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p2.lex

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```

%{
#define _UINT      1
#define _SINT      2
#define _REAL      3
#define _KEYWORD   4
#define _ID        5
    int lines=0;
}%
uint  ([1-9][0-9]*)
real  ([0-9]?\. [0-9]+)
id     ([_a-zA-Z][_0-9a-zA-Z]*)
ws     ([ \t]+)
%%
{ws}      { ; }
\n        { lines++; }
int
for
do
if
then
else      { return _KEYWORD; }
{uint}    { return _UINT; }
[+-]{uint} { return _SINT; }
{id}      { return _ID; }
{real}    { return _REAL; }
.          { printf("Error: Undefined string found! (%s)\n", yytext);
              exit(1); }
%%
int yywrap(void){
    return 1;
}

int main(int argc, char *argv[]) {
    int res;

    if(argc>2) {
        printf("Syntax: %s [infile]\n", argv[0]);
        exit(1);
    }
    if(argc==2)
        if((yyin=fopen(argv[1], "r"))==NULL) {
            printf("Cannot open input file %s.\n", argv[1]);
            exit(1);
        }
    /* otherwise yyin = stdin */
    while(res=yylex()){
        switch(res){
            case _UINT: printf("<unsigned int>"); break;
            case _SINT: printf("<signed int>"); break;
            case _REAL: printf("<real>"); break;
            case _KEYWORD: printf("<keyword>"); break;
            case _ID: printf("<ID>");
        }
        printf("[%s]\n", yytext);
    }
    printf(" %d lines processed.\n", lines);
    fclose(yyin);
    return 0;
}

```