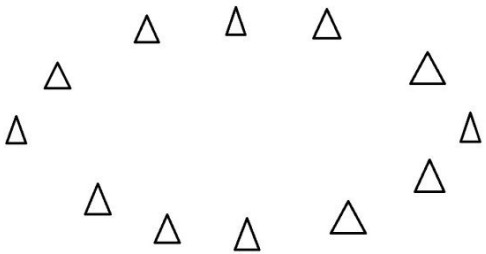
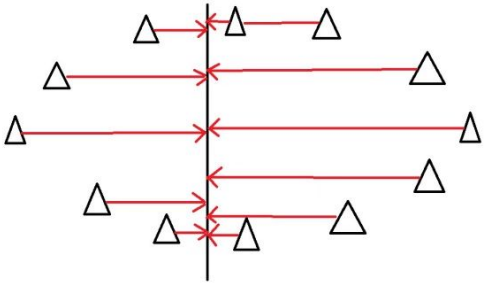
31 March, 2016:

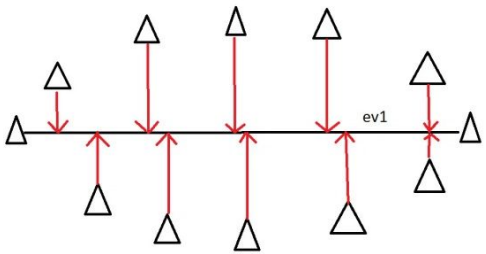
Exploratory statistics

PCA

Google "principal component analysis for dummies"







maximal variance

PCA

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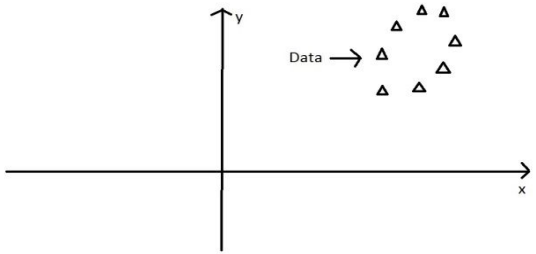

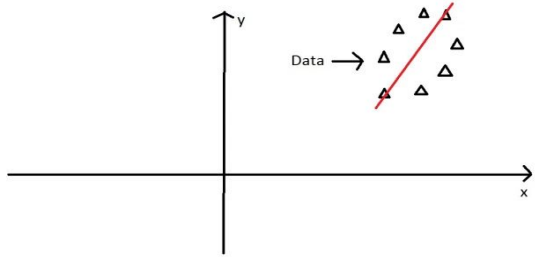

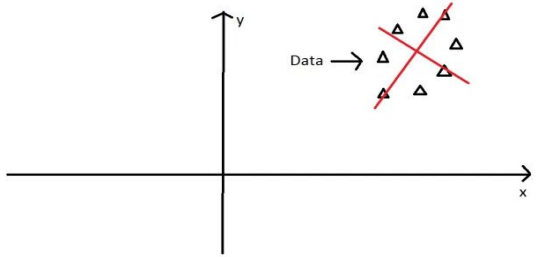

PCA

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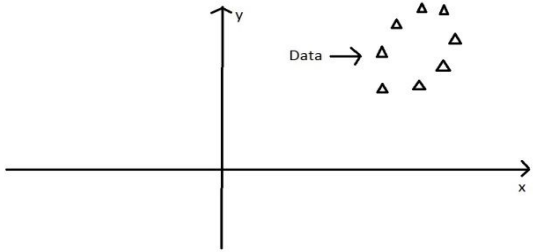
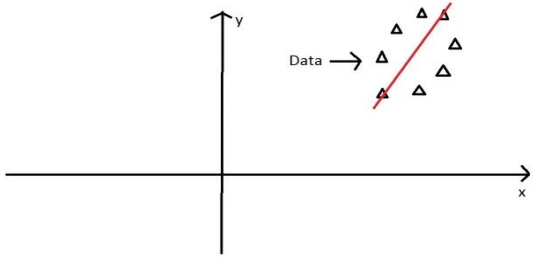
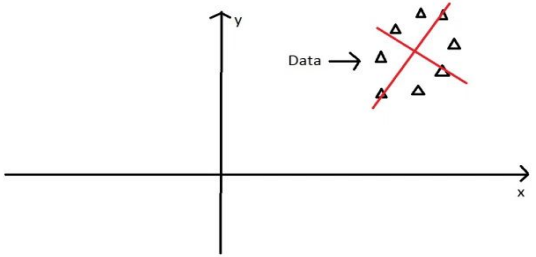
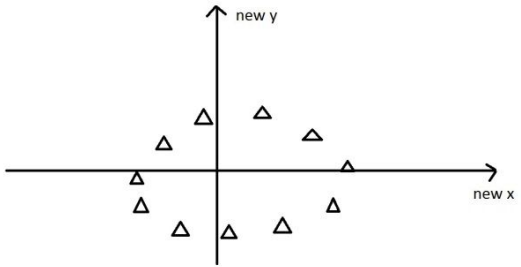




