VECTOR OPERATIONS

Vector Arithmetic:

- Loops seldom needed: Most functions work vectorized. Very useful; cf. Ranadu/R/AirTemperature.R
- If vector operations use different-length vectors, the shorter one will be recycled.
- Logical tests are very useful:
  As indices
  (vectors, data.frames)
  To replace select values:

  Data[Data$TASX < 130,] <- NA

  E.g, print each 10 s in sequence:
  a[a %% 10 == 0]

R input and response:

```
a <- 1:10; a[1:5] <- a[6:10]; a
##  [1]  6  7  8  9 10  6  7  8  9 10
```

```
2*a; a <- a + 1:2; print (a)
##  [1] 12 14 16 18 20 12 14 16 18 20
##  [1]  7  9  9 11 11  8  8 10 10 12
```

```
Data <- data.frame("Time"=1:4)
Data["ATX"]=c(10.3, 10.6, 10.9, 11.2)
Data["TASX"] <- c(131.3, 129.8, 132.9, 135.6)
Valid <- (Data$TASX > 130.); Valid
## [1]  TRUE FALSE  TRUE  TRUE
DataValid <- Data[Valid, ]; DataValid
##   Time  ATX  TASX
## 1    1 10.3 131.3
## 3    3 10.9 132.9
## 4    4 11.2 135.6
```