```
1    ##
2    ##   Program Name:   loop2.s
3    ##
4    ##      - will calculate the sum of all elements in the array "numbers"
5    ##        whose value is less than or equal to 1000.
6    ##      - "numbers" is an array with 5 integer elements.
7    ##      - "count" holds the number of elements in "numbers".
8    ##
9    ##
10   ##      - Output format must be
11   ##        "sum = 11"
12   ##
13   ##      t0 - points to array elements in turn
14   ##      t1 - contains a count of elements
15   ##         t2 - contains sum
16   ##
17   ##      t3 - each word from the array "numbers" in turn
18   ##
19
20   ##################################################
21   #                                                #
22   #                 text segment                   #
23   #                                                #
24   ##################################################
25
26           .text
27           .globl __start
28   __start:                   # execution starts here
29
30
31   #   Put your answer between dashed lines.
32   #
33   #-----------------Your code starts next line----------------
34
35       la $t0, numbers      # point to array elements
36       lw $t1, count        # exit loop when $t1 == 0
37       li $t2, 0            # initialize sum = 0
38       li $s0, 1000         # element <= 1000
39
40   loop:
41       beqz $t1, exit       # exit if end of array
42       lw $t3,($t0)         # load next element in array
43       addi $t1,$t1, -1     # decrement counter
44       addi $t0,$t0, 4      # increment pointer by word
45       bgt $t3,$s0, loop    # continue if > 1000 loop
46       add $t2,$t2,$t3      # sum the element
47       j loop
48
49   exit:
50       la $a0, ans1         # print prompt on terminal
51       li $v0, 4            # system call to print
52       syscall              # out "sum = "
53
54       move $a0,$t2         # print result sum
55       li $v0, 1
56       syscall
57
58
59   #-----------------Your code ends above this line----------------
60
61       la $a0,endl # syscall to print out
62       li $v0,4    # a new line
63       syscall
64
65       li $v0,10   # Exit
66       syscall     # Bye!
67
68
69   ##################################################
```

```
70    #                                              #
71    #                 data segment                 #
72    #                                              #
73    ################################################
74
75            .data
76       numbers:
77            .word 3,2000,2,6,3000
78       count:   .word 5
79
80       ans1:    .asciiz "sum = "
81       endl:    .asciiz "\n"
82
83    ##
84    ##  end of file loop2.s
85
```