

Report on ACM proposal for FOR clauses :

$$\text{FOR } \sum_1 X_1 \sum_2 X_2 \dots \sum_n X_n$$

$$\sum$$

where $\sum_i$ are any statements, simple or compound, plus certain abbreviated statements

and X_i are (or ; TILL Γ_i , where Γ_i is a

Boolean condition or abbreviation of same.

X_n is (or ; TILL Γ_n ;

The FOR-clause is a control program for $\sum$, as follows

execute $\sum_i$ (If $X_i =$, then jump to $\sum$
 (----- return to $\sum_{i+1}$ -----
 (If $X_i = \text{TILL } \Gamma_i$, then (If $\neg \Gamma_i$, jump to $\sum$
 (----- Return to $\sum_i$ -----
 (----- If Γ_i , jump to $\sum$, return to $\sum_{i+1}$ -----
 (If $X_n =$; then jump to $\sum$
 (----- return to successor $\sum$ -----
 (If $X_n = \text{TILL } \Gamma_n$; (If $\neg \Gamma_n$, jump to $\sum$, return to $\sum_n$
 (----- If Γ_n , jump to $\sum$, return to
 (----- successor $\sum$ -----
 (-----

Abbreviations for $\sum_i$

$\Delta := E$ stands for $\boxed{V. = V+E}$, for all V's mentioned in assignment statements in $\sum_{i-1}$

E stands for $\boxed{V. = E}$

$V.=E$ stands for $\boxed{V. = V+E}$

Abbreviation for Γ_i

E stands for $\boxed{V=E}$

Examples

FOR I:=1, Δ =1 TILL N;

FOR {I:=1; J:=1} , {I:=f(J); ΔJ =g(I)} TILL I * J ² = 65;

FOR X:=X₀, X:=(X+Y) TILL ABS(R²-X) < Σ ;

Y:=R/X

FOR I:=1, 12, 35, X+Y TILL J=30;

Wm. TURANSKI

WT ~~fig~~

1.11.1960

For V:=L loop Σ ;

For V₁:=L₁ For V₂:=L₂ loop Σ)

L ~ E₁, E₂, L, E

L ~ E₁ delta E₂ until E₃

L ~ E while B