

Example pedigrees for pedtodot

Jing Hua Zhao
University of Cambridge

June 5, 2022

1 Introduction

The `pedtodot` function can be used to create sophisticated pedigree diagrams with `graphviz`. Here I would like to give three examples to illustrate.

2 The data

The data were on mouse, baboon and vulture pedigrees originally from Richard Mott (<http://www.well.ox.ac.uk/rmott/>), Jinliang Wang (<http://www.zsl.org/science/ioz-staff-students/wang,1086,AR.html>) and Franziska Lorcher (franziska.loercher@ieu.uzh.ch) but for convenience they are collectively stored in a R data file which can be loaded as follows.

```
> load("pedigrees.rda")
> head(one,5)
```

	pid	id	fid	mid	sex	aff
1	1	A048005080	H2.3:G2.2(3)	H2.3:C5.2(3)	2	2
2	1	A048010273	G5.2:F5.1(2)	G5.2:B5.1(4)	2	2
3	1	A048011567	C2.2:B5.1(4)	C2.2:F3.1(5)	1	1
4	1	A048013559	C5.2:B5.1(4)	C5.2:F3.1(5)	2	2
5	1	A048036063	H2.3:G2.2(3)	H2.3:C5.2(3)	1	1

```
> head(two,5)
```

	pid	id	fid	mid	sex	aff
1	2	1	F5	M3	2	1
2	2	2	F5	M4	1	1
3	2	3	F24	M1	1	1
4	2	4	F5	M3	2	1
5	2	5	F5	M4	1	1

```
> head(three,5)
```

	pid	id	sire	dam	sex	aff
1	3	1	0	0	1	1
2	3	2	0	0	2	1
3	3	3	0	0	1	1
4	3	4	0	0	1	1
5	3	5	0	0	2	1

3 Generation of .dot files

This is simply done with the following commands,

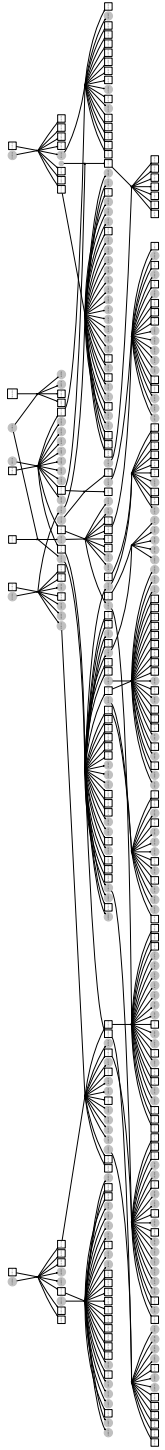
```
> pedtodot(one, dir="forward")  
> pedtodot(two, dir="forward")  
> pedtodot(three, dir="forward")
```

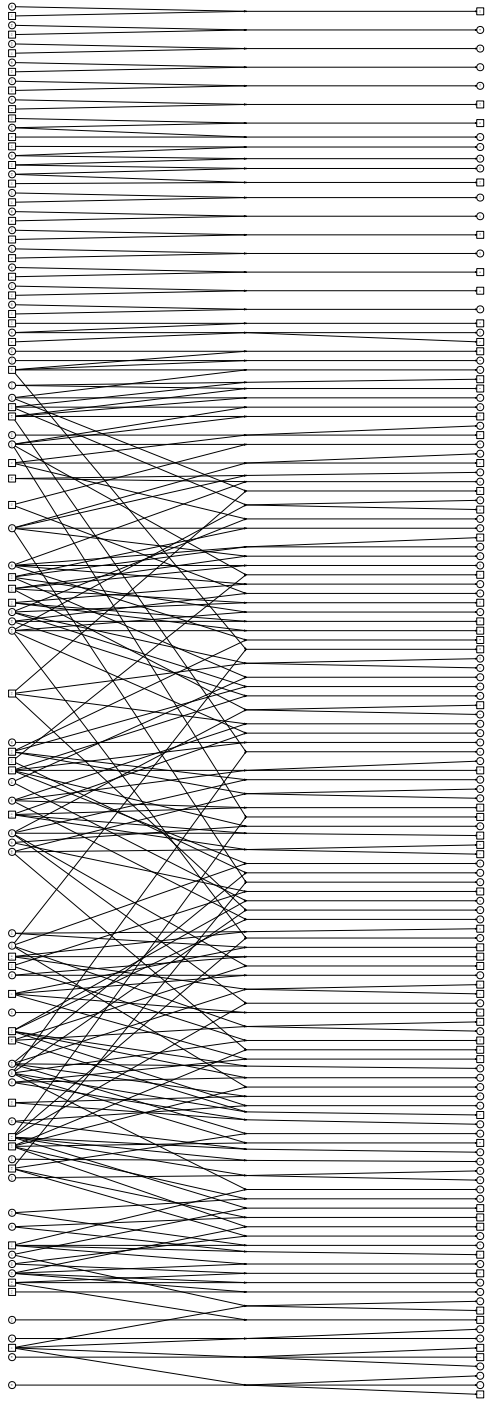
which gives three `graphviz` command files named 1.dot, 2.dot and 3.dot.

