

Lex program to find how many integer, numbers arrays etc have been used in a program

```
%{
#include <stdio.h>
int num_integers = 0;
int num_floats = 0;
int num_arrays = 0;
int num_other = 0;
%}

%%

int { num_integers++; }
float { num_floats++; }
[a-zA-Z]+\[\d+\] { num_arrays++; }
[a-zA-Z]+ { num_other++; }

%%

int main()
{
    yylex();
    printf("Number of integers: %d\n", num_integers);
    printf("Number of floating point numbers: %d\n", num_floats);
    printf("Number of arrays: %d\n", num_arrays);
    printf("Number of other variables: %d\n", num_other);
    return 0;
}
```

```
lex count_variables.l
```

```
gcc lex.yy.c -o count_variables -ll
```

Program to calculate no. of comment lines in a given C program. Also replace them with `/*This was a comment line*/` and copy that program into a separate file.

```
lex count_comments.l  
gcc lex.yy.c count_comments.c -o count_comments
```

```
%{  
#include <stdio.h>  
int num_comments = 0;  
%}  
  
%%  
  
"/"(.*) { num_comments++; printf("/*This was a comment line*/%s\n",  
yytext); }  
"/*" { num_comments++; printf("%s", yytext); }  
.|\n { printf("%s", yytext); }  
  
%%  
  
int main(int argc, char** argv)  
{  
    if (argc < 3) {  
        printf("Usage: %s <input_file> <output_file>\n", argv[0]);  
        return 1;  
    }  
  
    FILE* input = fopen(argv[1], "r");  
    if (!input) {  
        printf("Error opening input file %s\n", argv[1]);  
    }  
}
```

```
    return 1;  
}
```

```
FILE* output = fopen(argv[2], "w");  
if (!output) {  
    printf("Error opening output file %s\n", argv[2]);  
    fclose(input);  
    return 1;  
}
```

```
yyin = input;  
yyout = output;
```

```
yylex();
```

```
printf("Number of comment lines: %d\n", num_comments);
```

```
fclose(input);  
fclose(output);  
return 0;  
}
```