**program = cmpdstmt**

**declaration = arraydecl | type “ “ IDENTIFIER**

**type = “int” | “string”**

**arraydecl = type “ “ IDENTIFIER “[“integer”]”**

**cmpdstmt = “{“ stmtList “}”**

**stmtlist = stmt | stmt ";" stmtlist**

**stmt = simplstmt | structstmt**

**simplstmt = (assignstmt | iostmt | declaration) “;”**

**assignstmt = IDENTIFIER "=" expression**

**expression = expression (“+”|”-“) term | term**

**term = term (“\*”|”/”) factor | factor**

**factor = "(" expression ")" | IDENTIFIER | integer | arrayelem**

**arrayelem = IDENTIFIER “[“integer”]”**

**iostmt = (“cin” “>>” IDENTIFIER) | (“cout” “<<” (IDENTIFIER | CONSTANT))**

**structstmt = cmpdstmt | ifstmt | whilestmt | forstmt**

**ifstmt = "if" condition “{“ stmt “}” [ else “{“ stmt “}”]**

**whilestmt = "while" condition "{" stmt “}”**

**forstmt = “for” “(“ assignstmt “;” condition “;” assignstmt “)” “{“ stmt “}”**

**condition = “(“ expression RELATION expression “)”**

**RELATION = "<" | "<=" | "==" | "!=" | ">=" | ">"**