

## 1 New ratings software

From December 1, 2006, Australian ratings will be calculated with new software `linrat.exe` which replaces `ratings.exe` which has been used for many years.

Linrat uses a different probability model which gives more realistic modelling of the expected probability of winning.

The software is available from <http://www.scrabble.org.au/ratings/software.htm>

The new software is run at a DOS prompt in a manner very similar to the old `ratings.exe`, but includes a few improvements as well.

## 2 Required steps

The steps are very much like those followed by users of Kevin Burfitt's program **ratings.exe** :

- 1 Before the tournament, retrieve the data of prior ratings as the file `RATING.DAT` from the ASPA website <http://www.scrabble.org.au/ratings/dat> You should let the National Ratings Officer know if any entrant is returning after a long absence or is an overseas player.
- 2 During the tournament, take time to check that names are spelt correctly. (Hint: If you store a copy of `RATING.DAT` in the same folder as the AUPAIR program, you can do a spell check from the AUPAIR program itself).
- 3 After the tournament, check again that the names are correct and clean. The `linrat` program will ignore markers like `@12`, `@R`, `(NZ)`, `(N)` etc but there is merit in cleaning these up before publishing results to the **ozscrabble** mailing list.
- 4 Use a work folder to run the ratings. This work folder should have
  - `linrat.exe`
  - `RATING.DAT`
  - the tournament data file eg `06EX.TOU`

An alternative concept of a work folder is discussed later.

- 5 Go to a DOS prompt within this folder.
- 6 Run the program `linrat.exe` (if you type **linrat help** it will give a brief guide).
- 7 Investigate the stats file eg `06EX.STA` to see that no mistakes have been made.
- 8 Display the ratings changes at the end of the tournament and hear the squeals and groans.
- 9 Perhaps use `06EX.STA` to send a report to the **ozscrabble** mailing list.
- 10 Send the tournament file to the National Ratings Officer.

The steps above are almost exactly what people have been used to using.

Below are some of the changes, most of which are an improvement.

### 3 The parameters

The command line can be done analogously to Kevin's program RATINGS.EXE, e.g.

```
LINRAT 06exx.tou vic 20061104
```

where the three parameters specify the tournament file, the state where it is played, and the date of the tournament in the form YYYYMMDD.

If you got it wrong with Kevin's program, you'd get a reminder and then have to try it again.

If you get it wrong, or leave out bits with LINRAT, it will ask questions to guide you.

If you forget the .tou bit, it will append it for you.

If you give no parameters (i.e just type LINRAT) it will display any recent .TOU files in the folder.

If you omit the state, it will ask you for it.

If you omit the date, it will suggest what it should be (it deduces it from the date embedded with the TOU file by recent versions of the AUPAIR software).

### 4 The prior ratings

Usually the prior ratings are from the RATING.DAT which you have retrieved from the ASPA website. Unlike Kevin's program, LINRAT can also use an RT2 file for input (these are just like RATING.DAT but are the output from a prior run of the LINRAT program).

If your work folder has only RATING.DAT as prior data, it will work much as Kevin's **ratings.exe** did. But if the folder has some output from prior runs it will display these as well as possible sources of input.

Kevin's **ratings.exe** would clobber the old RATING.DAT because it overwrote it with new ratings. LINRAT will never overwrite RATING.DAT so if a mistake necessitates a rerun it can be done easily. You can if you wish use DOS or windows commands to rename the newly generated .RT2 file as RATING.DAT ready for next time, but probably only the National Ratings Officer will need to do that.

### 5 Inactive players

Players from overseas and players who have not played for some time are sometimes placed in a backup archive RETIRED.DAT, maintained by the National Ratings Officer. If the file RETIRED.DAT is available in this folder, it will be consulted where necessary by the LINRAT program.

The National Ratings Officer will advise you the best way to deal with this.

## 6 The input file of tournament data

The tournament file is usually named something like 06GEEL.TOU, as the file saved by the AUPAIR software.

It is useful if the date of the tournament is embedded within the title. Later versions of AUPAIR will try to do this.

