hoursWorked

Language/Type: C++ streams file input
Related Links:
CppReference.com: iomanip library string istream

Write a function named **hoursWorked** that accepts as a parameter a string representing an input file name of section leader data and computes and prints a report of how many hours each section leader worked. Each line of the file is in the following format, where each line begins with an employee ID, followed by an employee first name, and then a sequence of tokens representing hours worked each day. Suppose the input file named `hours.txt` and contains the following lines:

```
123 Alex 3 2 4 1
46 Jessica 8.5 1.5 5 5 10 6
7289 Erik 3 6 4 4.68 4
```

For the above input file, the call of `hoursWorked("hours.txt");` would produce the following output.

```
Alex     (ID#  123) worked 10.0 hours (2.50/day)
Jessica  (ID#   46) worked 36.0 hours (6.00/day)
Erik     (ID# 7289) worked 21.7 hours (4.34/day)
```

Match the format exactly, including spacing. The names are in a left-aligned 9-space-wide field; the IDs are in a right-aligned 4-space-wide field; the total hours worked should show exactly 1 digit after the decimal; and the hours/day should have exactly 2 digits after the decimal. Consider using functions of the `iomanip` library to help you.

. . .

```
1  void hoursWorked( string filename ) {
2
3          ifstream istrm( filename );
4
5          string line;
6          string empName;
7          int employeeID;
8          double numDays;
9          double totalHrs = 0.0;
10
11         while (getline( istrm, line ) ) {
12             istringstream iss(line);
13             string token;
14
15             iss >> token;
16             employeeID = stoi( token );
17             iss >> token;
18             empName = token;
```

```
19              cout << setw( 8 ) << left << empName << " (ID# ";
20              cout << setw( 4 ) << right << employeeID;
21              cout << ")";
22
23              while ( iss >> token) { // do stuff //
24                  totalHrs += stof( token );
25                  numDays++;
26              }
27                  cout << setw( 3 );
28                  cout << " worked " << fixed << setprecision( 1 ) << totalHrs << " hours" << " (";
29                  cout << fixed << setprecision( 2 ) << ( totalHrs / numDays ) << "/day)" << endl;
30                  totalHrs = 0;
31                  numDays = 0;
32          }
33          istrm.close();
34
35  }
36
37
38
39
40
41
42
43
44
45
```

Function: Write a C++ function as described, not a complete program.

Submit

You passed 2 of 2 tests.

test #1: `hoursWorked("hoursWorked-data1.txt");`

file input: hoursWorked-data1.txt:

```
123 Alex 3 2 4 1
46 Jessica 8.5 1.5 5 5 10 6
7289 Erik 3 6 4 4.68 4
```

console output:

```
Alex     (ID#  123) worked 10.0 hours (2.50/day)
Jessica  (ID#   46) worked 36.0 hours (6.00/day)
Erik     (ID# 7289) worked 21.7 hours (4.34/day)
```

result: pass

test #2: `hoursWorked("hoursWorked-data2.txt");`

file input: hoursWorked-data2.txt:

```
6732 Keith 9 2 0 1 7
104 Mariana 23.5 23.5 23.5
3825 Cynthia 18
9990 Marty 0.5 0 0.5 0
```

console output:

```
Keith    (ID# 6732) worked 19.0 hours (3.80/day)
Mariana  (ID#  104) worked 70.5 hours (23.50/day)
Cynthia  (ID# 3825) worked 18.0 hours (18.00/day)
Marty    (ID# 9990) worked 1.0 hours (0.25/day)
```

result: pass

Need help?

Stuck on an exercise? Contact your TA or instructor.

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