

# Foundations of Statistical Modeling

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Exercise sheet 1, due on Wednesday Feb 14th, 2024 on Moodle

Your name: \_\_\_\_\_



## 1. Components of Data Generating Scenarios [5 points]

Suppose you have an idea for a new Product which you intend to sell via an online platform. So, you want to check the size of the potential market, before you invest the time and money in developing and producing the product. Identify the 5 components of the corresponding Data Generating Scenario to collect the data which you need:

1. the Universe  $\Omega$  = Portion of Reality in which data is collected (Also called Statistical Population). 2. Elementary Events  $\omega$  = opportunities in the universe in which an observation (measurement) can be made. 3. the Measurable Function (RV-function) = Procedure of measuring Data. 4. the Action of actually measuring Data. 5. the Data Value Space  $S$  = space of possible Data values you want to find out.

## 2. Components of Data Generating Scenarios [5 points]

Take a Data Generating Scenario of your own choice and find its five components.