

PRACTICAL-2

Aim : Write a C program to implement Symbol table.

Input: Ask the user to enter expression end by \$: $a + b + c = d$ \$

Expected Output:

Symbol Table:

Symbol	Addr	Type
a	1112	identifier
b	1200	Identifier
c	1494	Identifier
d	1532	Identifier

Code:

```
#include <stdio.h>
#include <conio.h>
#include <malloc.h>
#include <ctype.h>
void main()
{
    int i=0,j=0,x=0,n,flag=0;
    void *p,*add[150];
    char ch,srch,b[150],d[150],g[100],c;
    printf("Enter Expression terminated by $:");
    while((c=getchar())!='$')
    {
        b[i]=c;
        i++;
    }
```

```
    }
    n=i-1;
    printf("\nSymbol Table:");
    printf("\nSymbol \t addr \t type\n");
    while(j<=n)
    {
        c=b[j];
        if(isalpha(toascii(c)))
        {
            if(j<=n)
            {
                p=malloc(c);
                add[x]=p;
                d[x]=c;
                printf("%c \t %d \t identifier\n",c,p);
                goto there;
            }
            else
            {
                there:
                ch=b[j+1];
                if(ch=='+'||ch=='-'||ch=='*'||ch=='/'||ch=='=' || ch=='%')
                {
                    p=malloc(c);
                    add[x]=p;
                    g[x]=ch;
                    //printf("%c \t %p \t Operator\n",g[x],p);
                    x++;
                }
            }
        }
        j++;
    }
}
```

Output

```
Enter Expression terminated by $:a+b/c*d%e-f=g$
```

```
Symbol Table:
```

Symbol	addr	type
a	28909584	identifier
b	28909808	identifier
c	28910032	identifier
d	28910256	identifier
e	28910480	identifier
f	28910704	identifier
g	28910928	identifier