CODE

#include <stdio.h>

#include <string.h>

void generateAssembly(char op, char arg1[], char arg2[], char result[]) {

if (op == '+') {

printf("MOV R1, %s\n", arg1);

printf("ADD R1, %s\n", arg2);

printf("MOV %s, R1\n", result);

}

else if (op == '-') {

printf("MOV R1, %s\n", arg1);

printf("SUB R1, %s\n", arg2);

printf("MOV %s, R1\n", result);

}

else if (op == '\*') {

printf("MOV R1, %s\n", arg1);

printf("MUL R1, %s\n", arg2);

printf("MOV %s, R1\n", result);

}

else if (op == '/') {

printf("MOV R1, %s\n", arg1);

printf("DIV R1, %s\n", arg2);

printf("MOV %s, R1\n", result);

}

}

int main() {

int n;

char op, arg1[10], arg2[10], result[10];

printf("Enter number of 3-address code statements: ");

scanf("%d", &n);

printf("\nEnter statements in form: result = arg1 op arg2\n");

for (int i = 0; i < n; i++) {

scanf("%s = %s %c %s", result, arg1, &op, arg2);

printf("\nAssembly for: %s = %s %c %s\n", result, arg1, op, arg2);

generateAssembly(op, arg1, arg2, result);

}

return 0;

}

SCREENSHOTS

