

Tutoria - 6

1)

$i = m - 1$
 $j = n$
 $t_1 = 4 \times n$
 $v = a[t_1]$

$i = i + 1$
 $t_2 = 4 \times i$
 $t_3 = a[t_2]$
 $\text{if } (t_3 < v) \text{ goto } B_2$

$j = j - 1$
 $t_4 = 4 \times j$
 $t_5 = a[t_4]$
 $\text{if } t_5 > v \text{ goto } B_3$

$\text{if } i \geq j \text{ goto } (B_6)$

$t_6 = 4 \times i$
 $x = a[t_6]$
 $t_7 = 4 \times i$
 $t_8 = 4 \times i$
 $t_9 = a[t_8]$
 $t_{10} = 4 \times i$
 $a[t_{10}] = x$
 $\text{goto } B_2$

$t_{11} = 4 \times j$
 $x = a[t_{11}]$
 $t_{12} = 4 \times j$
 $t_{13} = 4 \times j$
 $t_{14} = a[t_{13}]$
 $a[t_{14}] = t_{14}$
 $a[t_{15}] = 4 \times j$
 $a[t_{15}] = x$

(odd) Common Sub-Expression

B5

```

t0 = t1
v = a[t0]
t2 = t0
t3 = a[t2]
a[t0] = t3
a[t2] = t3
goto B2
    
```

B6

```

t1 = t1
t2 = a[t1]
t3 = t2
t4 = a[t3]
a[t1] = t4
a[t2] = t4
    
```

GCF

```

t0 = 1
t1 = 0
t2 = t0
t3 = a[t2]
    
```

B1

```

t0 = t1
t2 = t0
t3 = a[t2]
t4 = a[t3]
    
```

B2

```

t0 = t1
t2 = t0
t3 = a[t2]
t4 = a[t3]
    
```

```

if (t0 > 0) goto B3
    
```

```

x = t3
a[t0] = t3
a[t2] = t3
goto B2
    
```

```

x = t3
a[t0] = a[t3]
a[t2] = x
    
```

