**COMPUTER ARCHITECT LAB WEEK 5**

Hồ Anh Tài – 1810490

**1)**

.data

out\_string: .asciiz "\n Please input an integer: \n"

output: .asciiz "result: \n"

.text

input\_proccess:

li $v0,4

la $a0, out\_string

syscall

li $v0,5

syscall

move $t0,$v0

add $t1,$t1,$t0

#blt $t0,$zero,print\_out

bgtz $t0,input\_proccess

#print\_out:

li $v0,4

la $a0, output

syscall

li $v0,1

add $a0,$t1,$zero

syscall

**2)**

.data

out\_string: .asciiz "\n Please input an integer: \n"

output: .asciiz "result: \n"

out\_string2: .asciiz "\n Please input an another integer: \n"

.text

li $v0,4

la $a0, out\_string

syscall

input\_proccess:

addi $t1,$zero,10

addi $t2,$zero,5

li $v0,5

syscall

move $t0,$v0

add $t3,$t1,$t2

sub $t4,$t1,$t2

sub $t5,$t2,$t1

beq $t0,$zero,end\_program0

beq $t0,1,end\_program1

beq $t0,2,end\_program2

li $v0,4

la $a0, out\_string2

syscall

j input\_proccess

end\_program0:

li $v0,4

la $a0, output

syscall

li $v0,1

add $a0, $t3, $zero

syscall

li $v0,10

syscall

end\_program1:

li $v0,4

la $a0, output

syscall

li $v0,1

add $a0, $t4, $zero

syscall

li $v0,10

syscall

end\_program2:

li $v0,4

la $a0, output

syscall

li $v0,1

add $a0, $t5, $zero

syscall

li $v0,10

syscall

**3)**

.data

out\_string: .asciiz "\n Please input an integer: \n"

out\_string2: .asciiz "\n position of the integer: \n"

out\_string3: .asciiz "\n The integer did not exist \n"

list: .word 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

size: .word 10

.text

li $v0,4

la $a0, out\_string

syscall

input\_proccess:

li $v0,5

syscall

move $t0,$v0

lw $t3, size

la $t1, list # get array address

li $t2, 0 # set loop counter

cal\_loop:

beq $t2,$t3,exit

lw $t5,($t1)

beq $t5,$t0,print\_pos

addi $t2, $t2, 1 # advance loop counter

addi $t1, $t1, 4 # advance array pointer

j cal\_loop

print\_pos:

add $t4,$zero,$zero

addi $t4,$t4,1

li $v0,4

la $a0, out\_string2

syscall

add $a0,$t2,$zero

li $v0,1

syscall

addi $t2, $t2, 1 # advance loop counter

addi $t1, $t1, 4

j cal\_loop

print\_loop\_end:

li $v0,4

la $a0, out\_string3

syscall

li $v0,10

syscall

exit:

beqz $t4,print\_loop\_end

li $v0,10

syscall