EXP08:
Write a C program to find FOLLOW for predictive parser.

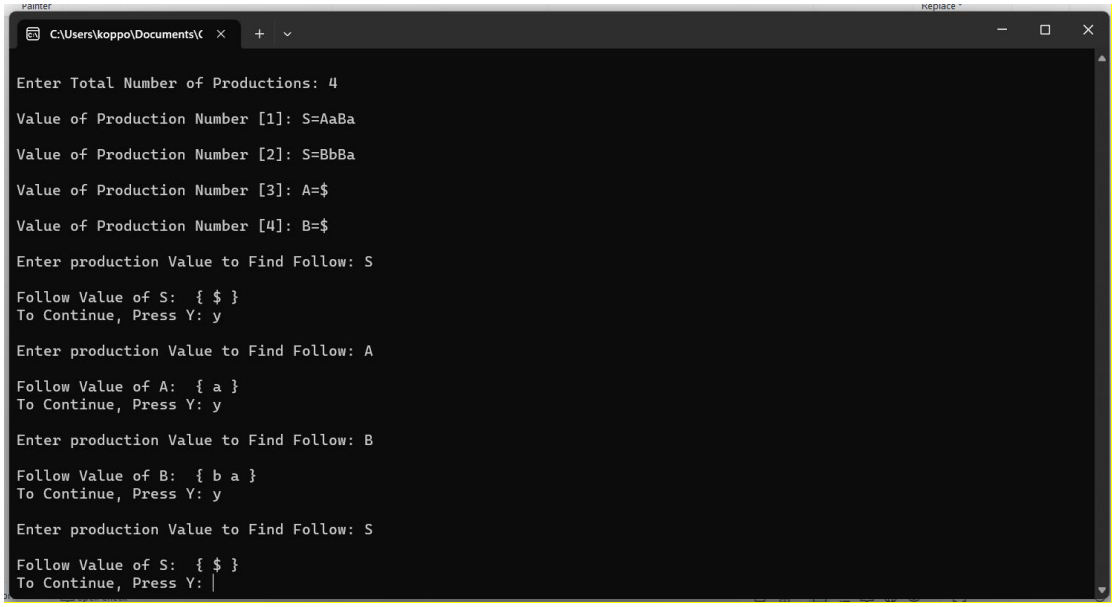
INPUT:

```
#include<stdio.h>
#include<ctype.h>
#include<string.h>int limit, x = 0;
char production[10][10], array[10];

void find_first(char ch);
void find_follow(char ch);
void Array_Manipulation(char ch);

int main()
{
        int count;
        char option, ch;
        printf("\nEnter Total Number of Productions: ");
        scanf("%d", &limit);
        for(count = 0; count < limit; count++)
        {
                printf("\nValue of Production Number [%d]: ", count + 1);
                scanf("%s", production[count]);
        }
        do
        {
                x = 0;
                printf("\nEnter production Value to Find Follow: ");
                scanf(" %c", &ch);
                find_follow(ch);
                printf("\nFollow Value of %c:    { ", ch);
                for(count = 0; count < x; count++)
                {
                        printf("%c ", array[count]);
                }
                printf("}\n");
                printf("To Continue, Press Y: ");
                scanf(" %c", &option);
        }while(option == 'y' || option == 'Y');
        return 0;
```

```
}

void find_follow(char ch)
{
	int i, j;
	int length = strlen(production[i]);
	if(production[0][0] == ch)
	{
		Array_Manipulation('$');
	}
	for(i = 0; i < limit; i++)
	{
		for(j = 2; j < length; j++)
		{
			if(production[i][j] == ch)
			{
				if(production[i][j + 1] != '\0')
				{
					find_first(production[i][j + 1]);
				}
				if(production[i][j + 1] == '\0' && ch !=
production[i][0])
				{
					find_follow(production[i][0]);
				}
			}
		}
	}
}

void find_first(char ch)
{
	int i, k;
	if(!(isupper(ch)))
	{
		Array_Manipulation(ch);
	}
	for(k = 0; k < limit; k++)
	{
		if(production[k][0] == ch)
```

```
                {
                        if(production[k][2] == '$')
                        {
                                find_follow(production[i][0]);
                        }
                        else if(islower(production[k][2]))
                        {
                                Array_Manipulation(production[k][2]);
                        }
                        else
                        {
                                find_first(production[k][2]);
                        }
                }
        }
}

void Array_Manipulation(char ch)
{
        int count;
        for(count = 0; count <= x; count++)
        {
                if(array[count] == ch)
                {
                        return;
                }
        }
        array[x++] = ch;
   }
```

OUTPUT:


C:\Users\koppo\Documents\C
Enter Total Number of Productions: 4
Value of Production Number [1]: S=AaBa
Value of Production Number [2]: S=BbBa
Value of Production Number [3]: A=$
Value of Production Number [4]: B=$
Enter production Value to Find Follow: S
Follow Value of S: { $ }
To Continue, Press Y: y
Enter production Value to Find Follow: A
Follow Value of A: { a }
To Continue, Press Y: y
Enter production Value to Find Follow: B
Follow Value of B: { b a }
To Continue, Press Y: y
Enter production Value to Find Follow: S
Follow Value of S: { $ }
To Continue, Press Y: