

Example pedigrees for pedtodot

Jing Hua Zhao
University of Cambridge

June 4, 2015

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,

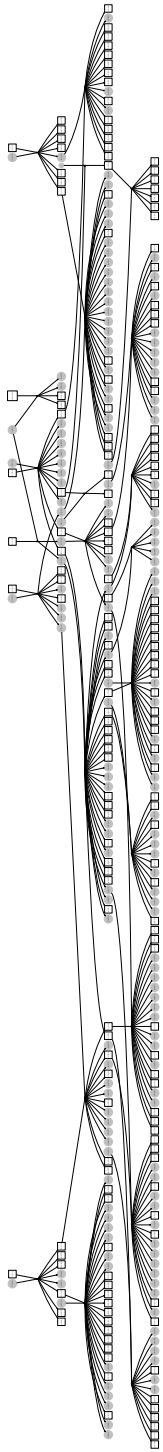
```
> pedtodot(one, dir="forward")
> pedtodot(two, dir="forward")
> pedtodot(three, dir="forward")
```

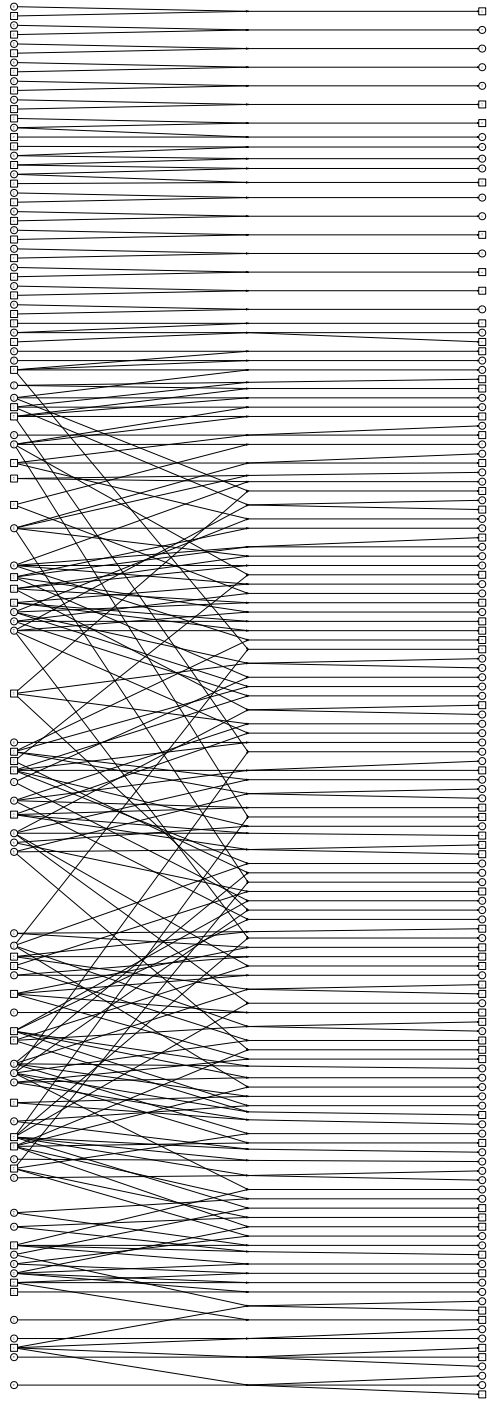
which gives three **graphviz** command files named 1.dot, 2.dot and 3.dot.