It is vital that the names of rated players are given exactly as recorded in the file RATING.DAT and it is most appropriately checked on the day of the tournament. Names of unrated players should also be accurately entered in the form that the player will be happy to accept for the rest of their life.

The AUPAIR software can use extra markers like @ and ( ) for things such as seat allocation, and the ratings program will ignore these. However for archival purposes it may be wise to edit these out before submitting to the Scrabble Australia website.

Unlike Kevin's program, Barry's program is aware of the convention of using a dummy player such as A Bye, B Bye etc. This way, and the recommended way of pairing a player against himself will lead to correctly calculated ratings. Players who have fewer games because of a bye will be listed separately in the ratings display (the STA file). The number of wins for ratings purposes will be shown in this STA file.

For instance, if William Shakespeare has one bye in a six round tournament, and wins 3 out the other five games, he will be listed under the heading 5 games, and credited with 3 wins out of 5. Kevin's program would have listed William together with all other players in that section and have had an extra 0.5 in both the expected and actual wins. The rating change is exactly the same for Kevin's and Barry's program.

## 7 Output files

The new program differs from the old one in that it does not overwrite the old RATING.DAT when it has finished processing the file. A new file in the required format is created as e.g 06EX.RT2 copying, renaming or whatever.

The new program does not create the many separate files of ratings filtered by state and sorted by name or rating. People who want this information are advised to get it from the ASPA website.

## 8 Mistaken names

It is preferable that spelling of names has been checked and fixed by the tournament operator. If there are wrongly spelled names, Kevin's earlier program used to try to make suggestions about possible extant players, and use a temporary fix (not altering the TOU file).

If there are any unrecognised names, LINRAT will display a list of all the unknown names.

Scan the entire list to see if there are any mistakes. If there is any mistake anywhere, type FIX at the first opportunity. The program will pause. Open another window and fix it eg by running AUPAIR or cautiously editing the rating data file. When you have fixed it, return to the LINRAT program and press ENTER and it will try to carry on with the fixed data.

## 9 Unrated players

Once you have attended to the misspellings or missing ratings data, any unrecognised players must now be assumed to be unrated players. In Kevin's program, all unrated players were assumed to be players within the state<sup>1</sup> where the tournament was played. Indeed this was the only reason for asking where the tournament was played.

In Barry's program, you will be asked one by one where the unrated player comes from. The default state is the state where the tournament is played, so just hitting ENTER will suffice if this is so. Otherwise you type the appropriate state.

## 10 The STA file

The STA file is a plain text file showing the rating changes consequent to the tournament, and is used for immediate feedback after the tournament and posting to the ASPA mailing list. The new program uses a display very similar to what we have been used to for many years, with a few minor improvements. Here is an edited example

Stats for Tournament: 05.11.2006 GEEL06.TOU generated by LINRAT (linear) 2.3

State      Name		National		State		Wins		Rating Points		
		Old   New		Old   New		Exp   Act		Old   Change   New		
+Section MASTERS		+		+		+ 6 games		+		
VIC Heather Long		87   54		41   24		2.6   5.0		1474   +61   1535		
VIC Carmel Doney		104   71		50   32		2.8   5.0		1457   +52   1509		
VIC Peter Kougi		107   64		53   27		2.5   5.0		1456   +62   1518		
+Section RECREATION		+		+		+ 6 games		+		
VIC Mike McAvoy		646   617		194   190		3.9   5.0		889   +23   912		
VIC Sean Dostal		693   643		204   195		3.8   5.0		855   +41   896		
VIC Mercia Cadan		889   889		249   249		3.1   3.0		731   -1   730		
*VIC Dorothy Bolger		1213		287		2.0		539		
VIC Val Martin		998   1042		262   269		3.0   2.0		666   -20   646		
VIC Dolores Scheldt		1295   1295		298   299		2.0   1.5		500       500		
VIC Raelene Owen		1286   1286		296   297		1.9   1.5		500       500		
*VIC Cheryl Scarff		1364		306		1.0		500		

- 1 The heading shows not only the tournament filename and tournament date, but also which version of the software has been used.
- 2 The number of rounds played is now shown as part of the section header. If one section has fewer rounds, or any player has played fewer rounds (eg by having a bye or acting as standby, the heading will show this).
- 3 Rating results will be listed in tournament finishing order, whether the criteria are wins and spread or wins and aggregate.

