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/\*Problem Statement:

Implement Thermostat temperature control using YACC

\*/

ex1.l

%{

#include "y.tab.h"

#include <stdio.h>

%}

extern YYSTYPE yylval

%%

[0-9]+ yylval=atoi(yytext); return NUMBER;

heat return TOKHEAT;

on|off yylval=!strcmp(yytext,"on"); return STATE;

target return TOKTARGET;

temperature return TOKTEMPERATURE;

%%

Ex1.y

%{

#include <stdio.h>

#include "y.tab.h"

void yyerror(const char \*str)

{

fprintf(stderr,"error: %s\n",str);

}

%}

%token NUMBER TOKHEAT STATE TOKTARGET TOKTEMPERATURE

%%

commands:

| commands command

;

command:

heat\_switch

|

target\_set

;

heat\_switch:

TOKHEAT STATE

{

if($2)

printf("\tHeat turned on \n");

else

printf("\tHeat turned off\n");

}

;

target\_set:

TOKTARGET TOKTEMPERATURE NUMBER

{

printf("\tTemperature set %d ",$3);

}

;

%%

int yywrap()

{

return 1;

}

main()

{

yyparse();

}

OUTPUT

comp144@comp144:~$ lex ex1.l

comp144@comp144:~$ yacc -d ex1.y

comp144@comp144:~$ cc lex.yy.c y.tab.c -o output

comp144@comp144:~$ ./output

heat on

Heat turned on

heat off

Heat turned off

target temperature 50

Temperature set 50