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| **Course Code: CSL602** | **Course Name: SPCC LAB** |
| **Class : TE-CO B-3** | **Date: 15/04/2021** |
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**Experiment :07**

**Aim: To find first () of a Grammer.**

**Program:**

#include<stdio.h>

#include<ctype.h>

void Find\_First(char[], char);

void Array\_Manipulation(char[], char);

int limit;

char production[25][25];

int main()

{

char option;

char ch;

char array[25];

int count;

printf("\nEnter Total Number of Productions:\t");

scanf("%d", &limit);

for(count = 0; count < limit; count++)

{

printf("\nValue of Production Number [%d]:\t", count + 1);

scanf("%s", production[count]);

}

do

{

printf("\nEnter a Value to Find First:\t");

scanf(" %c", &ch);

Find\_First(array, ch);

printf("\nFirst Value of %c:\t{ ", ch);

for(count = 0; array[count] != '\0'; count++)

{

printf(" %c ", array[count]);

}

printf("}\n");

printf("To Continue, Press Y:\t");

scanf(" %c", &option);

}while(option == 'y' || option == 'Y');

return 0;

}

void Find\_First(char\* array, char ch)

{

int count, j, k;

char temporary\_result[20];

int x;

temporary\_result[0] = '\0';

array[0] = '\0';

if(!(isupper(ch)))

{

Array\_Manipulation(array, ch);

return ;

}

for(count = 0; count < limit; count++)

{

if(production[count][0] == ch)

{

if(production[count][2] == '$')

{

Array\_Manipulation(array, '$');

}

else

{

j = 2;

while(production[count][j] != '\0')

{

x = 0;

Find\_First(temporary\_result,production[count][j]);

for(k = 0; temporary\_result[k] != '\0'; k++)

{

Array\_Manipulation(array,temporary\_result[k]);

}

for(k = 0; temporary\_result[k] != '\0'; k++)

{

if(temporary\_result[k] == '$')

{

x = 1;

break;

}

}

if(!x)

{

break;

}

j++;

}

}

}

}

return;

}

void Array\_Manipulation(char array[], char value)

{

int temp;

for(temp = 0; array[temp] != '\0'; temp++)

{

if(array[temp] == value)

{

return;

}

}

array[temp] = value;

array[temp + 1] = '\0';

}

**Input:**

**E = TD**

**D = +TD**

**D = $**

**T = FS**

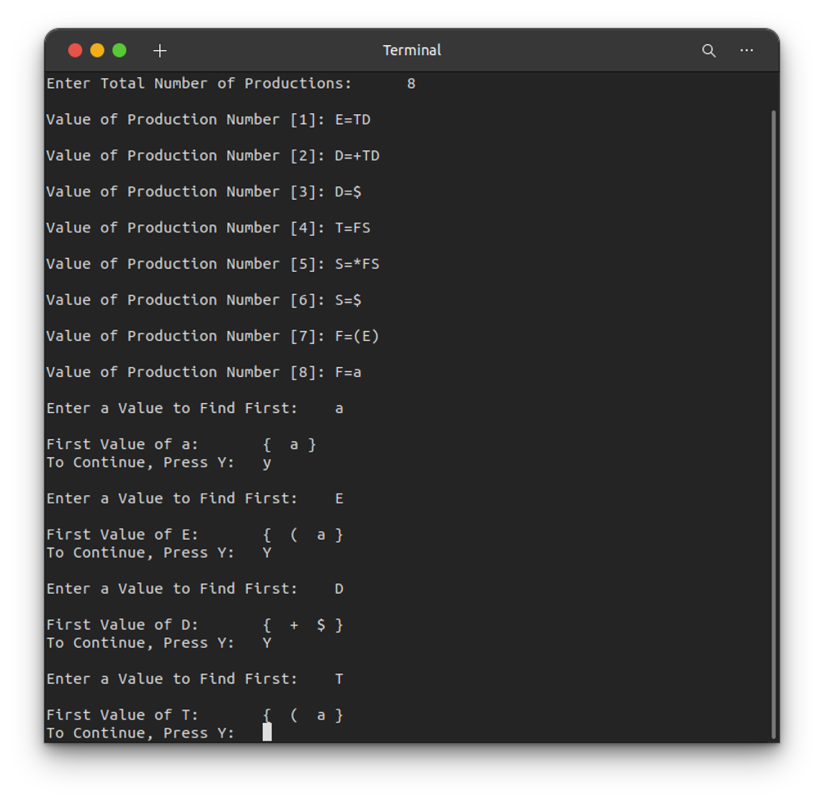
**S = \*FS**

**S = $**

**F = (E)**

**F = a**

**Output:**

****

**Conclusion:**

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| --- |
| With the help of this Experiment we get information of the first() of a grammer. |