A3 :

//a4.l

letter[a-zA-Z]

digit[0-9]

whitespace[\n\t]

underscore[\_]

%%

void |

main |

do |

for |

while |

printf |

scanf |

getch |

exit |

include |

clrscr |

break |

case |

if |

continue printf("\n%s is a KEYWORD",yytext);

"+" |

"-" |

"\*" |

"/" |

"#" |

"%" printf("\n%s is a OPERATOR",yytext);

"&" |

"|" |

"!" |

"^" printf("\n%s is a BITWISE OPERATOR",yytext);

"&&" |

"||" printf("\n%s is a LOGICAL OPERATOR",yytext);

int |

float |

char |

short |

long |

double printf("\n%s is a DATATYPE",yytext);

"<" |

">" |

"<=" |

">=" |

"==" printf("\n%s is a RELATIONAL OPERATOR",yytext);

"(" |

")" |

"{" |

"}" |

";" printf("\n%s is a DELIMITOR",yytext);

"=" printf("\n%s is a ASSIGNMENT OPERATOR",yytext);

{digit}+ printf("\n%s is a INTEGER",yytext);

({digit}\*\.{digit}+) printf("\n%s is a FLOAT VALUE",yytext);

{letter}({letter}|{digit}|{underscore})\* printf("\n%s is an IDENTIFIER",yytext);

\#({letter}\*\<{letter}\*.{letter}\*>) printf("\n%s is a HEADER FILE",yytext);

({letter}\*|{digit}\*)\[{digit}\*] printf("\n%s is an ARRAY",yytext);

({letter}\*|{digit}\*)\[{digit}\*]\[{digit}\*] printf("\n%s is a 2D ARRAY",yytext);

%%

main()

{

yylex();

}

int yywrap()

{

return 1;

}

a4.c

#include<stdio.h>

#include<conio.h>

main()

{

int i=0;

int a[10],b[3][3];

float f;

printf("HELLO");

if(i==0)

{

f=10.5;

}

getch();

}

/\*Output

sammyak@sammyak-Inspiron-3542:~$ lex a3.l

sammyak@sammyak-Inspiron-3542:~$ cc lex.yy.c -w

sammyak@sammyak-Inspiron-3542:~$ ./a.out < a3.c

#include<stdio.h> is a HEADER FILE

#include<conio.h> is a HEADER FILE

main is a KEYWORD

( is a DELIMITOR

) is a DELIMITOR

{ is a DELIMITOR

int is a DATATYPE

i is an IDENTIFIER

= is a ASSIGNMENT OPERATOR

0 is a INTEGER

; is a DELIMITOR

int is a DATATYPE

a[10] is an ARRAY,

b[3][3] is a 2D ARRAY

; is a DELIMITOR

float is a DATATYPE

f is an IDENTIFIER

; is a DELIMITOR

printf is a KEYWORD

( is a DELIMITOR"

HELLO is an IDENTIFIER"

) is a DELIMITOR

; is a DELIMITOR

if is a KEYWORD

( is a DELIMITOR

i is an IDENTIFIER

== is a RELATIONAL OPERATOR

0 is a INTEGER

) is a DELIMITOR

{ is a DELIMITOR

f is an IDENTIFIER

= is a ASSIGNMENT OPERATOR

10.5 is a FLOAT VALUE

; is a DELIMITOR

} is a DELIMITOR

getch is a KEYWORD

( is a DELIMITOR

) is a DELIMITOR

; is a DELIMITOR

} is a DELIMITOR

sammyak@sammyak-Inspiron-3542:~$\*/