|  |
| --- |
| 1- <start> 🡪 **{globalcurrScope = STobj.createScope() }**  <defs> <VI > main **{globalname = ts.vp}** (<NV> ) **{ Fnobj.insert (globalname, globalRetType, globalparalist , “global”, &fnstart) }** { **{ globalcurrScope = STobj.createScope() }** <MST >} **{ globalcurrScope = STobj.deleteScope() main scope ends }** $ **{ globalcurrScope = STobj.deleteScope() global scope ends}** | $  <VI > 🡪 void {**globalRetType = ts.vp}**  <NV> 🡪~ {**globalparalist =””}** | void {**globalparalist = ts.vp}**  <defs>🡪<class><defs> | ID **{globaltype = ts.vp }**  <defs1><defs > |DT **{globaltype = ts.vp }** ID **{globalname = ts.vp}** <defs2><defs> |static **{globalTM = ts .vp}**  <type> ( **{ globalcurrScope = STobj.createScope() }** <fn\_dec> | ~  <type**>** 🡪ID **{globalrettype = ts.vp}** ID **{globalname = ts.vp}**| DT **{globaltype = ts.vp}**  ID **{globalname = ts.vp}**  <defs1 > 🡪<Ass\_st > | ID **{globalname = (\*curr)->vp }** <X>  <X> 🡪<obj\_dec> | (**{globalcurrScope = STobj.createScope() }** <terminal>  <terminal> 🡪<fn\_dec> | <constructor\_dec>  <defs2> 🡪 <DT\_dec> | (**{globalcurrScope = STobj.createScope() }** <fn\_dec> |
| 2- <MST>🡪~ | <SST><MST> |
| 3- <SST>🡪<if\_else> | <while\_st> | <switch> | <for\_st> |<return> | continue;| break; | ID <SST1> | DT **{globaltype = ts.vp}**  ID **{globalname = ts.vp}** <SST2>  <SST1> 🡪<array> <L2>| ID <Xxx> //L1 IS REMOVED  <L2>🡪<fn\_call> | inc\_dec;|<Ass\_st>  <Xxx> 🡪<obj\_dec> | ( <constructor\_dec>  <SST2> 🡪 <DT\_dec> |
| 4- <return> 🡪 return <OE1> ;  <OE1> 🡪 <OE> | ~ |
| 5- <fn\_call> 🡪 <fn\_call 1>;  <fn\_call1>🡪<checkID> (<arg>)  <checkID>🡪. ID<array> <checkID> | ~  <arg> 🡪 <OE><arg1>| ~  <arg1> 🡪 ,<OE><arg1>| ~ |
| 9- <inc\_dec> 🡪 <inc\_dec1>;  <inc\_dec1> 🡪 inc\_dec |
| 6- <DT\_dec> 🡪 <new\_arr> | <init>  <new\_arr> 🡪 [<OE>]<array2>  <array2>🡪= {<array3>} ; | ;  <array3> 🡪 <OE><array4>  <array4> 🡪 , <OE> <array4> | ~  <init> -->AOP <init2> | <list>  <init2> --> <OE> ;| <init4>  <init3> -->AOP <init4>| ~  <init4> --> ID <init3> <list> | <const> < list>  <list> -->, **{bool symbolTableinsert = STobj.insert(globalname , globaltype, globalcurrScope, &STstart) }** ID **{golbalname =TS.vp} {bool symbolTableinsert = STobj.insert(globalname , globaltype, globalcurrScope, &STstart) }** <init3> <list> | ; **{bool symbolTableinsert = STobj.insert(globalname , globaltype, globalcurrScope, &STstart) }** |
| 7- <fn\_dec> --> <para>) <inherit> {<MST>}  <word1> --> virtual | static | const  <para> --> <def> <E> | void | ~  <def> --> ID ID|DT ID  <E> --> ,<def><E> | ~  <inherit> -->: ID <fn\_call1> //removed |
| 8- <Ass\_st> --> <Ass\_st1><Xx> ;  <Ass\_st1> --> AOP <OE>  <Xx> --> <Ass\_st1><Xx> | ~  <array> --> [<OE>]| ~ |
| 10- <OE> --> <AE> <OE'> //  <OE'> --> ||<AE><OE'> | ~ //  <AE> --> <RE> <AE'> //  <AE'> --> &&<RE><AE'> | ~ //  <RE> --> <PE><RE'> //  <RE'> -->ROP <PE><RE'>|~  <PE> --> <ME><PE'> //  <PE'> --> PM <ME><PE'>|~  <ME> --> <F><ME'> //  <ME'> --> MDM <F><ME'>|~  <F> --> <CONST> |(<OE>) |!<PE> |ID <XOE1> //  <XOE1> 🡪<fn\_call1> |<nt2> |~ //  <nt2> 🡪 .ID<XOE1>|~ // |
| 11- <obj\_dec> --><array><new\_init> <list2>  <new\_init> --> AOP ID < new\_init > | ~ //remaining for semantic  <list2> --> ,**STobj.insert(globalname , globaltype, globalcurrScope, &STstart) }**ID **{golbalname =(\*curr)->vp} {STobj.insert(globalname , globaltype, globalcurrScope, &STstart) }** <array><new\_init><list2> | ; **{STobj.insert(globalname , globaltype, globalcurrScope, &STstart) }** |
| 12-<constructor\_dec> --> <arg>); |
| 12- <if\_else> --> if(<OE>){<MST>} <o\_else>  <o\_else> -->else {<MST>}|~ |
| 13- <while\_st> --> while (<OE>){<MST>} |
| 14- <switch> --> switch(<OE>){<case><default>}  <case> --> case <OE>: {<MST>} <case>| ~  <default> --> default:{<MST>} | ~ |
| 15- <class> --> class ID <chk\_inhrt> {<class\_body>};  <chk\_inhrt> -->: AM ID | ~  <class\_body> -->ID <X1> <class\_body> | DT ID <X2><class\_body> | AM: <class\_body> | <word><type> (<fn\_dec> | ~  <word> --> virtual | const | static  <X1> --> <constructor\_fn> | ID <X3>  <X2> --> ( <fn\_dec> | <DT\_dec>  <X3> --> ( <fn\_dec> | <obj\_dec> |
| 16- <for\_st> -->for(<C1><C2>;<C3>) { <MST>}  <C1> --> DT ID <DT\_dec>|ID <Ass\_st>|;  <C2> --> <OE> | ~  <C3> --> ID <X11> | inc\_dec | ~  <X11> --> <Ass\_st1> | inc\_dec |
| 17)<const> --> int\_const | Float\_const | string\_const | bool\_const |char\_const |
| 18) <constructor\_fn> --> (<para>) {<MST>} |