<sup>1</sup>For Australian use, Australian states such as NSW, WA etc are built in. However if a text file STATES.TXT exists, it will instead use the state codes therein (up to three letters). Codes can be put on one line or several lines, and anything to the right of a # mark will be ignored as a comment.

- 4 Players with no prior rating will be marked with an asterisk as in Kevin's program, but the fields for prior rating and rankings and expected number of games will be left blank.
- 5 Players who have been resurrected from RETIRED.DAT will have their prior rankings left blank.
- 6 Players whose rating would otherwise fall below the floor of 500 will be shown with a final rating of 500. Their prior rating will be shown, but the rating change will be left blank, because it has been ignored in favour of the decreed floor.
- 7 Kevin's program used to give a footnote about movers and shakers. There is no such footnote in Barry's program, but there are footnotes about the basis of calculations. You may wish to omit this footer when you send a report to the **ozscrabble** mailing list.
- 8 Markers are shown for certain players:
  - \* previously unrated player
  - ^ fairly new player with acceleration (multiplier = 30)
  - x player who forfeited at least one game

## 11 The WHY file

When you process eg 06GEEL.TOU, there is not only the conventional display of 06GEEL.STA as described above, but also a more detailed explanation 06GEEL.WHY, for diagnostic purposes. If you aren't particularly interested, WHY files may be deleted.

## 12 The RT2 file

The RT2 file should be suitable to be used as RATING.DAT for the next tournament. Some people may wish to archive RT2 files.

## 13 Work flow

Users might have their own preferences about using folders. For running one ratings calculation at a tournament there is merit in the concept of a new folder with just LINRAT.EXE, the immediately prior RATING.DAT and the current TOU file. The dialogue runs like this:

```
C:\ratings\testSRO>linrat
Linrat version 2.15 (linear)
Only one TOU file found, so using TUEWARM8.TOU
TUEWARM8.TOU has title 28.11.2006 TUESDAY WARMUP
Which state? One of NSW ACT VIC SA QLD TAS WA OS : NSW
Give the tournament date (default is 20061128) :
Prior data from RATING.DAT after 06sanov.tou on date 20061119

New rating file created : TUEWARM8.RT2
Stats report created    : TUEWARM8.STA
Explanations created    : TUEWARM8.WHY
```

If the displayed information shows that a wrong version of RATING.DAT has been used (you should always check), all you need to do is get the correct version of RATING.DAT and start **linrat** again.

For ongoing management and revision, probably mainly done by the National Ratings Officer, LINRAT has the feature of never overwriting RATING.DAT, always writing a new ratings file as an RT2 file, and allowing rating data to be found from an RT2 file.

Here is how a session might go, when the work folder contains several TOU files, four of which have already been processed (\* marker) and three are yet to be done.

The dialogues will show what TOU files are yet to be done, and later, what RT2 files may be appropriate for using as prior rating data.

Note also that if it is now discovered that a mistake has been made in an earlier processed file, eg it is easy to choose it and reprocess it and all subsequent tournaments without any effort of shuffling files about.

```
C:\ratings\testNRO>linrat
Linrat version 2.15 (linear)
Recent TOU files
```

TOU file	event	date
1 daynite.tou	Day/Night	20051211
2 summar_0.tou	Summer Marathon	20051204
3 051204sp.tou	Southport	20051204
4 turra05.tou	* Turramurra	20051203
5 snov0506.tou	* November	20051120
6 act05.tou	* ACT Championships	20051120
7 051119al.tou	* Albert & Logan Just A Word	20051119

Which file [3]

using 051204sp.tou

051204sp.tou has title 04.12.2005 Southport

Which state? One of NSW ACT VIC SA QLD TAS WA OS : QLD

Give the tournament date (default is 20051204) :

Files with prior ratings

Ratings file	last event	last date
1 turra05.RT2	turra05.tou	20051203
2 act05.RT2	act05.tou	20051120
3 snov0506.RT2	snov0506.tou	20051120
4 051119al.RT2	051119al.tou	20051119

