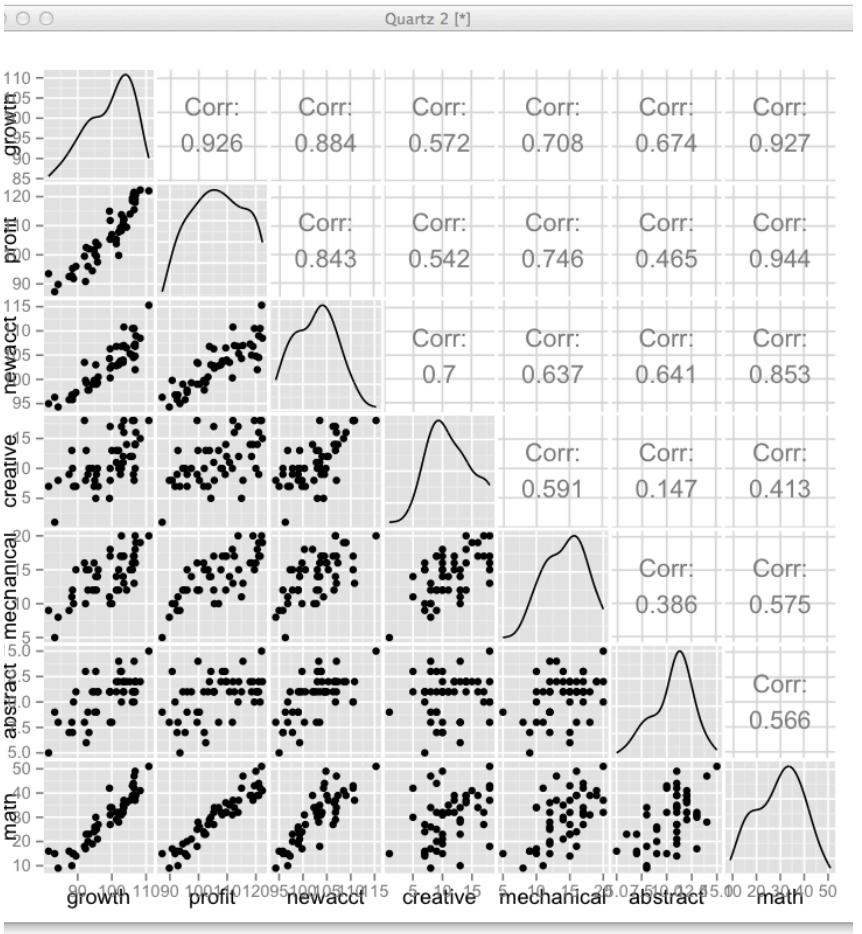
Penn State example: sales vs. test scores

```
> mm[1:4,]
  growth profit newacct creative mechanical abstract math
1   93.0   96.0    97.8        9          12        9   20
2   88.8   91.8    96.8        7          10       10   15
3   95.0  100.3    99.0        8          12        9   26
4  101.3  103.8   106.8       13          14       12   29
> # 50 points in total
> source('pennstate.R')
data matrix mm is loaded (....Pause....)
[1] "The canonical correlations"
[1] 0.9944827 0.8781065 0.3836057
(....Pause....)
[1] "The canonical coefficients (but remember the numbers had different ranges)"
$xcoef
              [,1]       [,2]       [,3]
growth  -0.06237788 -0.1740703  0.3771529
profit  -0.02092564  0.2421641 -0.1035150
newacct -0.07825817 -0.2382940 -0.3834151

$ycoef
                  [,1]        [,2]        [,3]
creative   -0.06974814 -0.19239132 -0.24655659
mechanical -0.03073830  0.20157438  0.14189528
abstract   -0.08956418 -0.49576326  0.28022405
math       -0.06282997  0.06831607 -0.01133259

(....Pause....)
[1] "Interpreting what the linear combinations mean:"
[1] "how much is each variable correlated with the combinations?"
$corr.X.xscores
              [,1]          [,2]         [,3]
growth  -0.9798776  0.0006477883  0.199598477
profit  -0.9464085  0.3228847489 -0.007504408
newacct -0.9518620 -0.1863009724 -0.243414776

$corr.Y.xscores
                [,1]       [,2]        [,3]
creative   -0.6348095 -0.1894059 -0.24988439
mechanical -0.7171837  0.2086069  0.02598458
abstract   -0.6436782 -0.4402237  0.22027544
math       -0.9388771  0.1734549  0.03614570

$corr.X.yscores
              [,1]          [,2]         [,3]
growth  -0.9744713  0.0005688272  0.076567107
profit  -0.9411869  0.2835272081 -0.002878734
newacct -0.9466102 -0.1635921013 -0.093375287

$corr.Y.yscores
                [,1]       [,2]        [,3]
creative   -0.6383313 -0.2156981 -0.65140953
mechanical -0.7211626  0.2375644  0.06773775
abstract   -0.6472493 -0.5013329  0.57422365
math       -0.9440859  0.1975329  0.09422619
```