**CFG’S**

<S> <defs> public class Main<INH>{ <CLASS\_BODY> public static void main(){<MST>} <CLASS\_BODY> } <defs>

<INH> : ID| Eps

<defs> <CLASS\_DEF><defs>|Eps

<CLASS\_BODY> <o\_static> <AM> <DT> ID<CLASS\_BODY’> |<AM> <CLASS\_BODY’’> |<OBJ><CLASS\_BODY>|Eps

<CLASS\_BODY’> <M>;<CLASS\_BODY>|(<ARGS>){<MST>}<CLASS\_BODY>

<CLASS\_BODY’’> <DT> ID<CLASS\_BODY’> | ID <CLASS\_BODY’’’>

<CLASS\_BODY’’’> <CLASS\_BODY’>|(<ARGS>){<CONSTRUCTOR\_CALLING><MST>}

<CLASS\_BODY’’’’>

<CLASS\_DEF> <AM> class ID<INH>{<CLASS\_BODY>}

<MST> <SST><MST>|Eps

<SST> ID <SST’>| DT<SST”>| <FOR\_LOOP>|<WHILE\_LOOP> |<IF\_ST>|

<OBJ’> ID = new <DT> (<ARGS2>);

<ARRAY\_DEC’> [<E>]<opt> ID<opt2>;

<SST’> (<ARGS2>);| ID<SST7> ;|[<SST9>; |<P””>=<Q>;|=<SST12>;|<INC\_DEC>;

<SST”> [<SST11>;| ID <SST10>;

<SST3> = new <DT>| <P””>=<Q>

X<SST4> <OBJ’>| []<OBJ’>

X<SST5> ]<SST4>|<E>]<opt> ID <opt2>

X<SST6> ID<DT’> ID<M>| DT<DT’> ID<M>

<SST7> = <SST12>|<M’>

<SST8> [] ID <M>|ID<M>

<SST9> <E>] <opt> <opt3>|]<SST8>

<SST10> =<SST12>|<M’>| <P””>=<Q> (<ARGS2>)

<SST11> ]<SST13>| <E>]<opt> <opt3>

<SST12> new <DT> (<ARGS2>)|<OE><M’>

<SST13> [ ] ID <SST12>|ID<SST7>

x<SST14> =<SST12>|<M’>

<opt3> ID<opt2>|=<Q>

<SST> <DEC>|<FUNC\_CALL>|<OBJ>>|<ARRAY\_DEC>|<FOR\_LOOP> |<WHILE\_LOOP>|<IF\_ST>|<ASSIGN\_ST>|<INC>|<DECR>

<OBJ> <DT> ID = new <DT> (<ARGS2>);

<CONSTRUCTOR> <AM> ID(<ARGS>){<CONSTRUCTOR\_CALLING><MST>}

<CONSTRUCTOR\_CALLING> super(<ARGS2>);|this(<ARGS2>);|Eps

<ASSIGN\_ST> <P>=<Q>

<P> ID<P””>

<P””> <P’>|(<ARGS2>);<P’>|[<E>]<opt><P’>

<Q> <P>|<OE>

<P’> .<P>|Eps

<DEC> <O\_Static><AM> <DT> ID<M>;

<M> =<OE><M’>|<M’>

<M’> ,ID<M>|Eps

<O\_Static> static|Eps

<IF\_ST> if(<Cond>){<MST>} <O\_ELIF><O\_ELSE>

<O\_ELIF> el<IF\_ST>|Eps

<O\_ELSE> else{<MST>}

<COND> <OE>|true|false

<FUNC\_CALL> ID (<ARGS2>);

<ARGS2> Eps|<OE><NEXT2>

<NEXT2> ,<OE><NEXT2>|Eps

<FUNC\_DEF> <O\_STATIC> <AM> <DT> ID(<ARGS>){<MST>}

<ARGS> Eps|<DT2><X1><NEXT>

<NEXT> ,<DT2><X1><NEXT>|Eps

<X1> ID<Y1>

<Y1> Eps|[<OE>]<opt>

<ARRAY\_DEC> <DT2>[<E>]<opt> ID<opt2>;

<opt> [<E>]|Eps

<opt2> ,ID<opt2>|Eps

<FOR\_LOOP> floop(<FOR\_LOOP’>;<OE>;<INC\_DEC>ID<X>){<MST>}

<FOR\_LOOP’> <DEC>|<ASSIGN\_ST>

<WHILE\_LOOP> wloop(<COND>){<MST>}

<OE> <AE><OE’>

<OE’> or <AE><OE’>|Eps

<AE> <RE><AE’>

<AE’> and <RE><AE’>|Eps

<RE> <E><RE’>

<RE’> ROP <E> <RE’>|Eps

<E> <T><X>

<X> PM <T> <X>|Eps

<T> <F> <T’>

<T’> MDM <F> <T’>|Eps

<F> ID<F’>|<CONST><X>|<INC\_DEC> ID <X> |(<OE>)|

not <F>| this.<this’>| super.<super’>

<this’> ID<this\_super’’>

<this\_super’’> <X>|(<ARGS2>);<X>

<super’> ID <this\_super’’>

<F’> <X><F’’>|(<ARGS2>)<X>|[<OE>]<F’’’>

<F’’> <INC\_DEC>|eps

<F’’’> <x>|[<OE>]<X>

<DT> DT<DT’>|ID<DT’>

<DT’> [ ]|[ ][ ]|eps

<DT2> DT|ID

<AM> static|public|private