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#include <stdio.h>
#include <string.h>
char prol[7][10] = { "S", "A", "A", "B", "B", "C", "C" };
char pror[7][10] = { "A", "Bb", "Cd", "aB", "@", "Cc", "@" };
char prod[7][10] = { "S->A", "A->Bb", "A->Cd", "B->aB", "B->@", "C->Cc", "C->@" };
char first[7][10] = { "abcd", "ab", "cd", "a@", "@", "c@", "@" };
char follow[7][10] = { "$", "$", "$", "a$", "b$", "c$", "d$" };
char table[5][6][10];
int numr(char c)
{
    switch (c)
    {
        case 'S':
            return 0;

        case 'A':
            return 1;

        case 'B':
            return 2;

        case 'C':
            return 3;

        case 'a':
            return 0;

        case 'b':
            return 1;

        case 'c':
            return 2;

        case 'd':
            return 3;

        case '$':
            return 4;
    }
    return (2);
}
int main()
{
    int i, j, k;

    for (i = 0; i < 5; i++)
        for (j = 0; j < 6; j++)
            strcpy(table[i][j], " ");
    printf("The following grammar is used for Parsing Table:\n");
    for (i = 0; i < 7; i++)
        printf("%s\n", prod[i]);
    printf("\nPredictive parsing table:\n");
    fflush(stdin);
    for (i = 0; i < 7; i++)
    {

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        k = strlen(first[i]);
        for (j = 0; j < 10; j++)
            if (first[i][j] != '@')
                strcpy(table[numr(prol[i][0]) + 1][numr(first[i][j]) + 1], prod[i]);
    }
    for (i = 0; i < 7; i++)
    {
        if (strlen(pror[i]) == 1)
        {
            if (pror[i][0] == '@')
            {
                k = strlen(follow[i]);
                for (j = 0; j < k; j++)
                    strcpy(table[numr(prol[i][0]) + 1][numr(follow[i][j]) + 1],
prod[i]);
            }
        }
        strcpy(table[0][0], " ");
        strcpy(table[0][1], "a");
        strcpy(table[0][2], "b");
        strcpy(table[0][3], "c");
        strcpy(table[0][4], "d");
        strcpy(table[0][5], "$");
        strcpy(table[1][0], "S");
        strcpy(table[2][0], "A");
        strcpy(table[3][0], "B");
        strcpy(table[4][0], "C");
        printf("\n-----\n");
        for (i = 0; i < 5; i++)
            for (j = 0; j < 6; j++)
            {
                printf("%-10s", table[i][j]);
                if (j == 5)
                    printf("\n-----
\n");
            }
    }
}

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

```

PS D:\5th-Sem-Practicals\CD\Pract7> gcc prog.c
PS D:\5th-Sem-Practicals\CD\Pract7> ./a.exe
The following grammar is used for Parsing Table:
S->A
A->Bb
A->Cd
B->aB
B->@
C->Cc
C->@

```

Predictive parsing table:

	a	b	c	d	\$
S	S->A	S->A	S->A	S->A	
A	A->Bb	A->Bb	A->Cd	A->Cd	
B	B->aB	B->@	B->@		B->@
C			C->@	C->@	C->@

```

PS D:\5th-Sem-Practicals\CD\Pract7> █

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