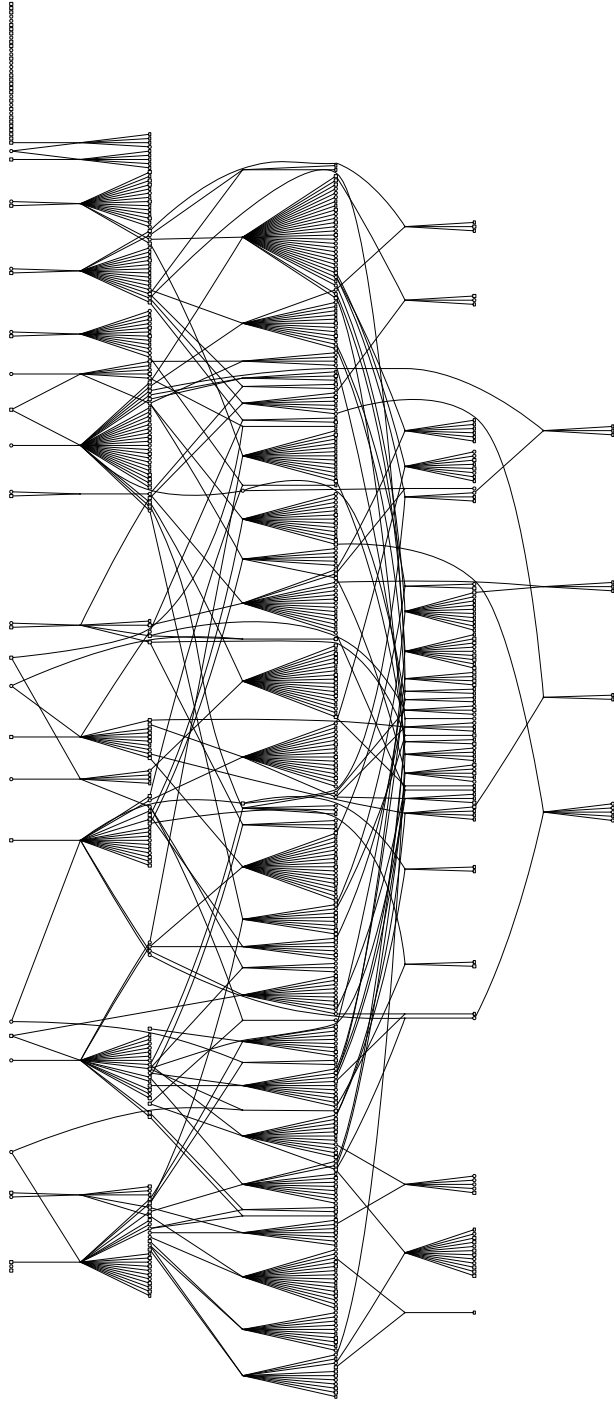
4 Generation of diagrams in portable document format

From these .dot files we can use the utility `gvedit` from `graphviz` to generate pedigree diagrams in portable document format (PDF). Recent versions of `graphviz` do not chop the graphics into multiple packages so the PDFs can be generated directly from the associate dot/fdp programs.