Dead code

B5 \Rightarrow $a[t_2] = t_5$
 $a[t_2] = t_5$
 goto B2

B6 $a[t_2] = 0$
 $a[t_1] = t_1$

B1 $i = m-1$
 $j = n$
 $t_1 = 4 \times n$
 $v = a[t_1]$

$i = i+1$
 $t_2 = a[i]$
 $t_3 = a[t_2]$
 if $t_3 < v$ goto B2

$j = j-1$
 $t_4 = 4 \times j$
 $t_5 = a[t_4]$
 if $t_5 > v$ goto B2

if $i > j$ goto B6

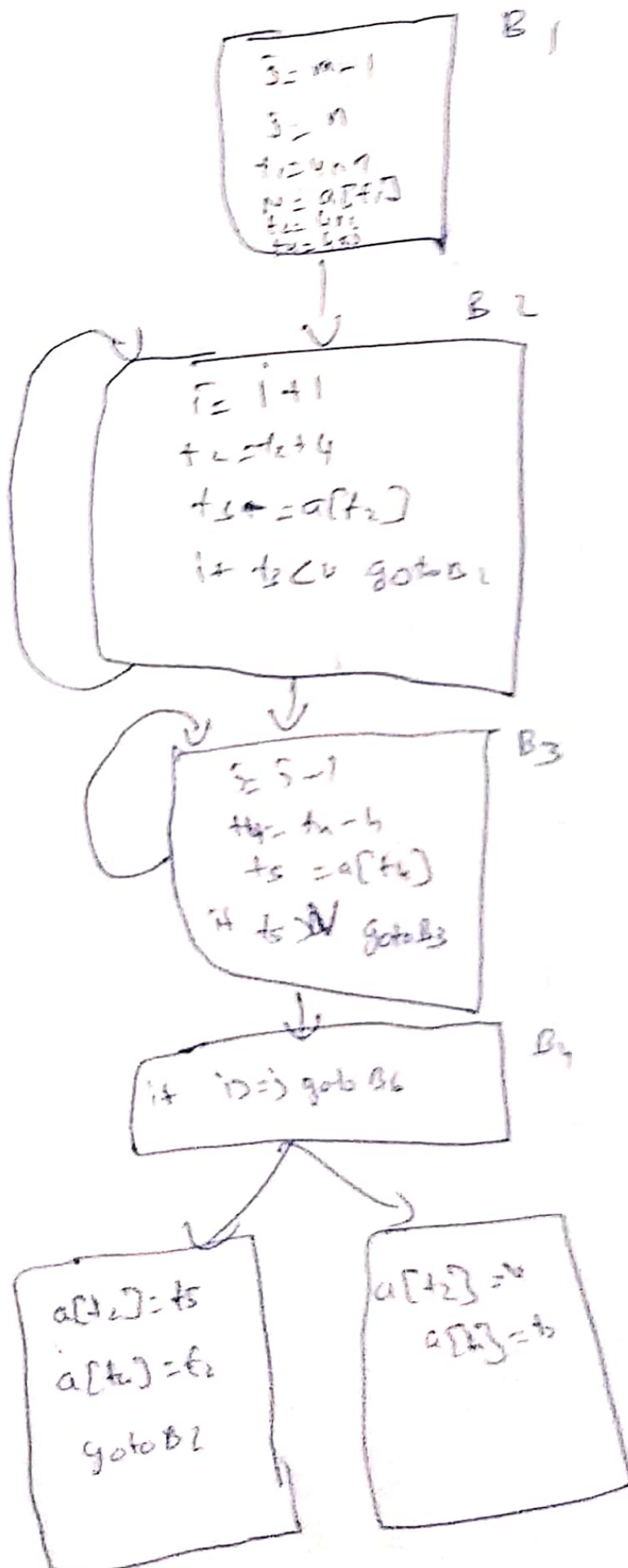
$a[t_2] = t_5$
 $a[t_2] = t_5$
 goto B2

$a[t_2] = 0$
 $a[t_1] = t_1$

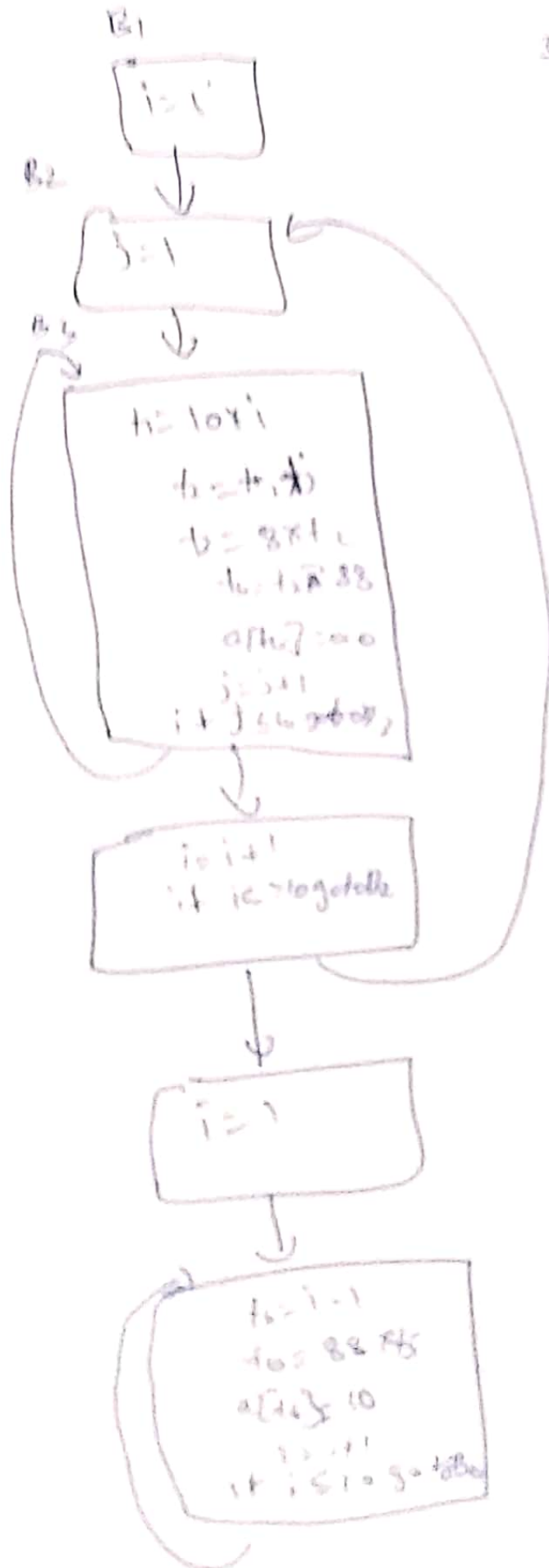
Indexed variables

$i \rightarrow (i, 1, 1)$	$j \rightarrow (j, 1, 2)$
$t_2 = (i, 4, 0)$	$t_4 = (j, 4, 0)$

