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Subject: Compile Construction

Practical9

Aim: To implement Assembly code generator.

```
Code:#include <stdio.h>
#include <stdio.h>
#include<conio.h>
#include <string.h>
void main()
{
    char icode[10][30], str[20], opr[10];
    int i = 0;
    printf("\n Enter the set of intermediate code: \n");do
    {
        scanf("%s", icode[i]);
    } while (strcmp(icode[i++], "exit") != 0);
    printf("\n----Code generation -----\n");
    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);
```

```c
        printf("\n\tMOV R%d,%c", i, str[0]);
    } while (strcmp(icode[++i], "exit") != 0);
    getch();
}
```

Output:


```
PS C:\Users\91820>  & 'c:\Users\91820\.vscode\extensions\ms-vscode.cpptools-1.12.4-win32-x64\debugAdapters\bin
soft-MIEngine-Error-oecqliqs.ot2' '--pid=Microsoft-MIEngine-Pid-0nuxqmve.yq5' '--dbgExe=C:\Program Files\CodeE

 Enter the set of intermediate code:
a=b/d
c=p*p
l=a+c
exit

----Code generation----

        MOV b,R0
        DIV d,R0
        MOV R0,a
        MOV p,R1
        MUL p,R1
        MOV R1,c
        MOV a,R2
        ADD c,R2
        MOV R2,l
```