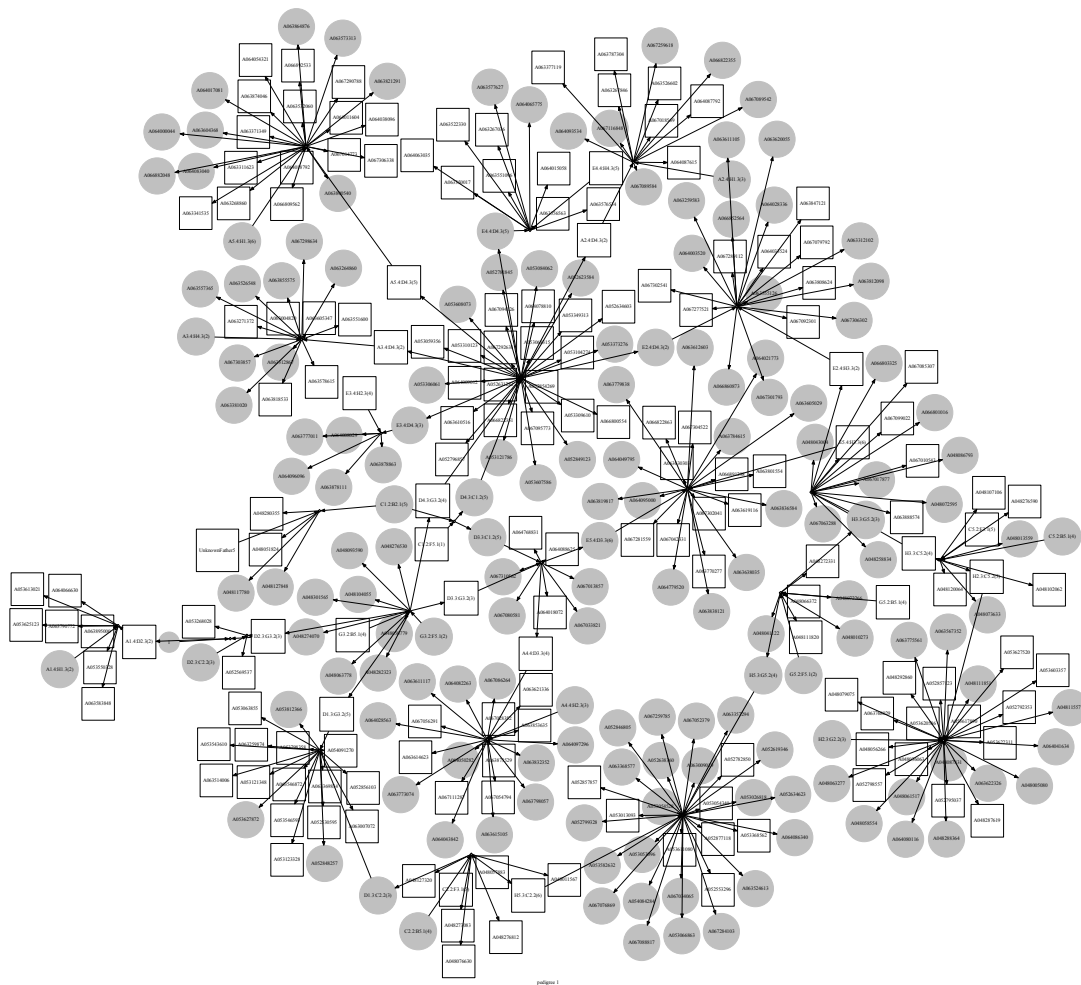
These are either in dot format (which are rotated to fit the page and you can zoom in to see the labels)