final code



Code 2



1) $T = 1$

2) $j = 1$

3) $t_1 = 10 \times i$

4) $t_2 = t_1 \times i$

5) $t_2 = 8 \times t_2$

6) $t_2 = t_2 \times 88$

7) $a[t_2] = 0$

8) $j = j + 1$

9) if $j \leq 10$ goto 8

10) $T = T + 1$

11) if $i \leq 10$ goto 10

12) $T = 1$

13) $t_5 = T - 1$

14) $t_6 = 8 \times t_5$

15) $a[t_6] = 0$

16) $T = T + 1$

17) if $i \leq 10$

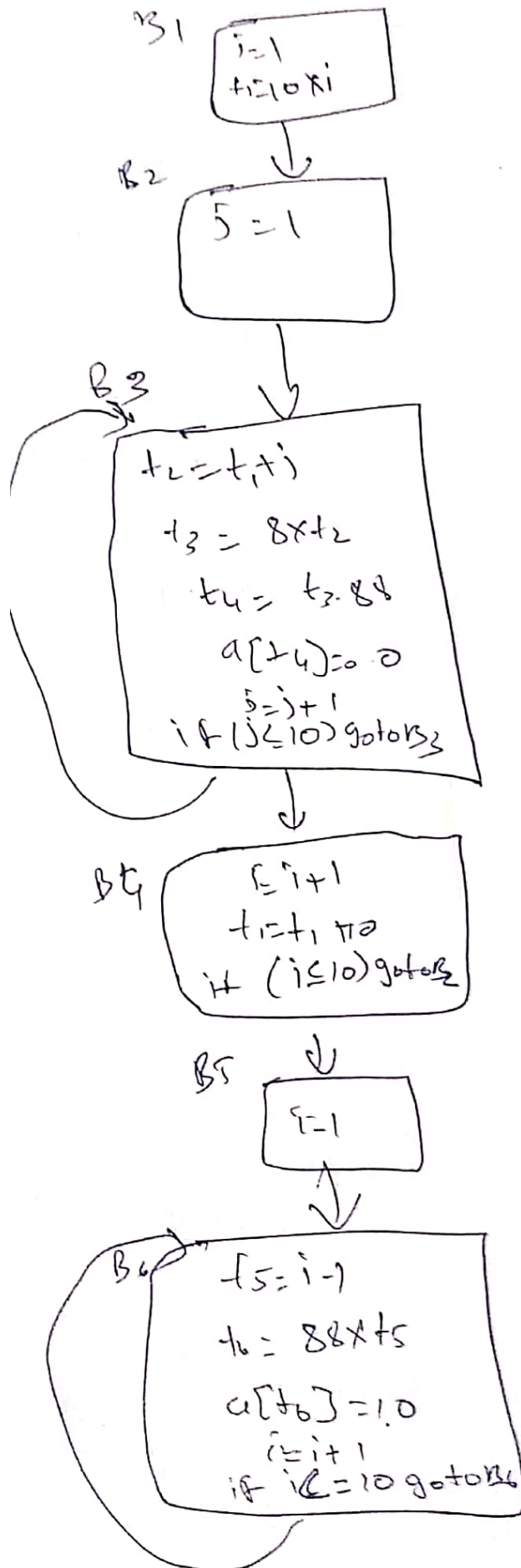
goto 12

→ No GCS

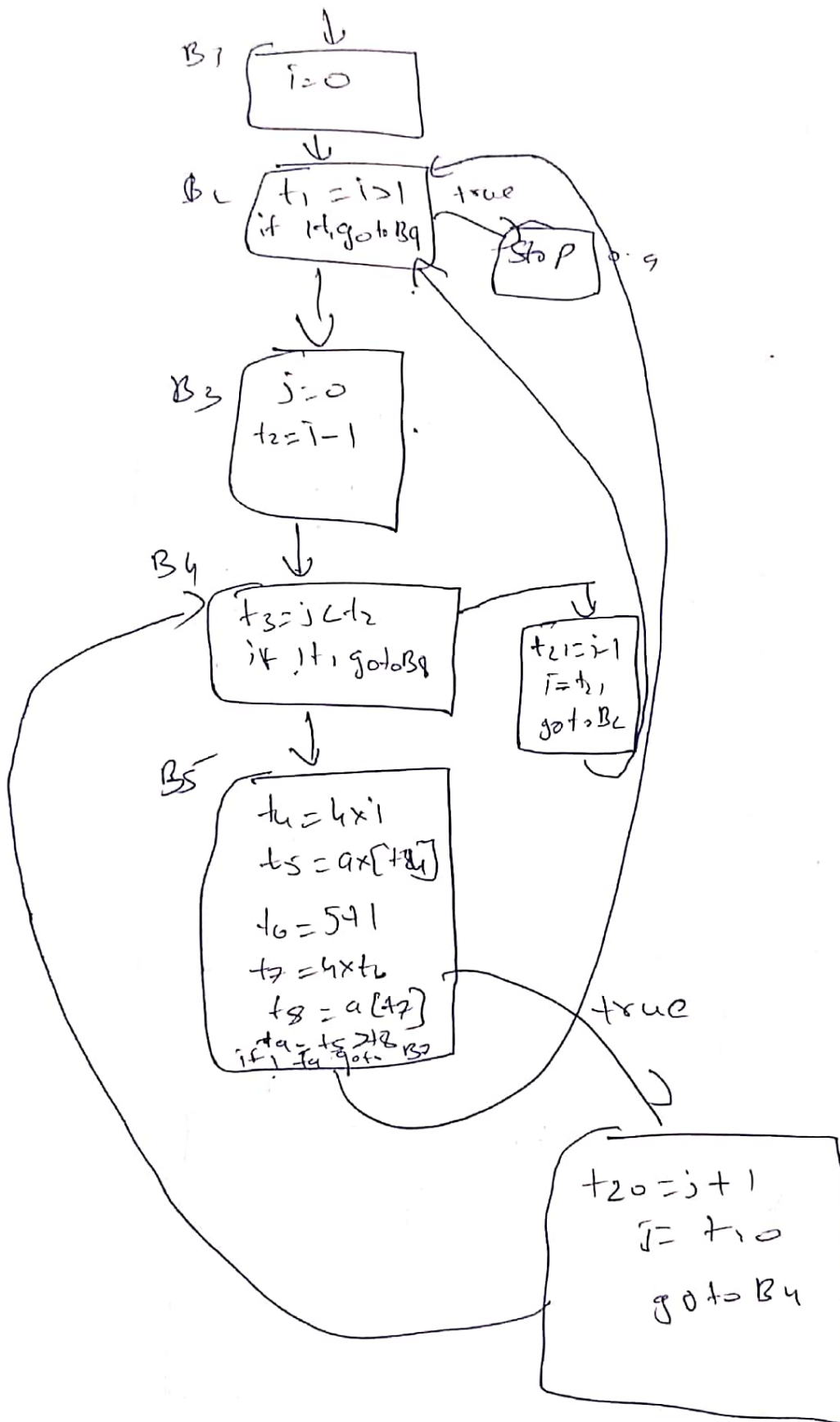
→ No only Pro-Page

→ No loop invariance

