  |  |
| <varStruct> |  |  |  |  |  |  |  |  |  |  |  |
| <StructArray> |  |  |  |  |  |  |  |  |  |  |  |
| <addStructvar> |  |  |  |  |  |  |  |  |  |  |  |
| <functCall> |  |  |  |  |  |  |  |  |  |  |  |
| <param> |  |  |  |  |  |  |  |  |  |  |  |
| <addparam> |  |  |  |  |  |  |  |  |  |  |  |
| <initStruct> |  |  |  |  |  |  |  |  |  |  |  |
| <AssignSym> |  |  |  |  |  |  |  |  |  |  |  |
| <oper1> |  |  |  |  |  |  |  |  |  |  |  |
| <assignValue> |  |  |  |  |  |  |  |  |  |  |  |
| <mntCond> |  |  |  |  |  |  |  |  |  |  |  |
| <mnt> |  |  |  |  |  |  |  |  |  |  |  |
| <for> |  |  |  |  |  |  |  |  |  |  |  |
| <val1> |  |  |  |  |  |  |  |  |  |  |  |
| <valPP> |  |  |  |  |  |  |  |  |  |  |  |
| <operator> |  |  |  |  |  |  |  |  |  |  |  |
| <RelOp> |  |  |  |  |  |  |  |  |  |  |  |
| <RelopExt> |  |  |  |  |  |  |  |  |  |  |  |
| <op1> |  |  |  |  |  |  |  |  |  |  |  |
| <LogOper> |  |  |  |  |  |  |  |  |  |  |  |
| <ifelse> |  |  | 166 |  |  |  |  |  |  |  |  |
| <ifcondition> |  |  |  |  |  |  |  |  |  |  |  |
| <break> |  |  |  |  |  |  |  |  |  | 169 |  |
| <LogOp> |  |  |  |  |  |  |  |  |  |  |  |
| <ExtLogOp> |  |  |  |  |  |  |  |  |  |  |  |
| <elseif> | 174 | 174 |  | 174 | 173 |  |  | 174 |  | 174 | 174 |
| <else> | 176 | 176 | 176 | 175 |  |  |  | 176 |  | 176 | 176 |
| <do\_while> |  |  |  |  |  |  |  |  |  |  |  |
| <while> |  |  |  |  |  |  |  |  |  |  |  |
| <switch> |  |  |  |  |  |  |  | 179 |  |  |  |
| <case> |  |  |  |  |  | 181 | 180 |  |  |  |  |
| <default> |  |  |  |  |  | 182 |  |  |  |  |  |
| <MathOp> | 185 | 185 | 185 |  |  |  |  | 185 |  | 185 | 185 |
| <operCond> |  |  |  |  |  |  |  |  |  |  |  |
| <operand> |  |  |  |  |  |  |  |  |  |  |  |
| <OperationMath> |  |  |  |  |  |  |  |  |  |  |  |
| <structMath> |  |  |  |  |  |  |  |  |  |  |  |
| <operExt\_s> |  |  |  |  |  |  |  |  |  |  |  |
| <simMathOp> |  |  |  |  |  |  |  |  |  |  |  |
| <S\_MathExt> |  |  |  |  |  |  |  |  |  |  |  |
| <operCondExt> |  |  |  |  |  |  |  |  |  |  |  |
| <end> |  |  |  |  |  |  |  |  | 203 |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Non-Terminals | id | Numlit | Declit | Charlit | Stringlit | AFFIRMATIVE | NEGATIVE | + | - | / | % | ^ | \* | ++ | -- |
| <program> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Prod\_comment> | 3 |  |  |  |  |  |  |  |  |  |  |  |  | 3 | 3 |
| <GlobDec> | 8 |  |  |  |  |  |  |  |  |  |  |  |  | 8 | 8 |
| <Declare1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <functRet1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <struct1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareOption> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Declare> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <functRet> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <struct> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <const> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Literal> |  | 22 | 23 | 24 | 25 | 26 | 27 |  |  |  |  |  |  |  |  |
| <Literal2> |  | 28 | 29 | 30 | 31 |  |  |  |  |  |  |  |  |  |  |
| <datatype> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <InitChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addID> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <N1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <N2> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <index> | 48 | 47 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Smath> |  |  |  |  |  |  |  | 49 | 49 | 49 | 49 | 49 | 49 |  |  |
| <arrayAID> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ElemChoice> |  | 53 | 53 | 53 | 53 |  |  |  |  |  |  |  |  |  |  |
| <Element> |  | 55 | 55 | 55 | 55 |  |  |  |  |  |  |  |  |  |  |
| <addElem> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <M\_Elem> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <M2\_Elem> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <memDec> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <initDec> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <initDecChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <dtypeA> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExdtypeA> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <returnParam> | 73 | 72 | 72 | 72 | 72 | 72 | 72 |  |  |  |  |  |  |  |  |
| <main> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <body> | 80 |  |  |  |  |  |  |  |  |  |  |  |  | 80 | 80 |
| <print> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <postval> | 89 | 88 | 88 | 88 | 88 | 88 | 88 |  |  |  |  |  |  |  |  |
| <ConcatLit> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExConcatLit> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <scan> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <scanVal> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addScan> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExtaddScan> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignChoice> | 104,105 |  |  |  |  |  |  |  |  |  |  |  |  | 105 | 105 |
