```
# start of file math1.asm


#---------------------------------------------------------
#       Text Section (Program)
#---------------------------------------------------------
        .text
        .globl  __start
__start:
        lw      $t0,X
        lw      $t1,A
        lw      $t2,B
        lw      $t3,C

        mul     $t4,$t0,$t0
        mul     $t4,$t4,$t1
        mul     $t5,$t2,$t0
        add     $t4,$t4,$t5
        add     $t4,$t4,$t3

        la      $a0,ans
        li      $v0,4
        syscall

        move    $a0,$t4
        li      $v0,1
        syscall

        la      $a0,endl
        li      $v0,4
        syscall

        la      $v0,10
        syscall

#---------------------------------------------------------
#       Data Section (Variables)
#---------------------------------------------------------

        .data
X:      .word   7
A:      .word   3
B:      .word   4
C:      .word   5
ans:    .asciiz "answer = "
endl:   .asciiz "\n"

# end of file math1.asm
```

```
## length.asm - prints out the length of character
## string "str"
##
##    t0 - holds each byte from string in turn
##    t1 - contains count of characters
##    t2 - points to the string

#################################################
#                 text segment                  #
#################################################

      .text
      .globl main
main:             # execution starts here
      la $t2,str  # t2 points to the strint
      li $t1,0    # t1 holds the count
nextCh: lb $t0,($t2)    # get a bye from string
      beqz $t0,strEnd   # zero means end of string
      add $t1,$t1,1     # increment count
      add $t2,1   # move pointer one character
      j nextCh    # go round the loop again

strEnd: la $a0,ans      # system call to print
      li $v0,4    # out a message
      syscall

      move $a0,$t1      # system call to print
      li $v0,1    # out the lenghth worked out
      syscall

      la $a0,end1 # system call to print
      li $v0,4    # out a newline
      syscall

      la $v0,10
      syscall           # au revoir...


#################################################
#                 data segment                  #
#################################################

      .data
str:  .asciiz "hello world"
ans:  .asciiz "Length is "
end1: .asciiz "\n"
```