

Table 1: A summary of the features possessed by the Eagle package and the comparison implementations.

Features	Computer Software for Association Mapping							
	Multiple-locus						Single-locus	
	Eagle	bigRR	glmnet	LMM-Lasso	MLMM	r2VIM	FaST-LMM	GEMMA
Purpose built <sup>1</sup>	✓	✓	✗	✓	✓	✓	✓	✓
Well documented <sup>2</sup>	✓	✗	✓	✗	✓	✗	✓	✓
Simultaneous fitting of SNPs	✓	✓	✓	✓	✗	✗	✗	✗
Additional fixed effects <sup>3</sup>	✓	✓	✓	✗	✓	✓	✓	✓
Data larger than RAM <sup>4</sup>	✓	✗	✗	✗	✗	✗	✓	✗
Threshold free <sup>5</sup>	✓	✗	✗	✗	✓	✗	✗	✗
Informative error checking	✓	✗	✗	✗	✗	✗	✓	✗

<sup>1</sup> Computer software specifically designed for the analysis of data from GWAS.

<sup>2</sup> More than just a readme file or comments in an example file. Those programs with ticks had detailed user manuals.

<sup>3</sup> Ability to accommodate additional fixed effects in the model such as age, sex, and population structure effects.

<sup>4</sup> Able to deal with data larger than the memory capacity of the computer.

<sup>5</sup> Results reported as the set of SNP closest to the genes influencing a trait. No need to construct thresholds to determine significance of the findings.

<sup>6</sup> All the programs terminated on errors. However, not all the programs informed the user of the cause and how to fix the errors.