| <AccessAssignDtype> | 107 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignValueChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignmentInit> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <structInitial> |  |  |  |  |  |  |  | 115 | 115 | 115 | 115 | 115 | 115 |  |  |
| <AccessValueChoice> |  |  |  |  |  |  |  | 116 | 116 | 116 | 116 | 116 | 116 |  |  |
| <structCall> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <varStruct> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <StructArray> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addStructvar> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <functCall> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <param> | 125 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addparam> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <initStruct> | 130 | 129 | 129 | 129 | 129 |  |  |  |  |  |  |  |  |  |  |
| <AssignSym> |  |  |  |  |  |  |  | 131 | 131 | 131 | 131 | 131 | 131 |  |  |
| <oper1> |  |  |  |  |  |  |  | 132 | 133 | 134 | 135 | 136 | 137 |  |  |
| <assignValue> | 140 | 139 | 139 | 139 | 139 | 139 | 139 |  |  |  |  |  |  |  |  |
| <mntCond> | 142 |  |  |  |  |  |  |  |  |  |  |  |  | 141 | 141 |
| <mnt> |  |  |  |  |  |  |  |  |  |  |  |  |  | 143 | 144 |
| <for> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <val1> | 148 | 146 | 147 |  |  |  |  | 149 | 149 | 149 | 149 | 149 | 149 |  |  |
| <valPP> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <operator> |  |  |  |  |  |  |  | 151 | 152 | 153 | 154 | 155 | 156 |  |  |
| <RelOp> | 157 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <RelopExt> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <op1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <LogOper> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ifelse> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ifcondition> | 167 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <break> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <LogOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ExtLogOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <elseif> | 174 |  |  |  |  |  |  |  |  |  |  |  |  | 174 | 174 |
| <else> | 176 |  |  |  |  |  |  |  |  |  |  |  |  | 176 | 176 |
| <do\_while> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <while> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <switch> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <case> | 181 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <default> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <MathOp> | 184 | 184 | 184 |  |  |  |  |  |  |  |  |  |  |  |  |
| <operCond> | 187 | 187 | 187 |  |  |  |  |  |  |  |  |  |  |  |  |
| <operand> | 190 | 188 | 189 |  |  |  |  |  |  |  |  |  |  |  |  |
| <OperationMath> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <structMath> |  |  |  |  |  |  |  | 194 | 194 | 194 | 194 | 194 | 194 |  |  |
| <operExt\_s> |  |  |  |  |  |  |  | 195 | 195 | 195 | 195 | 195 | 195 |  |  |
| <simMathOp> | 197 | 197 | 197 |  |  |  |  |  |  |  |  |  |  |  |  |
| <S\_MathExt> |  |  |  |  |  |  |  | 198 | 198 | 198 | 198 | 198 | 198 |  |  |
| <operCondExt> |  |  |  |  |  |  |  | 201 | 201 | 201 | 201 | 201 | 201 |  |  |
| <end> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Non-Terminals | = | >= | <= | == | != | ( | ) | [ | ] | { | } | : | , | . | ; | || | & | # |
| <program> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Prod\_comment> |  |  |  |  |  |  | 3 |  |  |  | 3 |  |  |  |  |  |  |  |
| <GlobDec> |  |  |  |  |  |  | 8 |  |  |  |  |  |  |  |  |  |  |  |
| <Declare1> | 9 |  |  |  |  | 10 |  |  |  |  |  |  | 9 | 9 | 9 |  |  |  |
| <functRet1> |  |  |  |  |  | 11 |  |  |  | 12 |  |  |  |  |  |  |  |  |
| <struct1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareOption> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Declare> | 17 |  |  |  |  | 18 |  |  |  |  |  |  | 17 | 17 | 17 |  |  |  |
| <functRet> |  |  |  |  |  | 19 |  |  |  |  |  |  |  |  |  |  |  |  |
| <struct> |  |  |  |  |  |  |  |  |  | 20 |  |  |  |  |  |  |  |  |
| <const> | 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Literal> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Literal2> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <datatype> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <DeclareChoice> | 37 |  |  |  |  |  |  | 38 |  |  |  |  | 37 |  |  |  |  |  |
| <InitChoice> | 40 |  |  |  |  |  |  |  |  |  |  |  | 39 |  | 41 |  |  |  |
| <addID> |  |  |  |  |  |  |  |  |  |  |  |  | 42 |  | 43 |  |  |  |
| <N1> |  |  |  |  |  |  |  | 44 |  |  |  |  |  |  |  |  |  |  |
| <N2> | 46 |  |  |  |  |  | 46 | 45 |  |  |  |  | 46 | 46 | 46 |  |  |  |
| <index> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <Smath> |  |  |  |  |  |  |  |  | 49 |  |  |  |  |  |  |  |  |  |
| <arrayAID> | 51 |  |  |  |  |  |  |  |  |  |  |  |  |  | 52 |  |  |  |