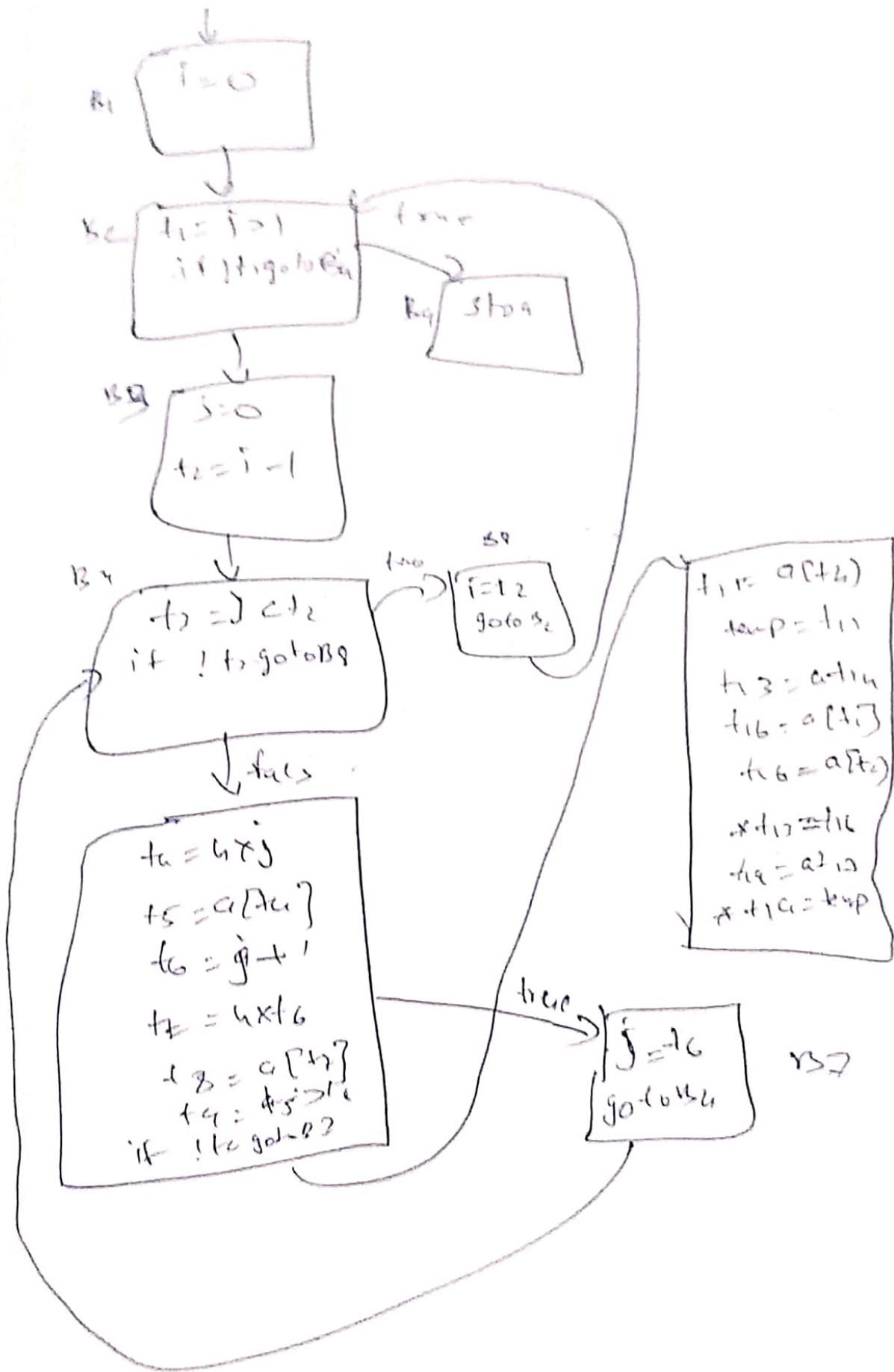
Q/P minotig Induced Vain

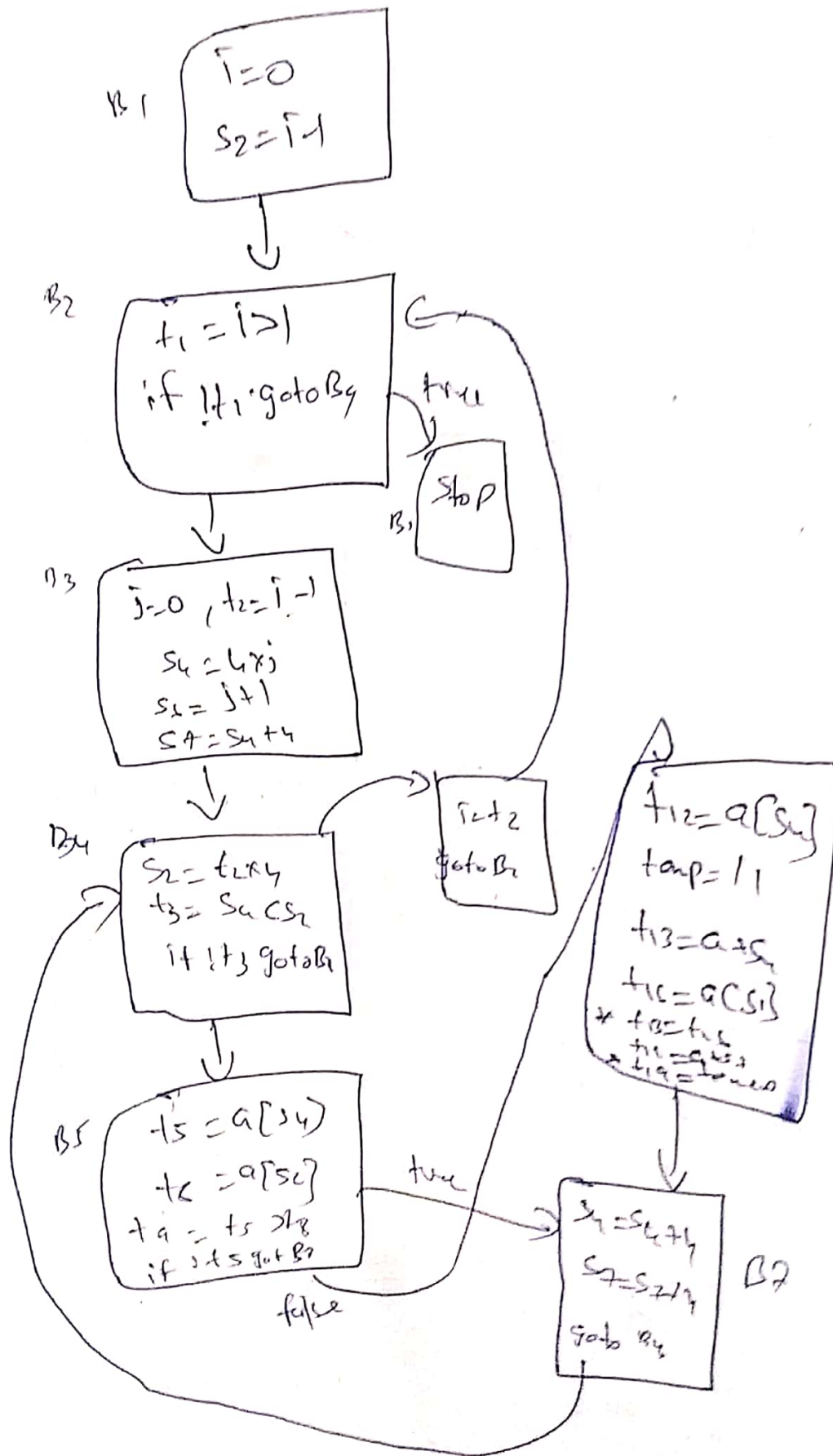


code - 3



67 CF and 68 y no. Pigeon





T.V. defect:-

