

**Correction de l’Examen de module Architecture des Ordinateurs**

**2022-2023**

**Exercice 1 (13 pts) :**

.data

tab: .space 20 .....(0.5pt)

m1: .asciiz "Donnez le nombre d’éléments de votre tableau SVP: " .....(0.5pt)

m2: .asciiz "Insérer le code ASCII " .....(0.5pt)

m3: .asciiz " SVP:" .....(0.5pt)

m4: .asciiz "Votre chaîne de caractères est:" .....(0.5pt)

.text

la \$t0, tab #adresse du tableau .....(0.5pt)

li \$t1, 1 #le compteur de la boucle .....(0.5pt)

li \$v0,4

la \$a0, m1

syscall

li \$v0,5

syscall

move \$t2, \$v0

lire:

bgt \$t1, \$t2, suite .....(0.5pt)

li \$v0, 4

la \$a0, m2

syscall

li \$v0,1

move \$a0, \$t1

syscall

li \$v0, 4

la \$a0, m3

syscall

li \$v0, 5

syscall

move \$t3, \$v0

sb \$t3, (\$t0)

.....(0.5pt)

.....(0.5pt)

addi \$t0, \$t0, 1

.....(0.5pt)

addi \$t1, \$t1, 1

.....(0.5pt)

b lire

.....(0.5pt)

suite:

la \$t0, tab

.....(0.5pt)

li \$t1, 1

.....(0.5pt)

li \$v0, 4  
la \$a0, m4  
} .....(0.5pt)  
syscal

afficher:

bgt \$t1, \$t2, fin .....(0.5pt)

lb \$t3, (\$t0) .....(0.5pt)

li \$v0, 11  
move \$a0, \$t3  
} .....(0.5pt)  
syscall

addi \$t0, \$t0, 1 .....(0.5pt)

addi \$t1, \$t1, 1 .....(0.5pt)

b afficher .....(0.5pt)

fin: .....(0.5pt)

**Exercice 2 (7 pts) :**

.data  
m1: .asciiz "Donnez le dividende SVP: "  
m2: .asciiz "Donnez le diviseur SVP :"  
m3: .asciiz "Le quotient est:"  
m4: .asciiz "\nLe reste est:" } .....(0.5pt)

.text  
li \$t3, 0 #registre du quotient .....(0.5pt)  
li \$t4, 0 #registre du reste .....(0.5pt)

li \$v0,4  
la \$a0, m1  
syscall  
} .....(0.5pt)  
li \$v0,5  
syscall  
move \$t1, \$v0

li \$v0,4  
la \$a0, m2  
syscall

li \$v0,5  
syscall  
move \$t2, \$v0

boucle:

bge \$t1, \$t2, calculer .....(0.5pt)  
b fin .....(0.5pt)

calculer:

sub \$t4, \$t1, \$t2 .....(0.5pt)  
addi \$t3, \$t3, 1 .....(0.5pt)  
move \$t1, \$t4 .....(0.5pt)  
b boucle .....(0.5pt)

fin:

li \$v0,4  
la \$a0, m3 .....(0.5pt)  
syscall

li \$v0,1  
move \$a0, \$t3 .....(0.5pt)  
syscall

li \$v0,4  
la \$a0, m4 .....(0.5pt)  
syscall

li \$v0,1  
move \$a0, \$t4 .....(0.5pt)  
syscall