Which file [1] 1

Prior data from turra05.RT2

New rating file created : 051204sp.RT2

Stats report created : 051204sp.STA

Explanations created : 051204sp.WHY

## 14 Version History

### Version 2.4

Allow -i xxx.xx for input other than RATING.DAT

### Version 2.5

Fixed problem with recognising interstate players (Waterworth feedback)

### Version 2.7

Can get alternative state names from a file STATES.TXT  
 Shows last 6 TOU files if you aren't sure  
 Ratings list now RT not RAK or RAT  
 Ratings list includes last tournament date in header  
 Will look in RETIRED.DAT if it's there

**Version 2.8** Reports players with > 50% unrated opponents  
 Queries if toudate before or equal to rating.dat date  
 Rankings amongst players active in last 1 year

### Version 2.09

Discovered that unrated players are not using the Linear Performance Rating ie unrated players still found iteratively. Okay for now.

### Version 2.10

Prior data - a choice of RATING.DAT plus relevant prior RT files  
 Easier defaults (eg puts .tou on the end if you miss it)

### Version 2.13

Now RT2 not RAT or RAK or RT  
 Wins and spread calc now done within parsetou subroutine  
 Bonus and feedback now done after all iterations (testing on dummy PRE WYSC with many unrated had shown considerable discrepancies with Kevin's)  
 Now Exp=Act for novices because they get no bonus (but can get feedback).

### Version 2.16

Version 2.13 had Wins and spread calc now done within parsetou subroutine but this gave spreads of zero for unrated players from other than the default state – Ver 2.16 reverts to the other way.  
 Problem with rankings fixed (post tournament had included rusties).  
 Proffered ratings files now puts RATING.DAT first.  
 Any player who forfeits any game (internally represented as 1002) is marked with an x in the STA file eg Randy Bounder forfeits one game, leaving Pat Malone in the lurch.

5 games									
VIC Pat Malone	94	84	43	37	2.4	3.0	1456	+12	1468
xVIC Randy Bounder	11	13	5	5	3.3	3.0	1752	-6	1746

Both Randy's and Pat's ratings are calculated based on 5 games (the forfeited game is not rated), but a marker is placed in the STA file so that later processing can recognise that the rating does not count for qualifying status for Randy, but will count for Pat.

### Version 2.17

Rankings displayed and stored so that number of games is a secondary criterion for sorting. Bug: if the user had a folder whose name ended in TOU the program crashed trying to open it as a file. Fixed.

### Version 2.19

Change BAZRAT to LINRAT (defined by variable \$progrname) in the STA preliminary header.  
 Also in STA preliminary show the previously processed file  
 Bug RATING.DAT listed twice (unshifted twice) : fixed  
 Bug undefined variable for forfeits (fixed by initialising after checking state)  
 Bug in displaying x0.8 in the WHY file. FIXED  
 Bug prospective games get rated (eg while checking ratings midway). Now fixed

**Version 2.20** More comprehensively deals with inconsistent capitalisation, apostrophes, hyphens etc, but preserves the version given within the RATING.DAT file.

Notes at the end preceded by subheading Notes: to assist Edward's web pages

When a list of TOU files is presented, their status is listed with DONE (used to be just \*)

**Version 2.22** BUG: The newly written RT2 file which should have contained all previous data plus any newly rated players was filtering out players inactive for a year. (This problem had been fixed some versions back but somehow had got unfixed).

Program concludes asking for ENTER (in case anyone runs LINRAT by clicking rather than at a DOS prompt).

List of TOU files now limited to just 8, and sorts by DOS file date if internal date is missing.

**Version 2.23** BUG: Previously working code for A Bye not working now. Mainly due to fixed capitalisation (internally stored as all caps). After much work – now fixed.

NOTE: Code for retrieving from RETIRED.DAT now deleted (policy to not maintain this).

BUG: asking about ambiguous Joy Smith done in two places. Fixed.

BUG: Looping with an opportunity to FIX didn't work. Removed.