Date: 08/09/2025

Experiment No: 05

Aim: To implement symbol table.

Code:

```c
#include <stdio.h>
#include <ctype.h>
#include <stdlib.h>

int main() {
    int i = 0, n = 0;
    char c;
    char expression[100]; // buffer for input expression

    printf("Input the expression ending with $ sign: ");
    while ((c = getchar()) != '$' && i < 99) {
        expression[i++] = c;
    }
    n = i;  // number of characters read

    printf("Given Expression: ");
    for (i = 0; i < n; i++) {
        printf("%c", expression[i]);
    }
    printf("\nSymbol Table display\n");
    printf("Symbol \t Address \t Type\n");

    for (i = 0; i < n; i++) {
        c = expression[i];
        if (isalpha(c)) {
            // Identifier
            printf("%c \t %p \t identifier\n", c, (void*)&expression[i]);
        } else if (c == '+' || c == '-' || c == '*' || c == '=') {
            // Operator
            printf("%c \t %p \t operator\n", c, (void*)&expression[i]);
        }
        // You can add more checks here (digits, delimiters, etc.)
    }

    return 0;
}
```

Output:

```
asecomputerlab@hp-desktop:~/Desktop/22075$ gcc 5.c -o 5
asecomputerlab@hp-desktop:~/Desktop/22075$ ./5
Input the expression ending with $ sign: b+c*2=$
Given Expression: b+c*2=
Symbol Table display
Symbol   Address         Type
b        0x7ffdcde02160          identifier
+        0x7ffdcde02161          operator
c        0x7ffdcde02162          identifier
*        0x7ffdcde02163          operator
=        0x7ffdcde02165          operator
```

Conclusion:

The program to implement symbol table has been successfully executed.