| <ElemChoice> |  |  |  |  |  |  |  |  |  | 54 |  |  |  |  |  |  |  |  |
| <Element> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <addElem> |  |  |  |  |  |  |  |  |  |  | 57 |  | 56 |  |  |  |  |  |
| <M\_Elem> |  |  |  |  |  |  |  |  |  |  |  |  | 58 |  |  |  |  |  |
| <M2\_Elem> |  |  |  |  |  |  |  |  |  |  | 60 |  | 59 |  |  |  |  |  |
| <memDec> |  |  |  |  |  |  |  |  |  |  | 62 |  |  |  |  |  |  |  |
| <initDec> |  |  |  |  |  |  |  | 64 |  |  |  |  | 63 |  | 65 |  |  |  |
| <initDecChoice> |  |  |  |  |  |  |  |  |  |  |  |  | 66 |  | 67 |  |  |  |
| <dtypeA> |  |  |  |  |  |  | 69 |  |  |  |  |  |  |  |  |  |  |  |
| <ExdtypeA> |  |  |  |  |  |  | 71 |  |  |  |  |  | 70 |  |  |  |  |  |
| <returnParam> |  |  |  |  |  |  | 74 |  |  |  |  |  |  |  |  |  |  |  |
| <main> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <body> |  |  |  |  |  |  |  |  |  |  | 86 |  |  |  |  |  |  |  |
| <print> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <postval> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ConcatLit> |  |  |  |  |  | 91 | 94 | 93 |  |  |  |  | 90 | 92 |  |  |  |  |
| <ExConcatLit> |  |  |  |  |  |  | 96 |  |  |  |  |  | 95 |  |  |  |  |  |
| <scan> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <scanVal> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 98 |
| <addScan> |  |  |  |  |  |  | 101 |  |  |  |  |  | 99 | 100 |  |  |  |  |
| <ExtaddScan> |  |  |  |  |  |  | 103 |  |  |  |  |  | 102 |  |  |  |  |  |
| <assignChoice> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <AccessAssignDtype> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignValueChoice> | 109 |  |  |  |  | 110 |  | 108 |  |  |  |  |  | 111 | 110 |  |  |  |
| <assignmentInit> | 112 |  |  |  |  |  |  |  |  |  |  |  |  | 113 |  |  |  |  |
| <structInitial> | 114,115 |  |  |  |  |  |  |  |  |  |  |  |  | 115 |  |  |  |  |
| <AccessValueChoice> | 116 |  |  |  |  |  |  |  |  |  |  |  |  | 116 |  |  |  |  |
| <structCall> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <varStruct> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <StructArray> |  |  |  |  |  |  | 120 | 119 |  |  |  |  | 120 |  | 120 |  |  |  |
| <addStructvar> |  |  |  |  |  |  |  |  |  |  |  |  | 121 |  | 122 |  |  |  |
| <functCall> |  |  |  |  |  | 123,124 | 124 |  |  |  |  |  |  |  | 124 |  |  |  |
| <param> |  |  |  |  |  |  | 126 |  |  |  |  |  |  |  |  |  |  |  |
| <addparam> |  |  |  |  |  |  | 128 |  |  |  |  |  | 127 |  |  |  |  |  |
| <initStruct> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <AssignSym> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <oper1> | 138 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <assignValue> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <mntCond> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <mnt> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <for> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <val1> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <valPP> |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 150 |  |  |  |
| <operator> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <RelOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <RelopExt> |  | 158 | 158 | 158 | 158 |  | 159 |  |  |  |  |  |  |  | 159 |  |  |  |
| <op1> |  | 161 | 162 | 160 | 163 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <LogOper> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 164 | 165 |  |
| <ifelse> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <ifcondition> |  |  |  |  |  | 168 |  |  |  |  |  |  |  |  |  |  |  |  |
| <break> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <LogOp> |  |  |  |  |  | 170 | 172 |  |  |  |  |  |  |  |  | 171 | 171 |  |
| <ExtLogOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <elseif> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <else> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <do\_while> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <while> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <switch> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <case> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <default> |  |  |  |  |  |  |  |  |  |  | 183 |  |  |  |  |  |  |  |
| <MathOp> |  |  |  |  |  | 184 |  |  |  |  | 185 |  |  |  |  |  |  |  |
| <operCond> |  |  |  |  |  | 186 |  |  |  |  |  |  |  |  |  |  |  |  |
| <operand> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <OperationMath> |  |  |  |  |  | 192 |  |  |  |  |  |  |  | 191 |  |  |  |  |
| <structMath> | 194 |  |  |  |  | 194 | 194 |  |  |  |  |  |  | 193 | 194 |  |  |  |
| <operExt\_s> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <simMathOp> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <S\_MathExt> |  |  |  |  |  | 199 | 200 |  |  |  |  |  |  |  | 200 |  |  |  |
| <operCondExt> |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 202 |  |  |  |
| <end> |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |