

# Lab Assignment IV -- Graduate Students

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Program → program Stmt_list end . eof
Stmt_list → Stmt ; Stmt_list
           | ∈
Stmt → idp = Exprq {MOV}q,p
      | if Exprp comparec Exprq {TST}p,q,c,L {JMP}L then {LBL}L Stmt {LBL}L L ← lalloc
      | while {LBL}L Exprp comparec Exprq {TST}p,q,c,L {JMP}L do {LBL}L Stmt {JMP}L {LBL}L L ← lalloc
Exprp → Termq Moretermsq,p
Moretermsp,q → + Termt {ADD}p,t,r Moretermsr,q r ← talloc
              | - Termt {SUB}p,t,r Moretermsr,q r ← talloc
              | ∈ q ← p
Termp → Factorq Morefactorsq,p
Morefactorsp,q → * Factort {MUL}p,t,r Morefactorsr,q r ← talloc
                | / Factort {DIV}p,t,r Morefactorsr,q r ← talloc
                | div Factort {DIV}p,t,r Morefactorsr,q r ← talloc
                | mod Factort {MOD}p,t,r Morefactorsr,q r ← talloc
                | ∈ q ← p
Factorp → Basep ^ Factort {EXP}p,t,r r ← talloc
          | Basep
Basep → # Valuep {PLS}p,r r ← talloc
        | ~ Valuep {NEG}p,r r ← talloc
        | Valuep
Valuep → ( Exprp )
          | idp
          | nump

```