PART 1: MIPS Register Tracing (Code Analysis)

Analyze each MIPS code snippet and answer the following:

Code 1

```
asm
li $t0, 5
li $t1, 3
add $t2, $t0, $t1
sub $t3, $t1, $t0
move $a0, $t2
li $v0, 1
syscall
```

T2= 8

Code 2

```
asm
li $t0, 3
li $t1, 5
beq $t0, $t1, else
sub $t2, $t1, $t0
j out
else: add $t2, $t1, $t0
out: move $a0, $t2
li $v0, 1
syscall
```

T2= 2

Code 3

```
asm
li $t0, 2
li $t1, 4
blt $t0, $t1, else
sub $t2, $t1, $t0
j out
else: add $t2, $t1, $t0
out: move $a0, $t2
li $v0, 1
syscall
```

What value is printed? 6

Code 4

```
asm
addi $t0, $zero, 10
addi $t1, $zero, 3
div $t0, $t1
mflo $a0
li $v0, 1
syscall
mfhi $a1
li $v0, 1
syscall
```

Code 5

```
asm
.data
str: .asciiz "Computer Orgniation"
.text
main:
la $t0, str
li $t1, 0
lb $t2, ($t0)
start:
beq $t2, $zero, endloop
add $t1, $t1, 1
add $t0, $t0, 1
lb $t2, ($t0)
j start
endloop:
li $v0, 10
syscall
```

T1=

PART 2: MIPS Programming

Write complete MIPS assembly code for the following task:

You are given two arrays in the data section:

asm
```
A: .word 3, 2, 1, 6, 10
B: .word 0:5
```

Task:
Write a MIPS program that:

1. Loads each element from array A
2. Adds 3 to it
3. Stores the result in the corresponding position in array B

```
.data
A: .word 3, 2, 1, 6, 10
B: .word 0:5

.text
main:
la $t0, A
la $t3, B
li $t1, 0       # counter
li $t2, 5       # comparison value

loop:
 lw $t4, 0($t0)
 addi $t4, $t4, 3
 sw $t4,0($t3)
 addi $t1,$t1,1
 addi $t0,$t0,4
 addi $t3,$t3,4
 blt $t1, 5, loop



   li $v0, 10
   syscall
```