109 計算機程式設計
(Computer Programming 1279)

bhw07 說明：

1. Deadline:　2020/12/30 23:59 (不接受遲交)

2. Ilearning 上傳標題：學號_bhw07
3. 程式碼檔案名稱 (檔名錯誤不計分)：
   ➢ 第 1 題：學號_p1.c
   ➢ 第 2 題：學號_p2.c

4. 每筆測資限制執行時間為 8 秒

5. 請不要使用 system("pause")，sample_p1.exe 是為了方便觀察所以有使用。

1. In the given file Data.bin, there are several student scores, you can refer to the format of the example below. All scores are printed with three decimal places.
Ex.

R0000001	29.097	28.982	21.812
Z0000002	28.515	8.743	22.084
H0000003	19.339	11.946	5.124
B0000004	23.372	19.538	3.728

In each row, the student ID, CP score, GP score, and Calculus score are included, all separated by one space.

Now, please read the file "Data.bin" and design the program according to the instructions required below. (50%)

(1). 0
   When you enter "0", please output the total number of students.
   There are 4 students.

(2). INDEX
   INDEX is the number of the student you want to query. And you need to output the information of that student.
   For example, enter "2" and the following information will be output.
   Z0000002   28.515   8.743   22.084

   If the number exceeds the total number, the information will be output.
   Error index. Please try again.
   (If the index of (3)(4) is also exceeded, please print this message also.)

(3). INDEX SUBJECT
   SUBJECT may be CP, GP, Calculus, or other. If it is CP, GP or Calculus, please output the student's score of that subject. For example, enter "3 GP" and you will get the following information.
   11.946

   If it is not one of the three subjects, please output "We have no subject SUBJECT.". For example, enter "3 English", then you will get the information.
   We have no subject English.

(4). INDEX AVG
   Please output that student's average grade.
   For example, enter "4 AVG" and the following information will be printed.
   15.546

(5). -1
   If you enter -1, it means to stop the query. The query function is terminated and the average score of each subject is output, as following.
   Stop querying!
   CP average: 25.080
   GP average: 17.302
   Calculus average: 13.187

2. Jason, an explorer, encounters a maze during an expedition. Each position in the maze is marked with four directions East, South, West and North, indicating which direction to move to the next position.

Then given the entrance position of the maze, Jason will have two situations when walking the maze:

(1). Follow the directions on each location, and finally escape the maze.
(2). Follow the direction of each location, and finally keep going in circles.

Now suppose Jason stands in the north of the maze and chooses a column to walk into the maze. Will Jason finally get out of the maze? If yes, please print out how many locations Jason has walked. If not, please print out how many positions Jason has walked before stepping into the loop, and print the total length of the loop.

(50%)

Input:
The first line contains three positive integers, which are the number of rows and columns of the maze, and which column Jason entered.
Next comes the map of the maze, which contains only four types of characters: N, S, W, E.
($2 \leq \text{rows} \leq 50, \ 2 \leq \text{columns} \leq 50$)

Output:
Please output according to the above requirements.

Sample Input
(1). 3 6 5
    NEESWE
    WWWESS
    SNWWWW

(2). 4 5 1
    SESWE
    EESNW
    NWEEN
    EWSEN

Sample Output
(1). 10
(2). 3 8