

SSN COLLEGE OF ENGINEERING, KALAVAKKAM
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Compiler Lab – UCS 1602
Programming Assignment-9 Implementation of code generation

Consider the given sequence of three address code as input and generate the output in the form of assembly code written using the instruction set of 8086.

Your code generator supports assignment statement, arithmetic operators, relational operators, iterative constructs, and conditional constructs.

The source program, generated TAC and the assembly code is shown below.

Source Program:

```
x=0;
for(i=1;i<=10;i++)
x=x+1
```

Three address code:

```
    x=0
    i=1
L3: if i<=10 goto L1
    goto L2
L1: t1=x+i
    x=t1
    t2=i+1
    i=t2
    goto L3
L2:
```

Assembly code generated would be

```
    MOV R0,#0

    MOV R1,#1

    MOV R2,#10

L3: CMP R1, R2

    JLE L1

    JMP L2

L1: ADD R0, R1

    MOV R3, #1

    ADD R1, R3

    JMP L3

L2:
```