System Software
Tutorial 5

U20CS005
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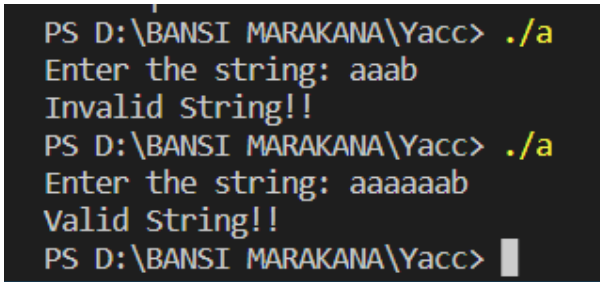
1. Write a YACC and LEX program to recognize strings of { $a^n b$ | n≥5 }.

LEX Code:

```
%{
   #include "y.tab.h"
%}
%%
[aA] {return A;}
[bB] {return B;}
\n {return NL;}
. {return yytext[0];}
%%
int yywrap()
{
   return 1;
}
```

YACC Code:

```
%{
   #include<stdio.h>
   #include<stdlib.h>
%}
%token A B NL
%%
stmt: A A A A A S B NL {printf("Valid String!!\n"); exit(0);}
;
S: S A
|
;
%%
int yyerror(char *msg)
{
   printf("Invalid String!!\n");
   exit(0);
}
int main()
{
   printf("Enter the string: ");
   yyparse();
}
```



2. Write a YACC and LEX program for Conversion of Infix to Postfix expression.

LEX Code:

```
%{
   #include"y.tab.h"
   extern int yylval;
%}
%%
[0-9]+  {yylval=atoi(yytext); return NUM;}
\n      return 0;
.       return *yytext;
%%
int yywrap()
{
   return 1;
}
```

YACC Code:

```
%{
  #include<stdio.h>
%}
%token NUM
%left '+' '-'
%left '*' '/'
%right NEGATIVE
%%
S:  E {printf("\n");}
;
E:  E '+' E {printf("+");}
   |  E '*' E {printf("*");}
   |  E '-' E {printf("-");}
   |  E '/' E {printf("/");}
   |  '(' E ')'
   |  '-' E %prec NEGATIVE {printf("-");}
   |  NUM     {printf("%d", yylval);}
;
%%
```

```
int main()
{
  printf("Enter the expression: ");
  yyparse();
}
int yyerror (char *msg)
{
  return printf ("error YACC: %s\n", msg);
}
```

```
PS D:\BANSI MARAKANA\Yacc> ./a
Enter the expression: 4+6*4
464*+
```