**Input 1 :**

if(a > b)

{

a = a + 1;

b = b - 1;

}

a = a + b \* a

Three address code:

t1 = a > b

if t1 goto L1

goto L2

L1 : t2 = a + 1

a = t2

t3 = b - 1

b = t3

L2 : t4 = b \* a

t5 = a + t4

a = t5

**Output 1 :**

| op | arg1 | arg2 | result |
| --- | --- | --- | --- |
| > | a | b | t1 |
| If | t1 |  | L1 |
| goto |  |  | L2 |
| Label |  |  | L1 |
| + | a | 1 | t2 |
| = | t2 |  | a |
| - | b | 1 | t3 |
| = | t3 |  | b |
| Label |  |  | L2 |
| \* | b | a | t4 |
| + | a | t4 | t5 |
| = | t5 |  | a |

**Input 2 :**

if(a > b)

{

a = a + 1;

b = b - 1;

}

else

{

a = a - 1;

b = b -1;

}

Three address code:

t1 = a > b

if t1 goto L1

goto L2

L1 : t2 = a + 1

a = t2

t3 = b - 1

b = t3

L2 : t4 = a - 1

a = t4

t5 = b - 1

b = t5

**Output 2:**

| op | arg1 | arg2 | result |
| --- | --- | --- | --- |
| > | a | b | t1 |
| If | t1 |  | L1 |
| goto |  |  | L2 |
| Label |  |  | L1 |
| + | a | 1 | t2 |
| = | t2 |  | a |
| - | b | 1 | t3 |
| = | t3 |  | b |
| Label |  |  | L2 |
| - | a | 1 | t4 |
| = | t4 |  | a |
| - | b | 1 | t5 |
| = | t5 |  | b |