CFG of X

1. program → stmts |eof
2. stmts → stmt | stmts ; stmt
3. stmt → ϵ | selection | iteration |assignment | subprogramDecl
4. selection → if alts fi
5. iteration → do alts od
6. alts → alt |alts :: alt
7. alt → guard ? stmts
8. guard → expr
9. assignment → vars := exprs

*// takes in a list of expr as parameter and returns a list of variables*

|vars := subprogram := exprs

*// takes in a list of expr as parameter and does not return anything*

|:= subprogram := exprs

*// takes no parameter and returns a list of variables*

|vars := subprogram :=

*// takes no parameter and returns nothing*

|:= subprogram :=

1. vars → id |vars , id
2. subprogram → id //needed for subprogram call...but this may lead to reduce/reduce conflicts with vars
3. exprs → expr | exprs , expr
4. subprogramDecl →  heading  body
5. heading → id(args)
6. args → id, args | id
7. body  →   “{”stmts returnStmt”}”
8. ReturnStmt → return exprs
9. expr → disjunction
10. disjunction → conjunction | disjunction or conjunction
11. conjunction → negation | conjunction& negation
12. negation → relation| ~ relation
13. relation → sum

|sum <  sum

|sum <= sum

|sum = sum

|sum ~= sum

|sum>= sum

|sum>  sum

1. sum → term |  - term | sum + term | sum - term
2. term → factor | term \* factor |term / factor
3. factor  → true|false|integer|real|id|( expr )