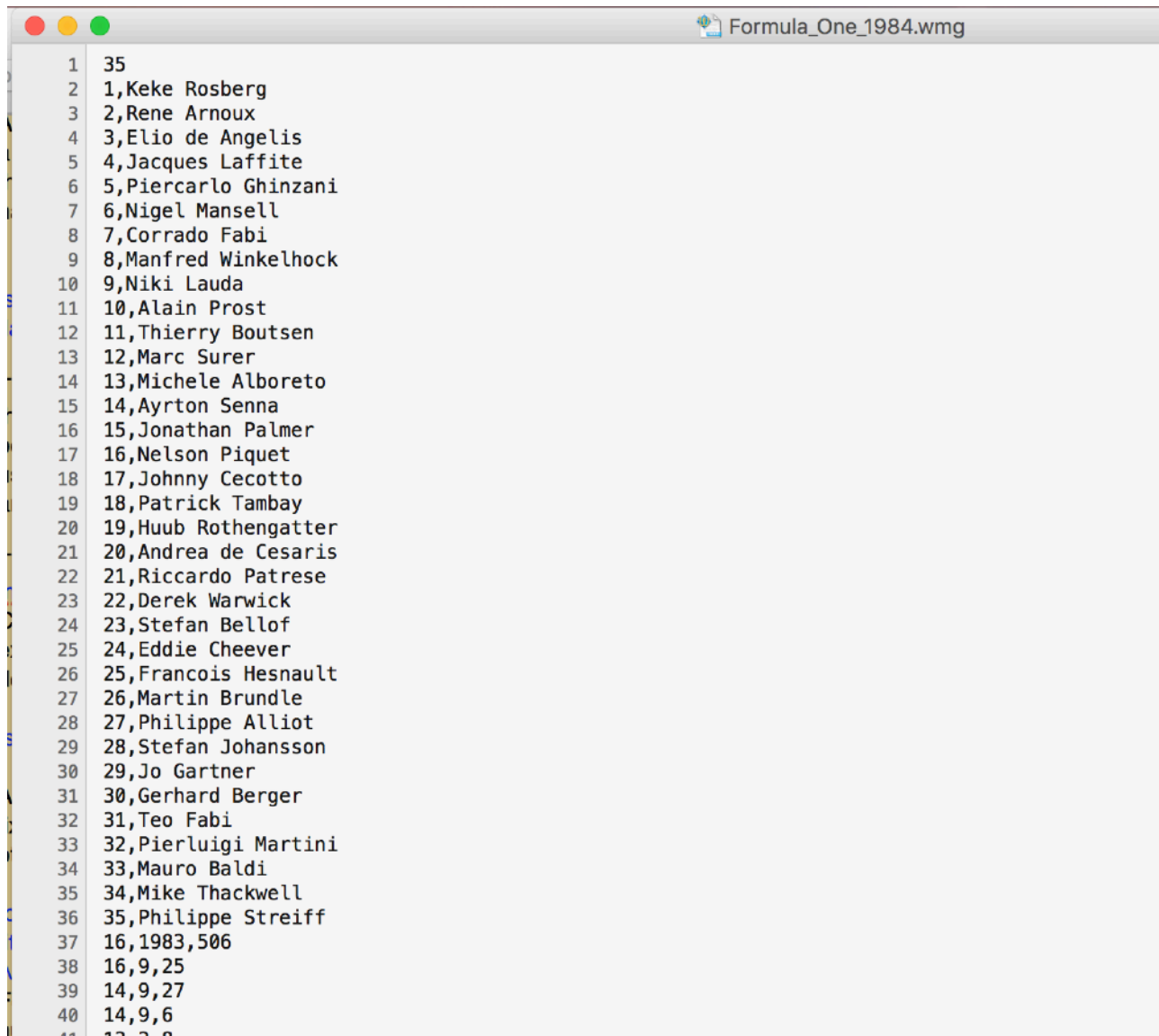


How to read the tournament dataset

The tournament data for this coursework has been obtained from www.preflib.org, a repository of real-world datasets.

The following is a screenshot of the first 40 lines of file `Formula_One_1984.wmg` containing the tournament data for the coursework.



```
1 35
2 1,Keke Rosberg
3 2,Rene Arnoux
4 3,Elio de Angelis
5 4,Jacques Laffite
6 5,Piercarlo Ghinzani
7 6,Nigel Mansell
8 7,Corrado Fabi
9 8,Manfred Winkelhock
10 9,Niki Lauda
11 10,Alain Prost
12 11,Thierry Boutsen
13 12,Marc Surer
14 13,Michele Alboreto
15 14,Ayrton Senna
16 15,Jonathan Palmer
17 16,Nelson Piquet
18 17,Johnny Cecotto
19 18,Patrick Tambay
20 19,Huib Rothengatter
21 20,Andrea de Cesaris
22 21,Riccardo Patrese
23 22,Derek Warwick
24 23,Stefan Bellof
25 24,Eddie Cheever
26 25,Francois Hesnault
27 26,Martin Brundle
28 27,Philippe Alliot
29 28,Stefan Johansson
30 29,Jo Gartner
31 30,Gerhard Berger
32 31,Teo Fabi
33 32,Pierluigi Martini
34 33,Mauro Baldi
35 34,Mike Thackwell
36 35,Philippe Streiff
37 16,1983,506
38 16,9,25
39 14,9,27
40 14,9,6
41 13,3,8
```

The format can be explained as follows:

- line 1: contains the number of participants in the competition.
- lines 2-36: contain an identifying number for each participant, along with their real names.
- line 37: contains information about *how* the data has been generated. In this particular case the data has been generated using the results of the individual races of the 1984 season of the World Formula One Motor Racing Championship. The line contains three numbers. From left to right they represent: (1) the number of races (in this case 16), (2) the total number of preferences derived from the data, (3) the total number of pairwise match-ups. NOTE: DON'T WORRY TOO MUCH ABOUT THIS LINE. IT DOESN'T REALLY PLAY ANY ROLE FOR THE COURSEWORK.

- The remaining lines in the file are all of the format <weight, edge>. For example line 40 says that the edge in the graph *from* participant #9 *to* participant #6 has weight 14. This is derived from the fact that, in the match-up Niki Lauda vs Nigel Mansell throughout the season, if a is the number of races in which Lauda finished ahead of Mansell, and b is the number of races in which Mansell finished ahead of Lauda, then $a > b$ (so Lauda wins the overall “match”) and furthermore $a - b = 14$.