DHA Suffa University
Department of Computer Science
Computer Organization & Assembly Language
Fall 2017
Lab # 02(Strings & Integers)

Objective:

To print integers/ strings and taking integer as an input from the user in MIPS.

Assembly code for printing a string:

```
.data
msg1: .asciiz "Hello World"
.text
.globl main
main:
# to print a string
la $a0, msg1   # load the address referred by msg1 in the register a0
li $v0, 4         # v0 should 4 for printing string
syscall
```

Assembly code for taking integer as an input:

```
.text
.globl main
main:
 # to take input an Integer
 li $v0, 5                   # $v0 should be loaded with value 5 for taking an integer as input
syscall
move $t0, $v0                # As  user provides the integer as an input then it is stored in $v0
by default
```

LAB TASK

(1) Write the MIPS code for the following C code:

```
void main()
007B
        int testInteger;
        printf("Enter an integer: ");
        scanf("%d",&testInteger);
        testInteger =testInteger* testInteger;
        printf("Number = %d",testInteger);
}
```

LAB ASSIGNMENT<03>

() Write the MIPS code for the following C code:

```c
void main() {
 int length, width, area;

  printf("\nEnter the width of rectangle: ");
  scanf("%d", &width);

  printf("\nEnter the length of rectangle: ");
  scanf("%d", &length);

  area = length * width;
  printf("\nArea of Rectangle : %d ", area);
}
```

(3) Write the MIPS code for the following C code:

```c
void main()
{
 int x, y, z, a1, b1, c1;

 printf("\nEnter the value of x : ");
 scanf("%d ", &x);

 printf("\nEnter the value of y : ");
 scanf("%d ", &y);

 printf("\nEnter the value of z : ");
 scanf("%d", &z);

 a1 = x * y + z;
 b1 = x + y * z;
 c1 = x*y-z;

 printf("\nValue of a1 = %d",a1);
 printf("\nValue of b1 = %d",b1);
 printf("\nValue of c1 = %d",c1);
}
```