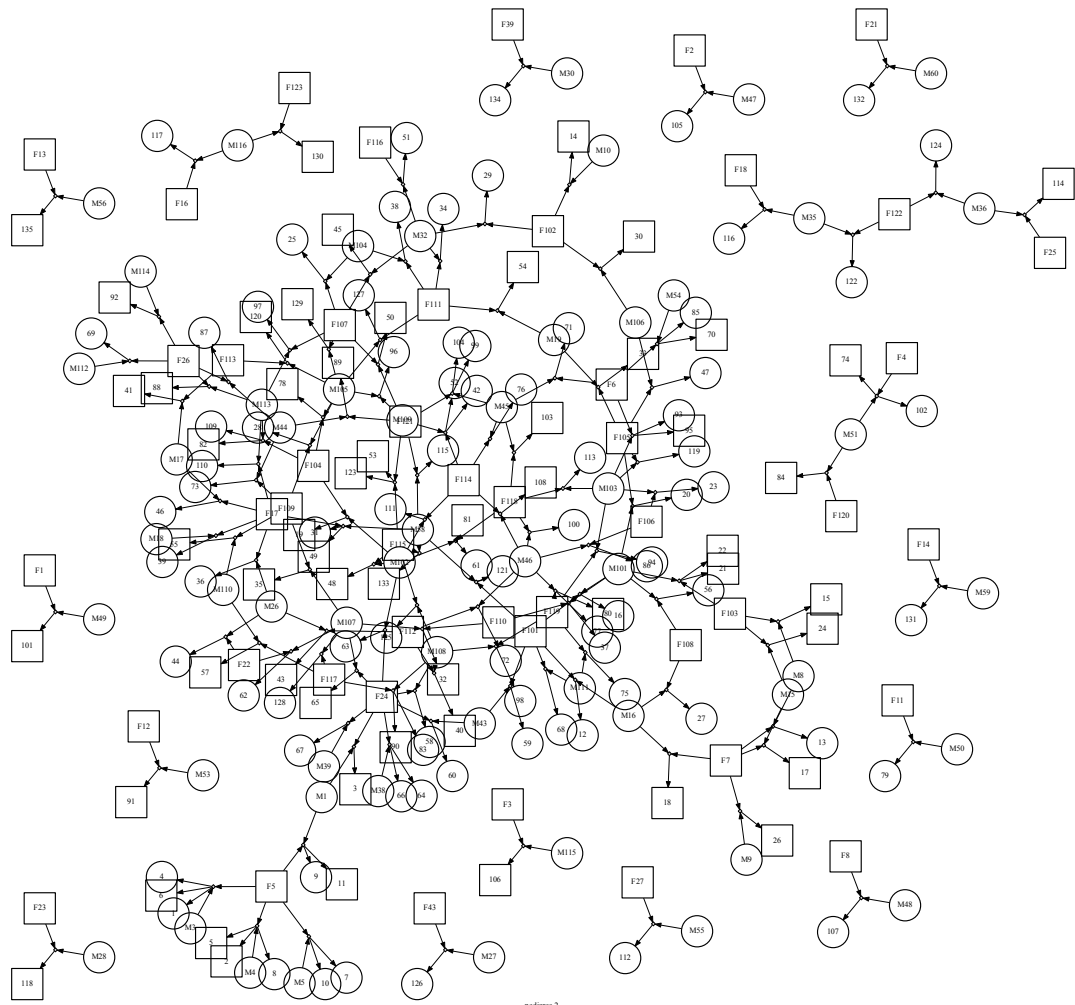




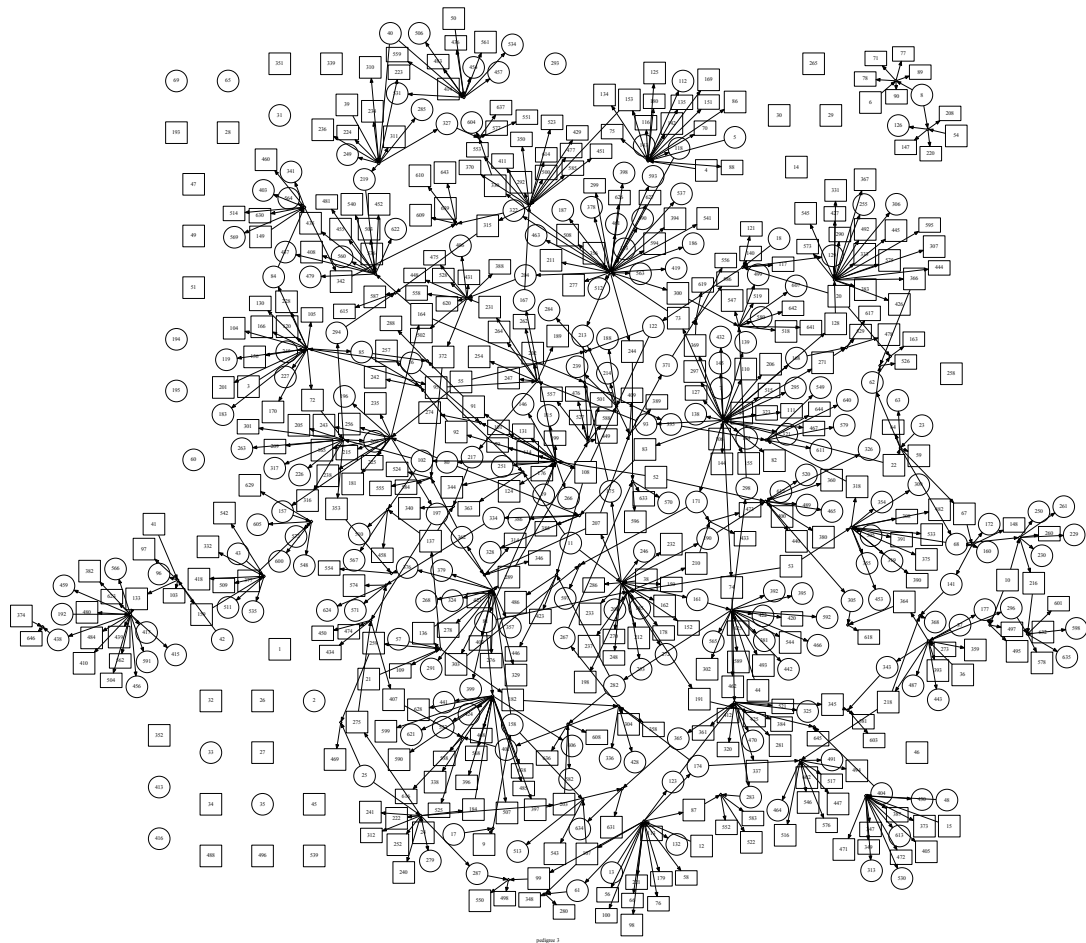


or in fdp format (as they are)





pedigre 2



5 Other examples

I have also created examples using data from Genetic Analysis Workshops, e.g. GAW14, but I hope these serve as motivating examples for your own data.

6 Reference

Zhao J.H. Drawing pedigree digrams with R and graphviz. R News 2006, 6(2):38-41, http://www.r-project.org/doc/Rnews/Rnews_2006-2.pdf.