

# Regular Definitions.

Punctuations  $\rightarrow [ | \{ | ( | ) | \} | ] | ::$   
Operators  $\rightarrow < | > | < > | := | -- | + | - | ++ |$   
 $+ = | / = | > = | \% | || | \& \& | ! = |$   
 $* | " | " | / | / | / | > >$

Digit  $\rightarrow [0-9]$   
Digits  $\rightarrow \text{Digit}^+$   
Number  $\rightarrow \text{Digits} (. \text{Digits})? (E[+-]? \text{Digits})$   
Letter  $\rightarrow [a-zA-Z]$   
Identifier  $\rightarrow \text{Letter}^+ (\text{Letter}_-)^* | \_ (\text{Letter}_-)^*$   
Keywords  $\rightarrow$

asm | Wagaena | new | this |  
auto | enum | operator | throw |  
Mankigi | explicit | private | True  
break | export | protected | try |  
case | extern | public | typedef |  
catch | False | register | typeid |  
Half | Ashriya | typename |  
Aadi | class | for | Wapas |  
union | const | do | short |  
unsigned | goto | signed



continue | Agar | sizeof | virtual |  
default | inline | static | khali | delete |  
volatile | do | long | struct | double |  
mutable | switch | while | namespace |  
template | Margazi | Matr | input → |  
output ← .

## Patterns in Keywords.

Start with A	( 8 Keywords )
Start with F	( 1 Keyword )
Start with H	( 1 Keyword )
Start with K	( 1 Keyword )
Start with M	( 8 Keywords )
Start with T	( 1 Keyword )
Start with W	( 2 Keywords )
Start with a	( 2 Keywords )
Start with b	( 1 Keyword )
Start with c	( 5 Keywords )
Start with d	( 5 Keywords )
Start with e	( 4 Keywords )
Start with f	( 1 Keyword )
Start with g	( 1 Keyword )
Start with i	( 2 Keywords )
Start with l	( 1 Keyword )
Start with m	( 1 Keyword )
Start with n	( 2 Keywords )
Start with o	( 2 Keywords )



Start with p (3 keyword)  
Start with r (1 keyword)  
Start with s (6 keyword)  
Start with t (7 keyword)  
Start with u (8 keyword)  
Start with v (2 keyword)  
Start with w (1 keyword)

letter

other1 = ~~letter~~ - {A, F, H, K, M, T, W, a, b, c, d, e, f, g, i, l, m, n, o, p, r, s, t, u, v, w}

other2 =  $\Delta_c$  - {<, =, >}

other3 =  $\Delta_c$  - {>, =}

other4 =  $\Delta_c$  - {+, =}

other5 = ~~Digit~~  $\Delta_c$  - Digit - {., } - {E}

other6 =  $\Delta_c$  - Digit - {E}

other7 =  $\Delta_c$  - Digit

other8 =  $\Delta_c$  - letter - {, }

~~other9 =  $\Delta_c$  - other - {, }~~

Assumption taken that for keyword matching for every state there are 2 transition not shown. one is for the mismatch character other than the required one for keyword which goes to state 4. other is the - transition which goes to state 20.







