Chapter6_Script

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6.13

```r
f <- c(9.2, 7.7, 11.9, 6.2, 9.0, 8.4, 6.9, 7.6, 7.4, 8.0, 9.9, 6.7, 8.4, 9.3, 9.1, 8.7,
       9.2, 9.1, 8.4, 9.6, 7.7, 9.0, 9.0, 8.4)
m <- c(10.4, 8.9, 11.7, 12.0, 8.7, 9.4, 9.8, 9.0, 9.2, 9.7, 9.1, 8.8, 7.9, 9.9, 10.0,
       10.1, 9.0, 11.4, 8.7, 9.6, 9.2, 9.7, 8.9, 9.2, 9.4, 9.7, 8.9, 9.3, 10.4, 11.9,
       9.0, 12.0, 9.6, 9.2, 9.9, 9.0)
#lengths
n_m <- length(m)
n_f <- length(f)
#y-bars/x-bars
m_m <- mean(m)
m_f <- mean(f)
#variances
v_f <- sd(f)^2
v_m <- sd(m)^2
#standard deviations
sd_f <- sd(f)
sd_m <- sd(m)
#standard deviation pooled
s_p <- sqrt(((((length(m)-1)*sd(m)^2) + (length(f)-1)*sd(f)^2)/(length(m)+length(f) -1))
```

6.15 wilcoxon rank test

```r
#Population A
x <- c(4.3, 4.6, 4.7, 5.1, 5.3, 5.8, 5.3, 5.4)
#Population B
y <- c(3.5, 3.8, 3.7, 3.9, 4.4, 4.7, 5.2, 4.4)
wilcox.test(x, y)
```

```
## Warning in wilcox.test.default(x, y): cannot compute exact p-value with
## ties
```

```
##
##  Wilcoxon rank sum test with continuity correction
##
## data:  x and y
## W = 55.5, p-value = 0.01549
## alternative hypothesis: true location shift is not equal to 0
```

6.28 t-test

```r
#p-value for tscore of 0.9079 with df = 9
1-pt(0.9079, df = 9)
```

```
## [1] 0.1937975
```