```
##
##  The program --- convert.s
##
##      - will ask the user to covert F2C or C2F,
##      - will ask the user for temperature,
##      - convert it to Celcius or Farenheit, and
##      - print the result.
##
##      a0 - points to output strings
##      v0 - reads string
##      t0 - holds string and result

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

    .text
    .globl __start
__start:                # execution starts here

    la $a0, prompt      #print prompt on terminal
    li $v0, 4           #system call to print
    syscall             #out a string

    la $a0, scanChar    #system call to
    li $a1, 3           #read the string
    li $v0, 8
    syscall

    li $t0,'C'
    lb $s0,0($a0)
    beq $s0,$t0, Farenheit  #if 'C'
    j ifc

ifc:
    li $t0,'c'
    beq $s0,$t0, Farenheit  #if 'c'
    j ifF

ifF:
    li $t0,'F'
    beq $s0,$t0, Celcius    #if 'F'
    j iff

iff:
    li $t0,'f'
    beq $s0,$t0, Celcius    #if 'f'
    j Else

Else:
    la $a0, pWrongL     #print on terminal
    li $v0, 4           #system call to print
    syscall             #a string "Wrong Letter!"
    j __start           #

################################################
#                                              #
#                   FUNCTIONS                  #
#                                              #
#   Celcius:    Function for convertion,       #
#               Farenheit to Celcius           #
#                                              #
#   Farenheit:  Function for convertion,       #
#               Celcius to Farenheit           #
#                                              #
################################################

```

```
70  Celcius:
71      la $a0, promptF     #print prompt on terminal
72      li $v0, 4           #system call to print
73      syscall             #out a string
74
75      li $v0, 5           #system call to
76      syscall             #read an integer
77
78      addi $t0,$v0, -32   #to convert, add -32
79      mul $t0,$t0, 5      #multiply by 5
80      div $t0,$t0, 9      #divide by 9
81
82      la $a0, ansF        #prints string before
83      li $v0, 4           #printing answer
84      syscall
85
86      move $a0,$t0
87      li $v0, 1           #system call to
88      syscall             #print result
89
90      j End               #terminate Program
91
92  Farenheit:
93      la $a0, promptC     # print prompt on terminal
94      li $v0, 4           # system call to print
95      syscall             # out a string
96
97      li $v0, 5           # syscall 5 reads an integer
98      syscall
99
100     mul $t0,$v0, 9      # to convert, multiply by 9,
101     div $t0,$t0, 5      # divide by 5, then
102     addi $t0,$t0, 32    # add 32
103
104     la $a0, ansC        # print string before result
105     li $v0, 4
106     syscall
107
108     move $a0,$t0        # print result
109     li $v0, 1
110     syscall
111
112     j End               #terminate Program
113
114 End:
115     la $a0,endl     #syscall to print out
116     li $v0,4            #a new line
117     syscall
118
119     li $v0,10
120     syscall             #Bye!
121
122 ##################################################
123 #                                                #
124 #               data segment                     #
125 #                                                #
126 ##################################################
127
128     .data
129     scanChar:   .space 3
130
131     prompt:     .asciiz "Enter 'C' or 'c' to convert Celcius to Farenheit OR 'F' or 'f'
        to convert Farenheit to Celcius: "
132
133     pWrongL:    .asciiz "Wrong Letter!\n"
134
135     promptF:    .asciiz "Enter Farenheit: "
136     ansF:       .asciiz "Temperature in Celcius: "
137
```

```
138         promptC:    .asciiz "Enter Celcius: "
139         ansC:       .asciiz "Temperature in Farenheit: "
140
141         endl:    .asciiz "\n\n"
142
143     #end of file convert.s
```