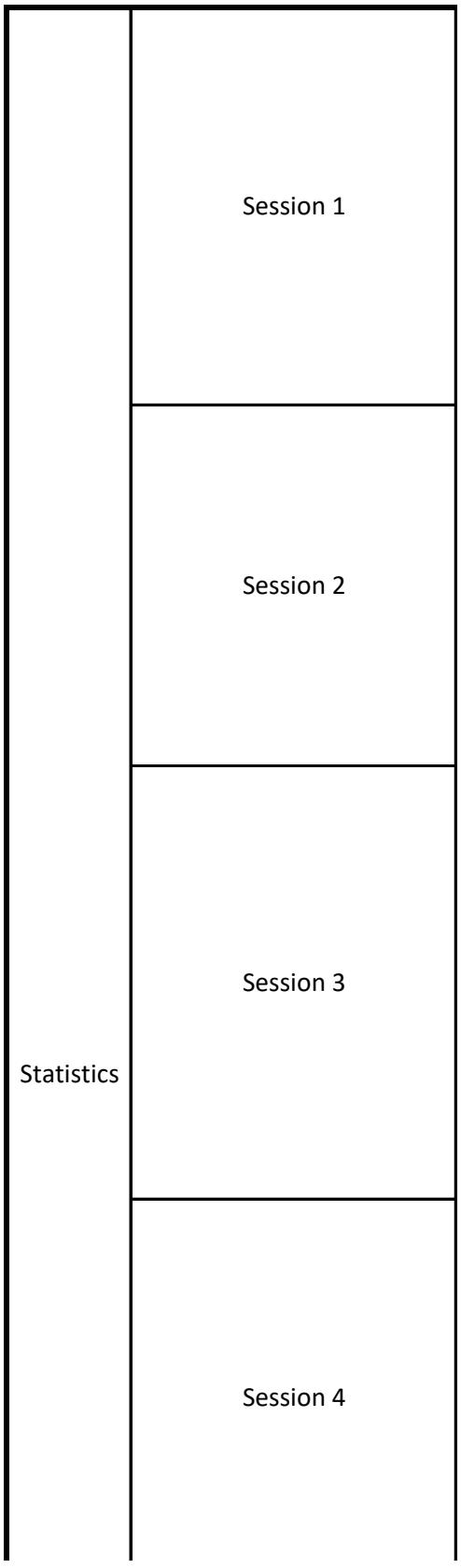
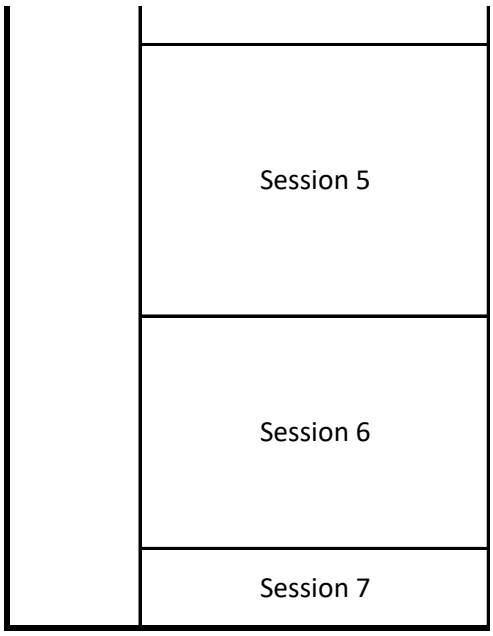
	Session 1	What is programming?
		Tools for programming
		Why Python?
		Introduction to Jupyter Notebook
		Print Function and Basic Calculations with Arithmetic Operators
		Input and Output
		Variables
		Handling error messages
	Session 2	Data types of variables and Transforming
		Numeric variables (integer, float, complex)
		Boolean variables (True, False)
		Strings
		Format method vs F-string
		Lists with methods and functions
		Tuples
		Sets with methods
		Indexing and Slicing
		Dictionaries with methods
	Session 3	Input Function
		Logical Operators
		Conditionals
		If, else, and elif statements
		Range function
		For loops
		While loops
		Infinite loops
	Session 4	Nested if statements
		Nested loops
		Creating a function
		how to use return
		memory usage and optimization
		simple bubble sort
	Session 5	anonymous lambda functions
		List comprehension
		Dictionary comprehension
		Classes
		Methods
		Objects
		Inheritance
	Session 6	Zip
		Enumerate
		Itertools
		Random

Python		Regex
	Session 7	Type Conversion and Type casting
		NumPy - Numerical Python
		Numpy Arrays and Operations
		Numpy Arrays vs Lists
		Playing with Numpy Arrays
	Session 8	Generating a Non-Random Sequence of Numbers
		Generating a Random Sequence of Numbers
		known distributions
		Statistics with Numpy
		Numpy Sort, Search and Count Functions
		Array Broadcasting
	Session 9	Pandas Data Structures
		Pandas Series
		Pandas Dataframes
		Pandas Indexing and Conditional Selection
		Difference between loc and iloc
		Analyzing tabular data with Pandas
		Concatenation of dataframes
		Desribe, info, value counts
		Modifying Dataframes
	Session 10	Matplotlib plots
		Pyplot in Matplotlib
		Axes
		Lines and Scatters
		Multiple plots (subplots)
		Customizing plots
		Working with legends
	Session 11	Working with Seaborn
		Contour plots
		Countplot
		Displot
		KDEplot
		hue parameter
		Boxplot
		Violin plots
		Joint plots & Pair plots
	Session 12	Getting familiar with the data
		Understanding the columns
		In depth analysis of columns and its statistics
		EDA - Exploratory data analysis
		Creating reports about the data
		Creating Preprocessing Task list
		Data wrangling
		Data preprocessing
		working with missing values

	Session 13	Data imputation
		Looking for duplicates
		Categorizing data
		Feature engineering
	Session 14	Encoding categorical values
		one-hot encoding
		label encoding
		Scaling the data
		Normalization
		Standardization
	Session 15	Advanced Data handling
		Handling Json files
		Webscraping using Beautiful Soup
		Getting data with APIs
	Final Exam	


Statistics
Session 1
Session 2
Session 3
Session 4


Session 5
Session 6
Session 7

What is Statistics?
Population vs Sample
Types of variables
Measurement levels of variables
Describing categorical data
Frequency, relative frequency, cumulative distribution tables
Bar chart, pie chart, pareto diagram
cross table(contingency tables)
describing numerical data
histogram, scatter plots
outliers
mean, median, mode
asymmetry - skewness
variance
standard deviation
coefficient of variation
range
dot plots
box plots
quartiles and percentiles
interquartile range
Experimental and theoretical probability
Expected value
Probability frequency distribution
complements
intersection of two sets
the union sets
Mutually Exclusive Sets
Dependent and Independent events
Conditional probability
Law of total variability
Additive law
Multiplication rule
Discrete Probability distributions
uniform distribution
bernoulli distribution
binomial distribution
Poisson Distribution
Continuous Probability Distributions
Normal distribution
Student's T distribution
Chi-Squared distribution
Exponential distribution

Logistic distribution
Sampling Distributions
Central Limit Theorem
Estimation of confidence intervals
Hypothesis testing
Null and Alternate hypothesis
One-sample tests of hypothesis
Two-sample tests of hypothesis
Correlation and Linear Regression
Significance of correlation coefficient
Least Squares Principle
Drawing the Regression line
Multiple regression analysis
Evaluating the assumptions of multiple regression
Analysis of Variance(ANOVA)
A/B testing