

Phased genotype data

M SNPs

family	id	rs <sub>1</sub>	...	rs <sub>M</sub>	disease
fam <sub>1</sub>	id <sub>1</sub>	T G	...	A A	1
fam <sub>1</sub>	id <sub>2</sub>	T G	...	A A	0
fam <sub>1</sub>	id <sub>3</sub>	G G	...	C A	0
⋮	⋮	⋮		⋮	⋮
⋮	⋮	⋮		⋮	⋮
fam <sub>N</sub>	id <sub>n</sub>	G G	...	C A	0

Pseudo-sibling  
simulation



family	id	rs <sub>1</sub>	...	rs <sub>M</sub>	disease
fam <sub>1</sub>	id <sub>1</sub>	T G	...	A A	1
fam <sub>1</sub>	id <sub>p1</sub>	G G	...	C A	0
fam <sub>1</sub>	id <sub>p2</sub>	T G	...	A C	0
fam <sub>1</sub>	id <sub>p3</sub>	G G	...	A A	0
⋮	⋮	⋮		⋮	⋮
fam <sub>N</sub>	id <sub>p3</sub>	G G	...	C A	0



Impute gene expression

family	id	imputed gene expression	disease
fam <sub>1</sub>	id <sub>1</sub>	1.5	1
fam <sub>1</sub>	id <sub>p1</sub>	-0.2	0
fam <sub>1</sub>	id <sub>p2</sub>	-0.7	0
fam <sub>1</sub>	id <sub>p3</sub>	-0.3	0
⋮	⋮	⋮	⋮
fam <sub>N</sub>	id <sub>p3</sub>	-2.3	0