

PAGE NO.

```
Write a YACC pacogram to accognize string
acabb, abbb. using an bn, where bz=0
Lex file
% 5
# include "yotab. h"
of 2
%0 %0
a oceturn'a';
 b sceturn b;
in xeturn D;
oceturn yytext [0]; //catch-all unxecognized
                     charatter.
9000
YACC file
905
# include / stdio. h7
# Include ( associatellib. W)
 int yylex();
```

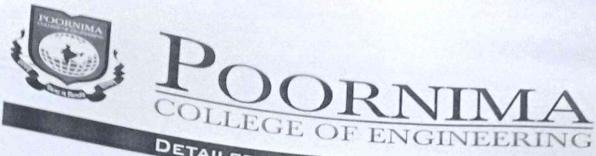
```
void exces ( o " const char 900);
  Void erroz (Const char * 5);
                                              Viers:
  % 3
 % token a, b
9/00/0
start:
 sequence 'm' & pointf ("Valid Atoing: Matches
                 and'n (n"); 3
                & pountf ("empty \n"); 3
  11/201
sequence:
   'a' sequence 'b' & 1 * Ensure matching an bn +/3
  1 /* empty +/
% %
  void yyerroz (const char ts) &
                                 MACC File
     fporintf (stderr, "Erros: % s/m", 8);
 int main ()
& printf ("Enter a string (ann b'n, n7=0):");
    Yyparse():
    oceturn o:
```



```
Write va YACC program to evaluate an arithemetro
 expression involving operator +, -, *, 1.
 Lex program
 of $
  /* definition section */
 #include < stdio. h7
 # include (stdlib- h)
 # include yo tab. h"
  extern int yylval;
403
1 * rules section +/
9/0%
[0-9] + & yylval = atoi (yytext);
          . oceturn Number;
[/n] oceturn 0;
· veturn YYtext[0];
```

0/0 0/0 int yourap () E oceturn 1;

```
parper Source code
0/0 5
  of definitions ection +/
  # include extdio.h>
   int flag=0;
 9/2
 of token Number
  % left 1+1 1-1
  % Left 1 * / 1 10/01
  a). left "(' ')'
   /* rules section */
   9/00/0
    Arithematic Expression's E &
            podntf ("\n Result = %\n", $$)3
             oceturno;
     E: E'+'E &$$=$1+$3;3
     IE'- E S$$ = $1-$3;3
     [E1* E $$$ = $1 *$3;3
     | E'/'E &$$ =$1/$3;3
     1 E'%'E & $$ = $1%$3;}
     1'('E')' $$$ = $2;3
     | Number &$$ = $1;3
      8% 1/0
```



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11 driver Code

Void main()

\$ pointf ("In onle any withernatic exponention which have +, -, /, *, % (n'));

Yyparse();

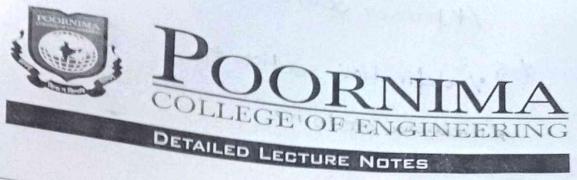
if (flag = = 0)

point ("renter expossion ix valld \n");

3 void typerros ()

& printf ("Invalled expression \n");

5



Write a VACC program to check validity of a Storings labed, aabbed using grammar anbincimain, where n, m70 % & Lexical Analyzer program /* definition section */ ## include "Y. tab. h" 40 3 / * rule section + / %0% [a A] & oceturn A; 3 [bB] & oceturn B; 3 In & oceturn NL; 3 ¿ exeturn yytext [o]; 3 % %

int yyworap ()

& sceturn 1;

```
/* parser bource code +/
 % & % definition section +/
  # include ( stdio. h)
  #include (stallib.h)
  % 3
% token ABNL
 /* Rule Section +/
 0/0 0/0
otmt: AAAAA BNL & pointf ("valid string In").
         exit(0); 3
 S: SA
9/0 %
int gyerros (char + msg)
 ¿ pocent ("Inotalid string \m");
    exit(o);
 //doiver code
 main()
 & point ("enter the string (n");
    yyparse();
```



Write a C perogram to find first of any grown. #indude(statio.h) #include < stallib. h7 # include (ctype. h> #define MAXIO Void find first (char, int, int); intn: Char pocoduction [MAX][MAX], Fiors+[MAX]; ient main () charchoice, c; pocint ("Ento the no of pocoductions;"); scanf("/, d", an); paint ("Enter the production eg. E=E+T 81 T=a'\n"). for (i=0; i<n; i++) scanf ("% s", pocoduction [i]);

```
pocent ("enter the non-terminal to find first:").
20
 scant ("% c", &c);
  int start = 0;
  find Figst (c, o, start);
  podnef ("FIRST (%00) = 5",0");
  for (i=0; i < start; i++)
   pount ("%", first[i])
   point ("> (n");
  boundf ("do you want to continue? (y/n);");
  scarf ("f.c", &choice);
  while (choice == 'y' || choice == 'y');
  oceturn 0;
 a void find First (charc, int qu. int q2)
   o inti;
  if (1 isupper (c)) &
     first [92++]=c; // Terminal directly goes to first
     sceturn;
 for (0=0; j<n; j++) S
   if (production [j][o] == 0 } &.
   if (islower (preduction [i][2] 1) preduction [i][2]=='#')
    & firest(92++) = production[J[2];
   3 else find-first (Araduction (JJ[2], 91, 92); 3333
```