Computational Statistics Summary

Maximilian Pfundstein

2019-03-10

Contents

1 Handeling Computational Errors

```
x1 = 1/3
x2 = 1/4

if (all.equal(x1-x2, 1/12)) {
  print("Substraction is correct.")
} else {
  print("Substraction is wrong.")
}
```

2 Difference Quotient

$$f'(x) = \frac{f(x+\epsilon) - f(x)}{\epsilon}$$

```
f_prime = function(x, epsilon = 10^(-5))  {
  return( (f(x + epsilon) - f(x)) / epsilon)
}
```

3 Variance Estimators

Krzysztof:

$$\mathrm{Var}(\vec{x})$$

My:

$$s = \frac{\sum_{i=1}^{n}(x_i - \overline{x})^2}{n-1}$$