Bivariate EDA - Quantitative

R Handout

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Background

Erickson et al. (2004) compared the bite-force performance between American Alligators (*Alligator mississippiensis*) from the wild and those that had been in long-term captivity. In one aspect of their research they examined the relationship between the `mass` (kg) and snout-vent length (`svl`; cm) of the alligators. Their primary interest here was in determining if variability in the mass could be explained by knowing the snout-vent length of the individual. The data are recorded in Alligators1.csv. Use these data to describe the relationship between the mass and snout-vent length of the alligators.

Getting The Data

```
> library(NCStats)
> setwd("C:/aaaWork/Web/GitHub/NCMTH107/modules/BivEDA_Quantitative")
> d <- read.csv("Alligators1.csv")
> str(d)
```

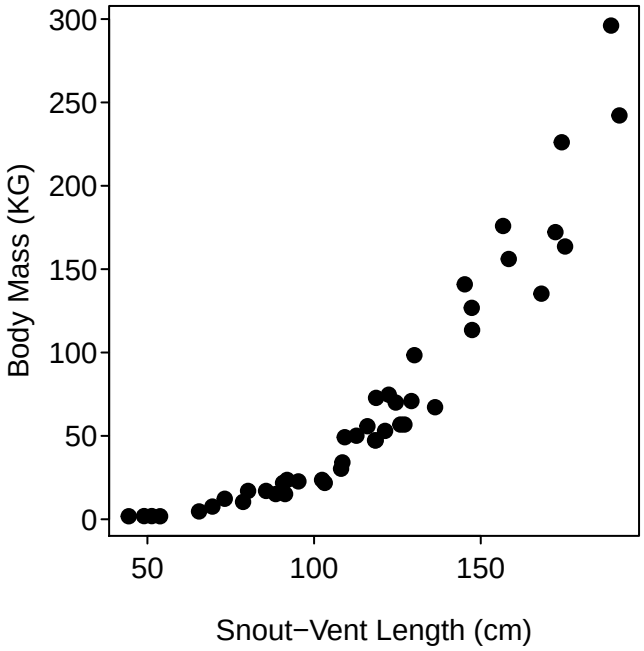
```
'data.frame':   44 obs. of  3 variables:
 $ type: Factor w/ 2 levels "captive","wild": 2 2 2 2 2 2 2 2 2 2 ...
 $ svl : num  192 175 172 168 147 ...
 $ mass: num  242 164 172 135 114 ...
```

```
> headtail(d)
```

```
      type   svl  mass
1     wild 191.6 242.2
2     wild 175.3 163.6
3     wild 172.4 172.2
42 captive 156.7 175.9
43 captive 174.3 226.1
44 captive 189.1 296.1
```

Bivariate EDA – Quantitative

```
> plot(mass~svl,data=d,xlab="Snout-Vent Length (cm)",ylab="Body Mass (KG)",pch=19)
```




```
> corr(mass~svl,data=d)
```

```
[1] 0.9126669
```

```
> corr(mass~svl,data=d,use="pairwise.complete.obs")
```

```
[1] 0.9126669
```

```
> plot(mass~svl,data=d,xlab="Snout-Vent Length (cm)",ylab="Body Mass (KG)",pch=19,col=type)
> legend("topleft",levels(d$type),pch=19,col=1:2,bty="n")
```