Flex Examples

Tutorial - 3

Example 1.flex

- A simple scanner to catch the email pattern

```
%{…
#include <stdio.h>
%}
digit    [0-9]
letter   [a-zA-Z]
email    {letter}+\.{letter}+{digit}*"@ucalgary.ca"
any      .*
%%
{email}            {printf("Email found:
                   %s\n",yytext);}

{any}              {printf("No email found.\n");}%%int
main(){

        yylex();
        return 0;

}
```

Flex input file

Example 2.flex

- Shows how to report a single string in the main function.

```
%{…
#include <stdio.h>char output[100];
%}
digit    [0-9]
letter   [a-zA-Z]
pattern  {letter}+{digit}*
any      .*
%%
{pattern}         {printf("pattern found:
                  %s\n",yytext);strcat(output,yytext);
                  strcat(output,"\n");}
{any}             {printf("No email found.\n");}
%%
int main(){
        strncpy(output,"This is the
        output:\n",sizeof(output));
        yylex();
        printf("this is in the main:\n%s\n",output);

        return 0;
}
```

Flex input file

Example 3.flex

- Shows how to write the report in file.

```
%{…
#include <stdio.h>
char output[100];
%}
digit    [0-9]
letter   [a-zA-Z]
pattern  {letter}+{digit}*
any      .*
%%
{pattern}          {printf("pattern found:%s\n",yytext);
                   strcat(output,yytext);
                   strcat(output,"\n");}
{any}              {printf("Invalid Input\n");}
%%
int main(){
        strncpy(output,"This is the
        output:\n",sizeof(output));
        yylex();
        FILE *fp;
        fp = fopen("out.txt","w");
        fprintf(fp,output,sizeof(output)); fclose(fp);
        return 0;}
```

Flex input file

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Example 4.flex

- Shows how to use read from an input.
- The password is : I can almost finish Assign1.

```
%{…
#include <stdio.h>
char output[100];
%}
digit      [0-9]
letter     [a-zA-Z]
pattern    {letter}+{digit}*\n
%%
{pattern}          {printf("pattern found:
                   %s\n",yytext); strcat(output,yytext);
                    strcat(output,"\n");}
<<EOF>>            {yyterminate();}
%%
int main(){
        FILE *input;
        input = fopen("in.txt", "r");
        yyin = input;
        yylex();
        fclose(input);
        printf("\n\nThis is output:\n%s\n",output);
        return 0;
}
```

Flex input file

Example 5.flex

- Shows how to use yyterminate().

```
%{…
#include <stdio.h>
char output[100];
%}
digit    [0-9]
letter   [a-zA-Z]
pattern  {letter}+{digit}*\n
newline \n
any      .*\n
%%
{pattern}          {printf("pattern found:
                   %s\n",yytext); strcat(output,yytext);
                    strcat(output,"\n");}
{newline}          {printf("NEW LINE!\n");}
{any}              {printf("Invalid Input\n");
                   yyterminate();}
%%
int main(){
        yylex();
        printf("\n\nThis is output:\n%s\n",output);
        return 0;
}
```

Flex input file