

## Experiment-15

15. Write a C program to implement the back end of the compiler.

Program:

```
#include <stdio.h >
#include <stdio.h >
#include <string.h >

int main() {
    char icode[10][30], str[20], opr[10];
    int i = 0;
    printf("\n Enter the set of intermediate code (to display enter the exit):\n");
    do
    {
        scanf("%s", icode[i]);
    }
    while (strcmp(icode[i++], "exit") != 0);
    printf("\n target code generation");
    i = 0;
    do {
        strcpy(str, icode[i]);
        switch (str[3]) {
            case '+':
                strcpy(opr, "ADD ");
                break;
            case '-':
                strcpy(opr, "SUB ");
                break;
            case '*':
                strcpy(opr, "MUL ");
                break;
            case '/':
                strcpy(opr, "DIV ");
                break;
        }
    }
```

```

printf("\n\tMov %c,R%d", str[2], i);
printf("\n\t%s%c,R%d", opr, str[4], i);
printf("\n\tMov R%d,%c", i, str[0]);
}
while (strcmp(icode[++i], "exit") != 0);
return 0;
}

```

Output:

```

C:\Users\vavil\OneDrive\Doc...
Enter the set of intermediate code (to display enter the exit):
a+b
c=a+b
d=b*c
exit

target code generation
Mov b,R0
,R0
Mov R0,a
Mov a,R1
ADD b,R1
Mov R1,c
Mov b,R2
MUL c,R2
Mov R2,d
-----
Process exited after 17.7 seconds with return value 0
Press any key to continue . . .

```