

## Vedr. opgave 7.2

### R-kode, samt (uddrag af) resultaterne heraf:

```
> sb <- c(15, 12, 14, 15, 22, 21, 18, 18, 23, 22, 14,
          22, 15, 7, 17, 12, 18, 17, 19, 18, 14, 19, 13, 21, 21, 12,
          16, 14, 22, 16, 17, 20, 18, 2 .... [TRUNCATED]
> hb <- c(12, 12, 13, 11, 16, 12, 19, 12, 5, 8, 20,
          7, 12, 24, 13, 18, 14, 18, 8, 16, 9, 19, 9, 1, 9, 11, 9,
          17, 16, 16, 12, 7, 9, 24, 13, 15, .... [TRUNCATED]
> sa <- c(11, 11, 13, 13, 9, 21, 21, 9, 13, 13, 11,
          10, 12, 18, 19, 18, 12, 18, 17, 19, 21, 22, 22, 17, 12, 13,
          21, 14, 20, 19, 15, 19, 12, 12 .... [TRUNCATED]
> ha <- c(23, 17, 14, 18, 16, 18, 15, 21, 22, 20, 10,
          18, 16, 13, 10, 19, 10, 15, 22, 15, 12, 11, 9, 14, 21, 10,
          15, 14, 7, 14, 21, 10, 14, 10 .... [TRUNCATED]

> y <- c(sb, hb, sa, ha)

> gr <- factor(rep(c("So.Bl", "Hv.Bl", "So.Ad", "Hv.Ad"), rep(50, 4)))

> boxplot(y ~ gr, las = 1)

> G <- lm(y ~ gr - 1)

> summary(G)

Call:    lm(formula = y ~ gr - 1)

Coefficients:
          Estimate Std. Error t value Pr(>|t|)
grHv.Ad   15.0200     0.6136   24.48  <2e-16 ***
grHv.Bl   12.9400     0.6136   21.09  <2e-16 ***
grSo.Ad   14.5400     0.6136   23.70  <2e-16 ***
grSo.Bl   17.0800     0.6136   27.84  <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 4.339 on 196 degrees of freedom
F-statistic: 595 on 4 and 196 DF, p-value: < 2.2e-16
```

```
> bartlett.test(y ~ gr)
```

```
    Bartlett test for homogeneity of variances
```

```
data:  y by gr
```

```
Bartlett's K-squared = 6.0288, df = 3, p-value = 0.1102
```

```
> H0 <- update(G, y ~ 1)
```

```
> anova(H0, G)
```

```
Analysis of Variance Table
```

```
Model 1: y ~ 1
```

```
Model 2: y ~ gr - 1
```

	Res.Df	RSS	Df	Sum of Sq	F	Pr(>F)
1	199	4126.8				
2	196	3689.9	3	436.9	7.7357	6.56e-05 ***

```
---
```

```
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

### Resultatet af boxplot-kommandoer:

