BCSE307P – Compiler Design Lab

Winter Semester 2023-24

Assessment 11

Final Code Generation

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Slot: L7 + L8

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Input:

t=a+b

x=t

Task:

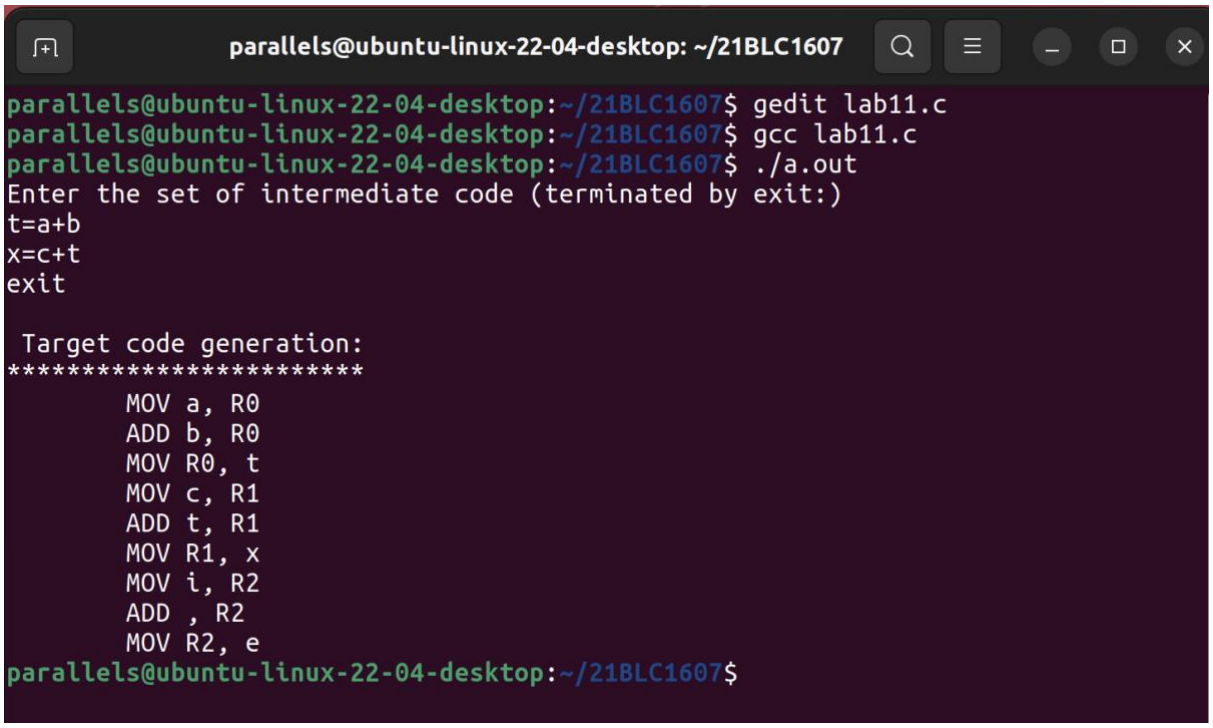
Implementation of Code Generator

Code:

```
#include <stdio.h>

#include <string.h>


void main() {

      char icode[10][30], str[20], opr[10];

      int i=0;

      printf("Enter the set of intermediate code (terminated by
exit:)\n");

      do {

            scanf("%s", icode[i]);

      }

      while (strcmp(icode[i++], "exit") != 0);

      printf("\n Target code generation:");

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

Output:



Result:

Thus, the experiment has been successfully executed and verified.