Problem 5

Hoops Anyone?

6 Points

Program Name: hoops.cpp **Input File: hoops.dat**

For this problem, you are to write a program that will collect statistics for a basketball game. Table 3 lists all the events for which your program will collect statistics.

Event Acronym	Event Description	Parameter Explanation	Example Input Line
START	Start of the game.	No parameters necessary.	`START`
END	End of the game.	No parameters necessary.	`END`
QRTR	End of the current quarter. Quarters are numbered 1 - 4. There are exactly 3 QRTR events in a game as the 4th quarter ends with the END event.	No parameters necessary.	`QRTR`
FG	The player denoted by the parameter scores a field goal that is worth 2 points.	The single 2-digit integer parameter is the jersey number of the player who scored the field goal.	`FG 31`
FT	The player denoted by the parameter scores a free throw that is worth 1 point.	The single 2-digit integer parameter is the jersey number of the player who scored the free throw.	`FT 23`
3P	The player denoted by the parameter scores a field goal that is worth 3 points.	The single 2-digit integer parameter is the jersey number of the player who scored the three-point goal.	`3P 12`

Table 3 : Basketball Event Descriptions

Some things you should know:

1. The game consists of four 10-minute quarters. You are not tracking the playing time of each player, only the scoring statistics.
2. Players have unique 2-digit jersey numbers where the only valid digits are 0, 1, 2, 3, 4, and 5.
3. All events reported are in chronological order.
4. Parameters for the FG, FT, and 3P events are separated from the event acronym by exactly one space.
5. No player will score more than 99 points in a quarter or more than 999 points in a game. In fact, the team will not score more than 99 points in a quarter or more than 999 points in a game.

Your program is to produce a report in the following format where only those items in bold are printed.

COLUMNS ->> / Rows	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Title Row	**P**	**L**	**A**	**Y**	**E**	**R**		**1**	**Q**		**2**	**Q**		**3**	**Q**		**4**	**Q**		**T**	**O**	**T**	**A**	**L**
Player Row #1			**#**	**#**				**#**	**#**		**#**	**#**		**#**	**#**		**#**	**#**			**#**	**#**	**#**	
Player Row #2			**#**	**#**				**#**	**#**		**#**	**#**		**#**	**#**		**#**	**#**			**#**	**#**	**#**	
Player Row #3			**#**	**#**				**#**	**#**		**#**	**#**		**#**	**#**		**#**	**#**			**#**	**#**	**#**	
…			**#**	**#**				**#**	**#**		**#**	**#**		**#**	**#**		**#**	**#**			**#**	**#**	**#**	
Player #N			**#**	**#**				**#**	**#**		**#**	**#**		**#**	**#**		**#**	**#**			**#**	**#**	**#**	
Team Totals Row	**T**	**E**	**A**	**M**				**#**	**#**		**#**	**#**		**#**	**#**		**#**	**#**			**#**	**#**	**#**	

Your program will print the bold information in the table above, starting with the title row and ending with the team totals row. Print the information in the title row exactly as it appears above. Then each player's statistics are printed on a separate line. For each player appearing in the input file, print his or her two-digit jersey number in columns 3-4. Print the number of points that the player scored in the 1st quarter in columns 8-9. Print the number of points that the player scored in the 2nd quarter in columns 11-12. Use columns 14-15 and 17-18 similarly for the 3rd and 4th quarter points. The total number of points scored by the player during the game should be printed in columns 21-23. In the last row, the numbers represent the number of points the team scored in each quarter, and the total number of points the team scored in the game. All point totals are right justified and do not use leading zeros.

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Input

Your program will read a series of events that describe a basketball game. Each line of input contains exactly one event. The first line of input will contain the START event and the last line of input will contain the END event. The file contains exactly 3 QRTR events. The file will also contain an unspecified number of FG, FT, and 3P events.

Output

Your program will read all events from the input file. When your program has collected all data from the input file, it should print the report to the screen. The format of the report is described above. The players should be sorted by jersey number in ascending order. Only print information for those jersey numbers that appear in the input file.

Example: Input File

```
START
FG 45
FG 00
FG 34
FT 34
FG 21
3P 45
QRTR
FT 45
FG 01
FG 45
3P 00
3P 45
FT 15
FG 45
3P 45
QRTR
3P 45
FG 21
FG 34
FT 00
FT 00
FG 12
FG 00
FG 45
QRTR
FT 12
FG 34
FG 00
FT 15
FT 15
FG 12
3P 12
FT 21
3P 12
END
```

Output to screen

```
PLAYER 1Q 2Q 3Q 4Q TOTAL
  00    2  3  4  2   11
  01    0  2  0  0    2
  12    0  0  2  9   11
  15    0  1  0  2    3
  21    2  0  2  1    5
  34    3  0  2  2    7
  45    5 11  5  0   21
TEAM   12 17 15 16   60
```