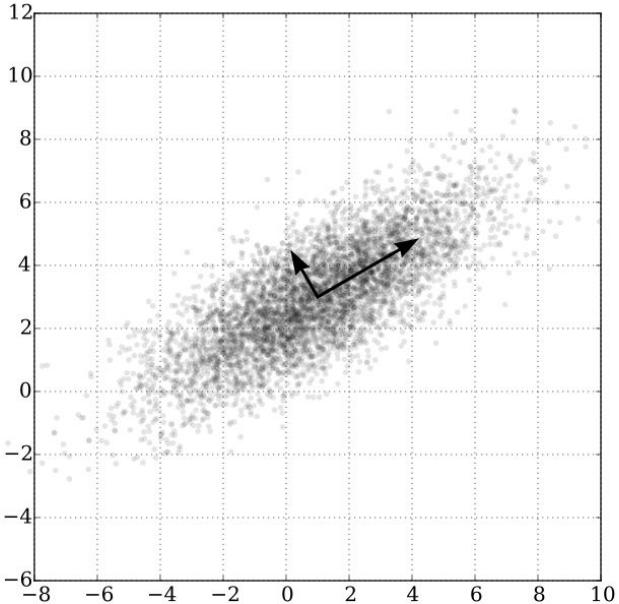




PCA

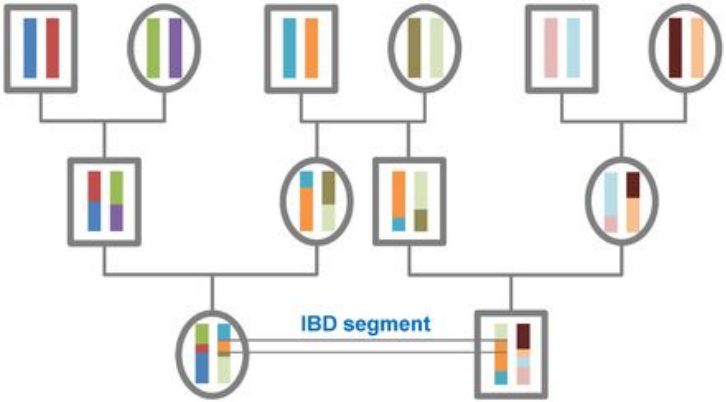
Google "principal component analysis for dummies"

- principal components are the eigenvectors of the covariance matrix
- eigenvalues indicate how amount of variance for each principal component
- first principal components often capture much of the total variance



IBD vs. IBS

IBD



IBS

CHR	POS	R	V	s01	s02	s03	s04	s05	s06	s07	s08	s09	s10
ctg1	19335	A	C	0/1	0/1	1/1	0/0	1/1	0/1	0/1	1/1	1/1	1/1
ctg1	19518	C	T	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
ctg1	19578	G	C	0/1	0/1	0/0	./.	1/1	0/1	0/1	1/1	./.	0/1
ctg1	19724	G	T	0/0	0/0	0/0	./.	0/1	0/0	0/0	0/0	0/0	0/0
ctg1	19766	T	C	0/0	0/0	1/1	./.	1/1	0/0	0/1	0/0	1/1	0/1
ctg1	19805	C	T	1/1	0/1	0/0	0/0	0/0	0/1	0/1	1/1	0/0	0/1
ctg1	19814	A	C	0/0	0/0	1/1	0/0	1/1	0/0	0/1	0/0	0/1	0/1
ctg1	19821	C	G	1/1	0/1	0/0	0/0	0/0	0/1	0/1	1/1	0/1	0/1
ctg1	19849	A	T	0/0	0/0	1/1	0/0	1/1	0/0	0/1	0/0	0/1	0/1
ctg1	19857	G	C	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
ctg1	19859	T	G	0/0	0/0	0/1	0/0	0/0	0/0	0/0	0/0	0/1	0/1

```
ctg1  19766  T  C  0/0  0/0  1/1  ./.  1/1  0/0  0/1  0/0  1/1  0/1
```