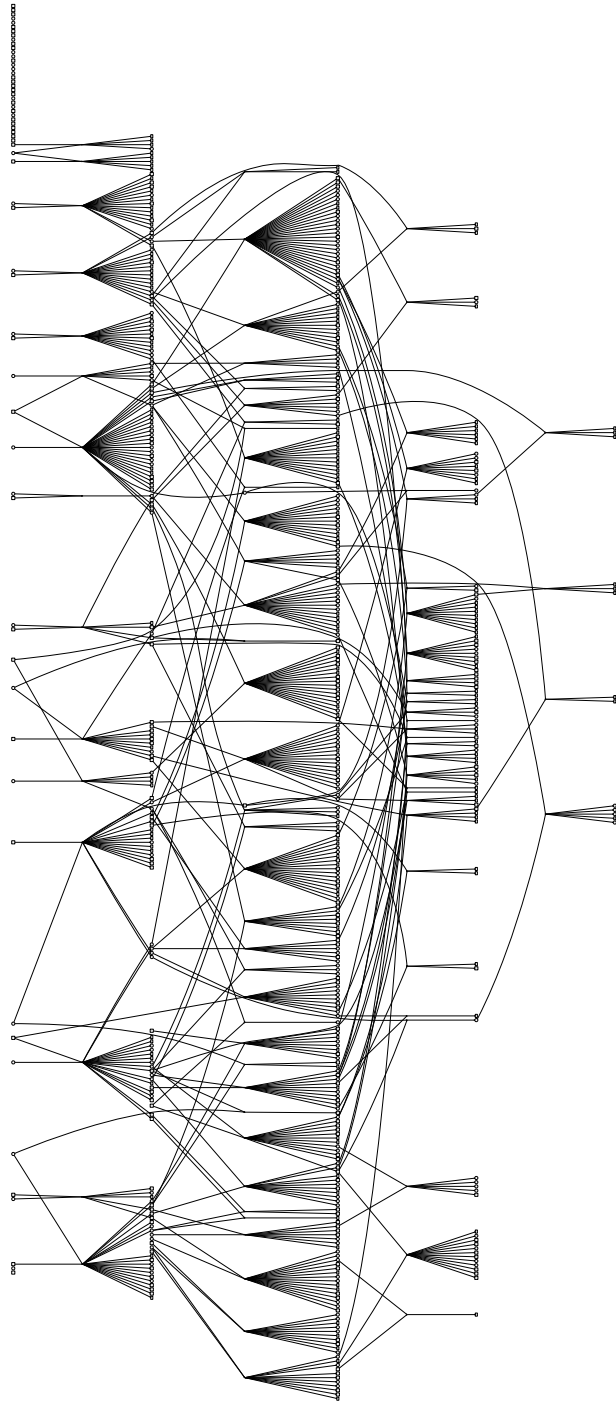
4 Generation of diagrams in portable document format

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.

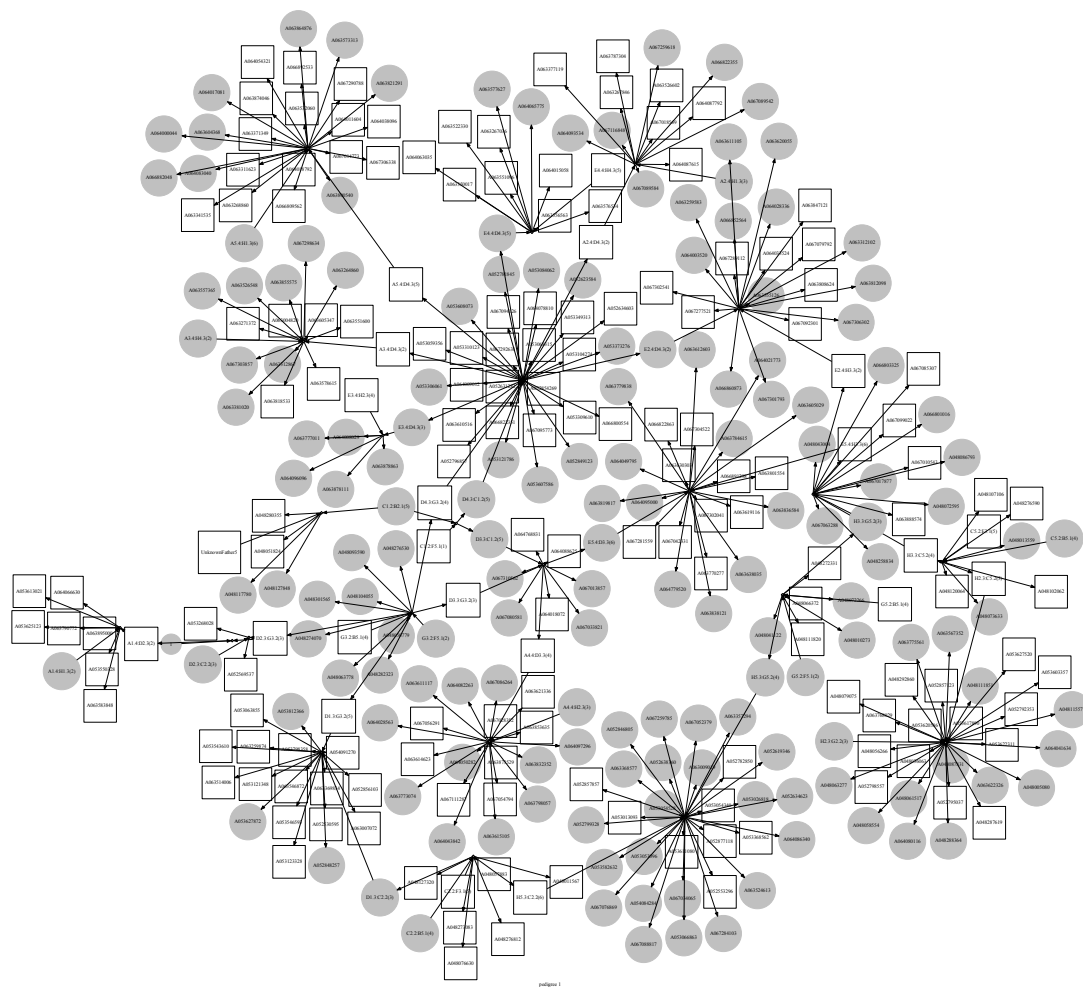
These are either in dot format (which are rotated to fit the page and you can zoom in to see the labels)

