**Course Code: EE488**

**Assignment -5**

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**Question No 1 Answer**

.data

prompt1: .asciiz "Enter the 1st number:"

prompt2: .asciiz "Enter the 2nd number:"

prompt3: .asciiz "Enter the 3rd number:"

result: .asciiz "The Median Value is :"

.text

main:

la $a0,prompt1

li $v0,4

syscall

li $v0,5

syscall

move $t0,$v0

la $a0,prompt2

li $v0,4

syscall

li $v0,5

syscall

move $t1,$v0

la $a0,prompt3

li $v0,4

syscall

li $v0,5

syscall

move $t2,$v0

jal median

move $t3,$v0

la $a0,result

li $v0,4

syscall

move $a0,$t3

li $v0,1

syscall

li $v0,10

syscall

median:

blt $t1,$t0,replace1

blt $t2,$t0,replace2

blt $t2,$t1,replace3

b return

replace1:

move $t3,$t0

move $t0,$t1

move $t1,$t3

blt $t2,$t1,replace3

b return

replace2:

move $t3,$t0

move $t0,$t2

move $t2,$t3

blt $t2,$t1,replace3

b return

replace3:

move $t3,$t1

move $t1,$t2

move $t2,$t3

b return

return:

move $v0,$t1

jr $ra

**Question No 2 Answer**

.data

number: .asciiz "Enter the number : "

addition: .asciiz "Given Input Square value is : "

.text

li $v0,4

la $a0,number

syscall

li $v0,5

syscall

move $s0,$v0

move $t0,$v0

li $s1,0

loop:

blez $t0,end

add $s1,$s1,$s0

addi $t0,$t0,-1

j loop

end:

li $v0,4

la $a0,addition

syscall

li $v0,1

move $a0,$s1

syscall

li $v0,10

syscall

**Question No 3 Answer**

.data

n: .word 7

factorial\_result: .word 1

.text

.globl main

main:

lw $a0, n

jal factorial

li $v0, 1

lw $a0, factorial\_result

syscall

li $v0, 10

syscall

factorial:

addi $sp, $sp, -4

sw $ra, ($sp)

beq $a0, 1, base

addi $sp, $sp, -4

sw $a0, ($sp)

addi $a0, $a0, -1

jal factorial

lw $a0, ($sp)

addi $sp, $sp, 4

mul $v0, $v0, $a0

j return

base:

li $v0, 1

return:

lw $ra, ($sp)

addi $sp, $sp, 4

sw $v0, factorial\_result

jr $ra

**Question No 4 Answer**

.data

prompt: .asciiz "Enter the number from 0 to 15: "

Output: .asciiz "your number is "

a: .asciiz "0x0","0x1","0x2","0x3","0x4","0x5","0x6","0x7","0x8","0x9","0xa","0xb","0xc","0xd","0xe","0xf"

.text

.globl main

main:

li $v0,4

la $a0, prompt

syscall

li $v0,5

syscall

move $t0, $v0

li $v0,4

la $a0,Output

syscall

la $t3, a

sll $t2, $t0, 2

add $t1, $t2, $t3

li $v0,4

la $a0, ($t1)

syscall

**Question No 5 Answer**

.data

prompt: .asciiz "Enter a max Fibonacci number to calc:"

.text

main:

la $a0,prompt

li $v0,4

syscall

li $v0,5

syscall

move $t0,$v0

li $a0,0

li $v0,1

syscall

li $a0,32

li $v0,11

syscall

li $a0,1

li $v0,1

syscall

li $a0,32

li $v0,11

syscall

jal PrintIntArray

li $v0,10

syscall

PrintIntArray:

addi $sp,$sp,-4

sw $t0,0($sp)

li $t1,2

blt $t1,$t0,loop

return:

jr $ra

loop:

li $t2,0

li $t3,1

Fibonacci:

add $t4,$t3,$t2

move $a0,$t4

li $v0,1

syscall

li $a0,32

li $v0,11

syscall

move $t2,$t3

move $t3,$t4

addi $t1,$t1,1

blt $t1,$t0,Fibonacci

j return