

**Aim:** Lex program to convert decimal number to hexadecimal number in a file.

**Lex code:**

```
%option noyywrap
%{
#include <stdio.h>
int num = 0, digit = 0, count = 0, pcount = 0, rem, i;
char hexAr[] = {'A', 'B', 'C', 'D', 'E', 'F'};
char result[100];
%}

number [0-9]+

%%

{number} {
num = atoi(yytext);
count = 0;
while (num > 0) {
rem = num % 16;
if (rem > 9) {
result[count] = hexAr[rem % 10];
} else {
result[count] = '0' + rem;
}
count += 1;
num = num / 16;
}

for (i = count - 1; i >= 0; i--) {
printf("%c", result[i]);
}
}

[.\n] { printf("%c", yytext[0]); }

%%
```

```
int main(int argc, char* argv[]) {
    if (argc != 2) {
        printf("Usage: %s <input file>\n", argv[0]);
        return 1;
    }

    yyin = fopen(argv[1], "r");
    if (!yyin) {
        printf("Error: Cannot open file %s\n", argv[1]);
        return 1;
    }
    yylex();
    return 0;
}
```

**Input:**

15

9

10

8

4

10236

235

1204000

2360

2597884

7854

## Output:

```
dec_hex.c
14  num = atoi(yytext);
15  count = 0;
16  while (num > 0) {
17      rem = num % 16;
18      if (rem > 9) {
19          result[count] = hexAr[rem % 10];
20      } else {
21          result[count] = '0' + rem;
22      }
23      count += 1;
24      num = num / 16;
25  }
26
27  for (i = count - 1; i >= 0; i--) {
28      printf("%c", result[i]);
29  }
30  }
31  [.\n] { printf("%c", yytext[0]); }
32  %%
33
34  int main(int argc, char* argv[]) {
35      if (argc != 2) {
36          printf("Usage: %s <input file>\n", argv[0]);
37          return 1;
38      }
39
40      yyin = fopen(argv[1], "r");
41  }
```

```
input.txt
1  15
2  9
3  10
4  8
5  4
6  10236
7  235
8  1204000
9  2360
10 2597884
11 7854
```

```
infernoinferno:~/Documents/college/Compiler Lab/Assignment - 5$ ./a.out input.txt
F
9
A
8
4
27FC
EB
125F20
938
27A3FC
```