CMSC216 Week12Lab1 (Lab Work)

Last Name:

First Name:

Numeric University ID:

Complete the following tasks and submit your work to GradeScope

A. **ASCII Sum of 1st and 3rd char in a string**

Write a MIPS code that reads a string (use label **instr**, 20 bytes) and computes the sum of the ASCII code values of the 1st and 3rd char in the string. Save the sum of the ASCII code to a global variable (use label **sum**) and print the sum to Console.

```
.data
   instr:  .space 20    # 20 bytes for the string
   sum:    .word 0     # global variable to store the sum

.text
   main:
      # Read
      la $t0, instr      # load address of the string buffer
      li $v0, 8          # system call code for reading string
      move $a0, $t0  # address in $a0
      li $a1, 20          # maximum number of characters to read
      syscall

      # Compute Sum
      lb $t1, instr        # load the 1st character into $t0
      lb $t2, 2(instr)     # load the 3rd character into $t1
      add $t3, $t2, $t1  # sum of ASCII codes

      # Save Sum
      sw $t3, sum

      # Print Sum
      li $v0, 1              # system call code for printing integer
      move $a0, $t3       # load the sum into $a0
      syscall

      jr $ra
```