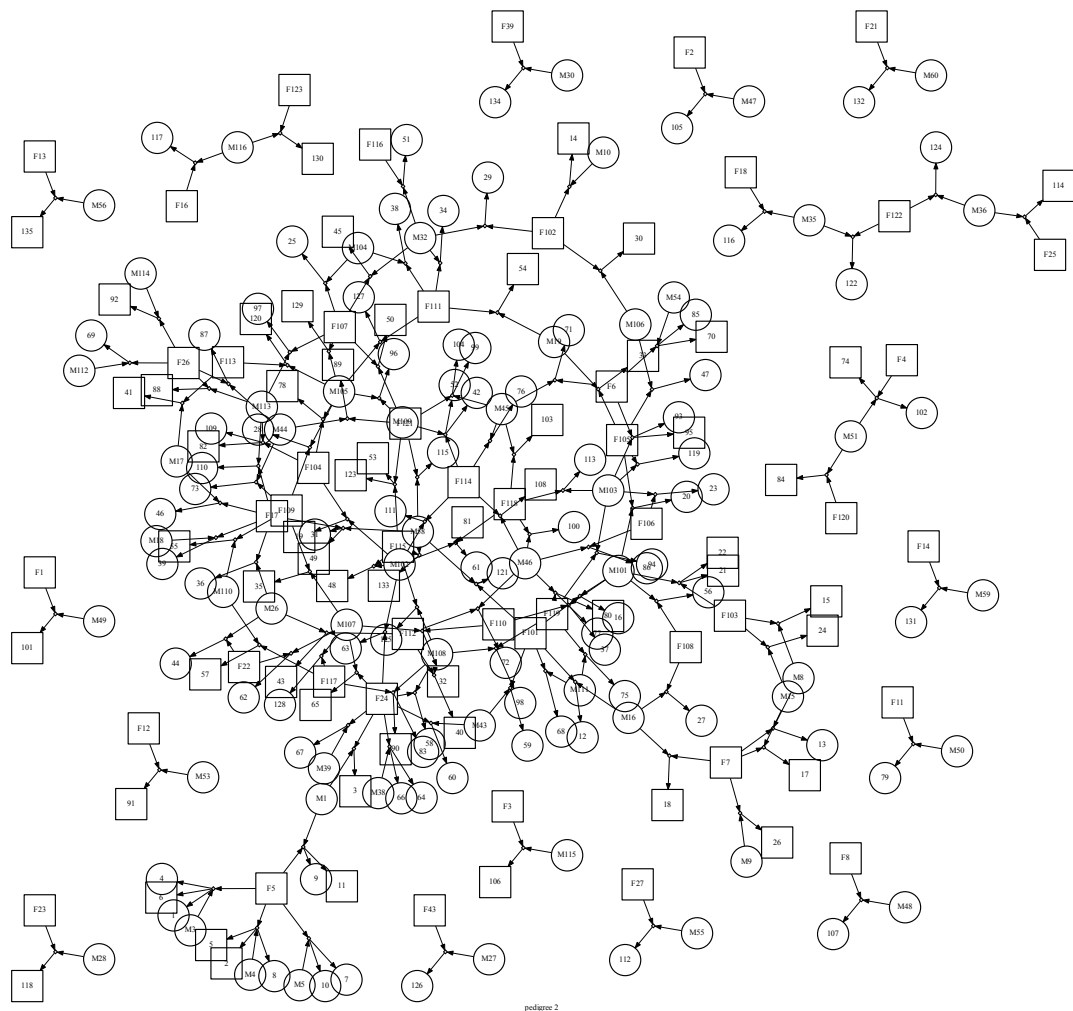




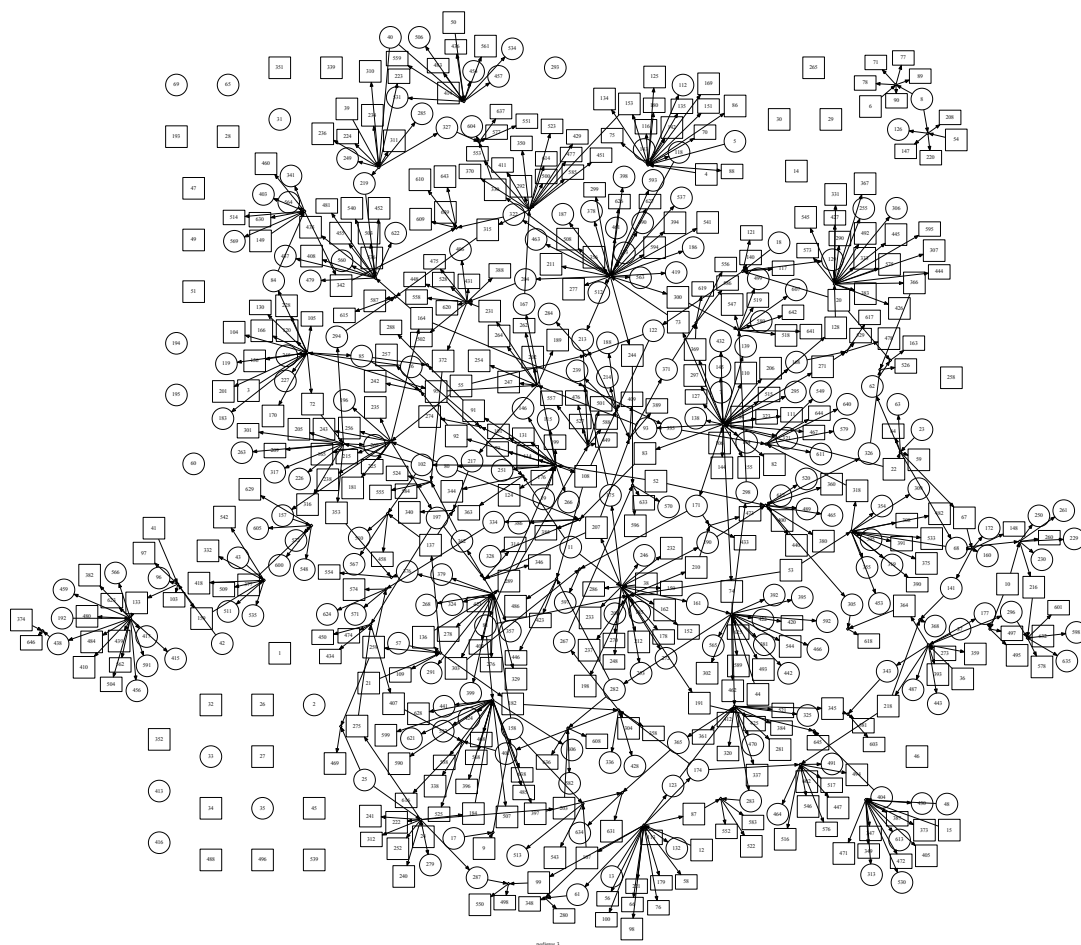


or in `fdp` format (as they are)





podigree 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.