Name: Spandan Mukherjee

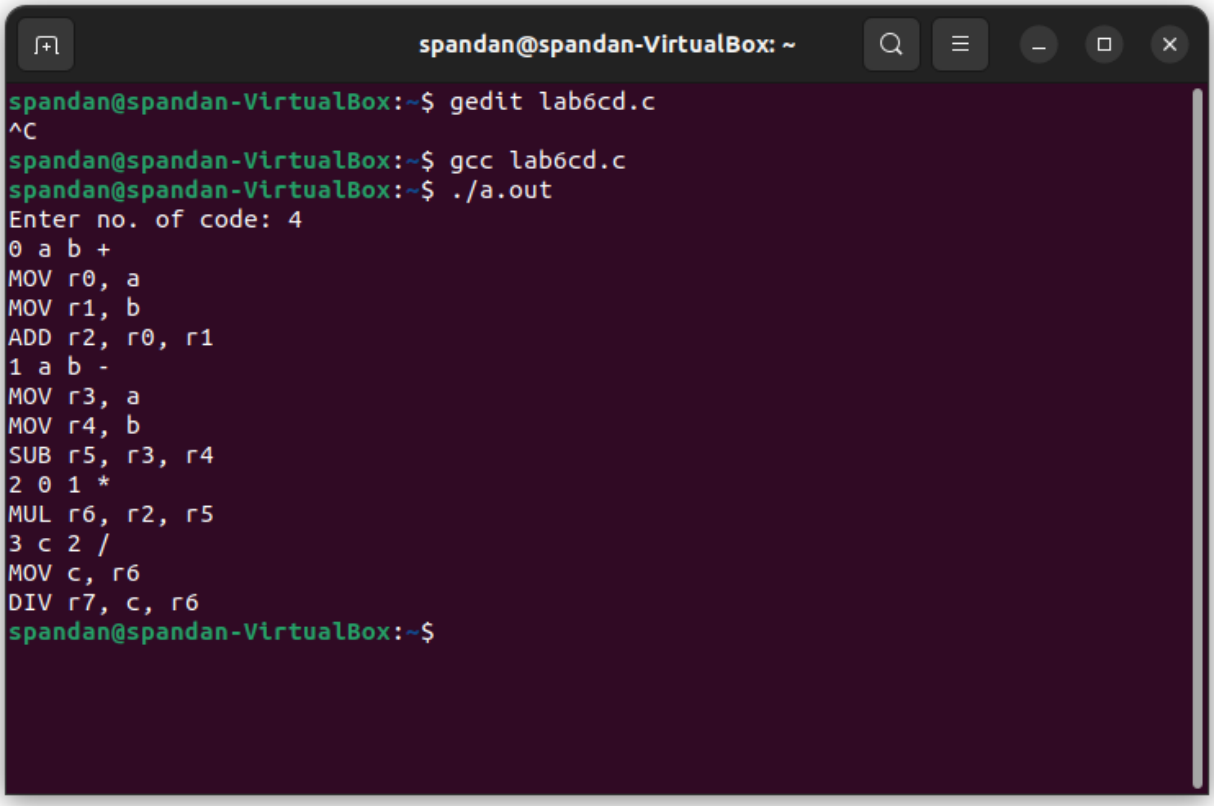
Subject: Compiler Design

Lab 6
Experiment: Implementation of Backend

CODE:

```
#include<stdio.h>
int main()
{
int i, n;
int code;
char op, op1, op2;
printf("Enter no. of code: ");
scanf("%d", &n);
for(int i = 0; i < n; i++)
{
scanf("%d %c %c %c", &code, &op1, &op2, &op);
switch(op)
{
case'+':
printf("MOV r%d, %c\n", code, op1);
printf("MOV r%d, %c\n", code+1, op2);
printf("ADD r%d, r%d, r%d\n", code+2, code, code+1);
break;
case'-':
printf("MOV r%d, %c\n", code+2, op1);
printf("MOV r%d, %c\n", code+3, op2);
printf("SUB r%d, r%d, r%d\n", code+4, code+2,code+3);
break;
case'*':
printf("MUL r%d, r%d, r%d\n", code+4, code, code+3);
break;
case'/':
printf("MOV %c, r%d\n", op1, code+3);
printf("DIV r%d, %c, r%d\n",code+4, op1, code+3);
break;
default:
printf("Invalid Operator");
}
}
return 0;
}
```

OUTPUT:


spandan@spandan-VirtualBox: ~
spandan@spandan-VirtualBox:~$ gedit lab6cd.c
^C
spandan@spandan-VirtualBox:~$ gcc lab6cd.c
spandan@spandan-VirtualBox:~$ ./a.out
Enter no. of code: 4
0 a b +
MOV r0, a
MOV r1, b
ADD r2, r0, r1
1 a b -
MOV r3, a
MOV r4, b
SUB r5, r3, r4
2 0 1 *
MUL r6, r2, r5
3 c 2 /
MOV c, r6
DIV r7, c, r6
spandan@spandan-VirtualBox:~$