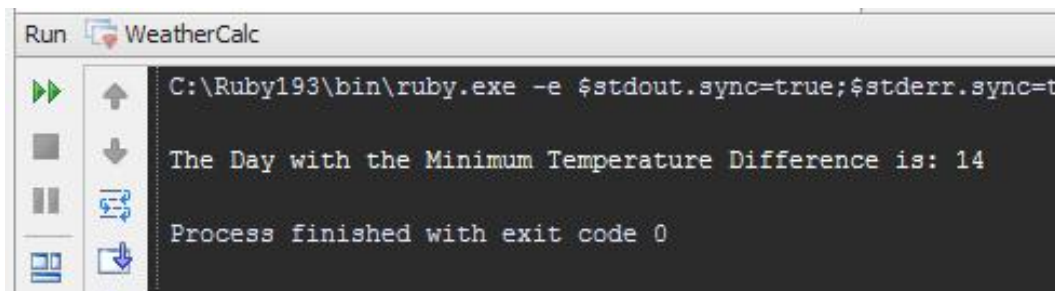


1. In the attached file (w\_data.dat), you'll find daily weather data. Download this text file, then write a program to output the day number (column one) with the smallest temperature spread (the maximum temperature is the second column, the minimum the third column).

I implemented the solution to both programming challenges in **Ruby**. This to me seemed to be the most elegant and efficient programming language to complete the assigned task in.

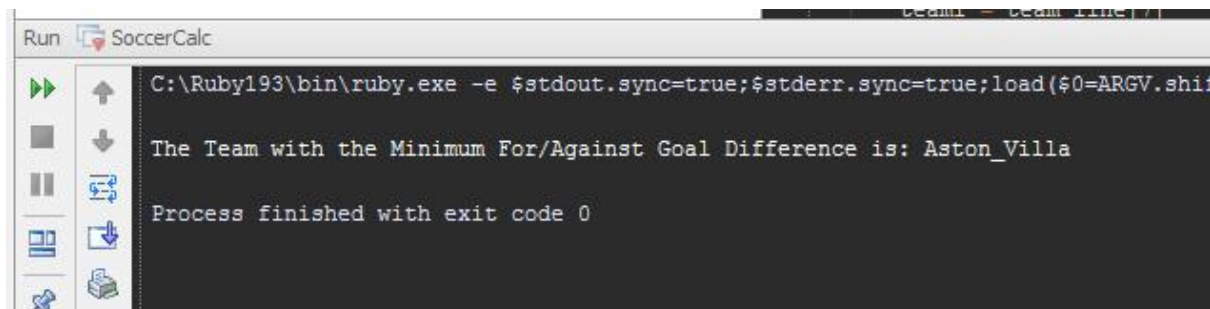
To find the correct numbers and their difference, I looped through each line and converted the characters to an integer. The difference of those integers was then stored in an array and the lowest difference then calculated using **array.min ()**.



```
Run WeatherCalc
C:\Ruby193\bin\ruby.exe -e $stdout.sync=true;$stderr.sync=true;load($0=ARGV.shift)
The Day with the Minimum Temperature Difference is: 14
Process finished with exit code 0
```

2. The file attached soccer.dat contains the results from the English Premier League. The columns labeled 'F' and 'A' contains the total number of goals scored for and against each team in that season (so Arsenal scored 79 goals against opponents, and had 36 goals scored against them). Write a program to print the name of the team with the smallest difference in 'for' and 'against' goals. Is the way you wrote the second program influenced by writing the first?

The solution to this problem was influenced by the first. I looped through to the required characters in both cases. The challenging part of this one in particular was the partition created by the hyphens: "-----", this created an exception in the code. To handle this I simply skipped the index that it was stored on [20]. I realize this will not work for any input but only for this specific 'soccer.dat' file. Due to the skipping of the line stored at index 20, my program calculated a '0' difference from that skipped line. Again, to avoid a logical error in the output I simply set the value of that difference to a very large integer ( $99*99 = 9801$ ); that cannot possibly be a minimum goal difference.



```
Run SoccerCalc
C:\Ruby193\bin\ruby.exe -e $stdout.sync=true;$stderr.sync=true;load($0=ARGV.shift)
The Team with the Minimum For/Against Goal Difference is: Aston_Villa
Process finished with exit code 0
```