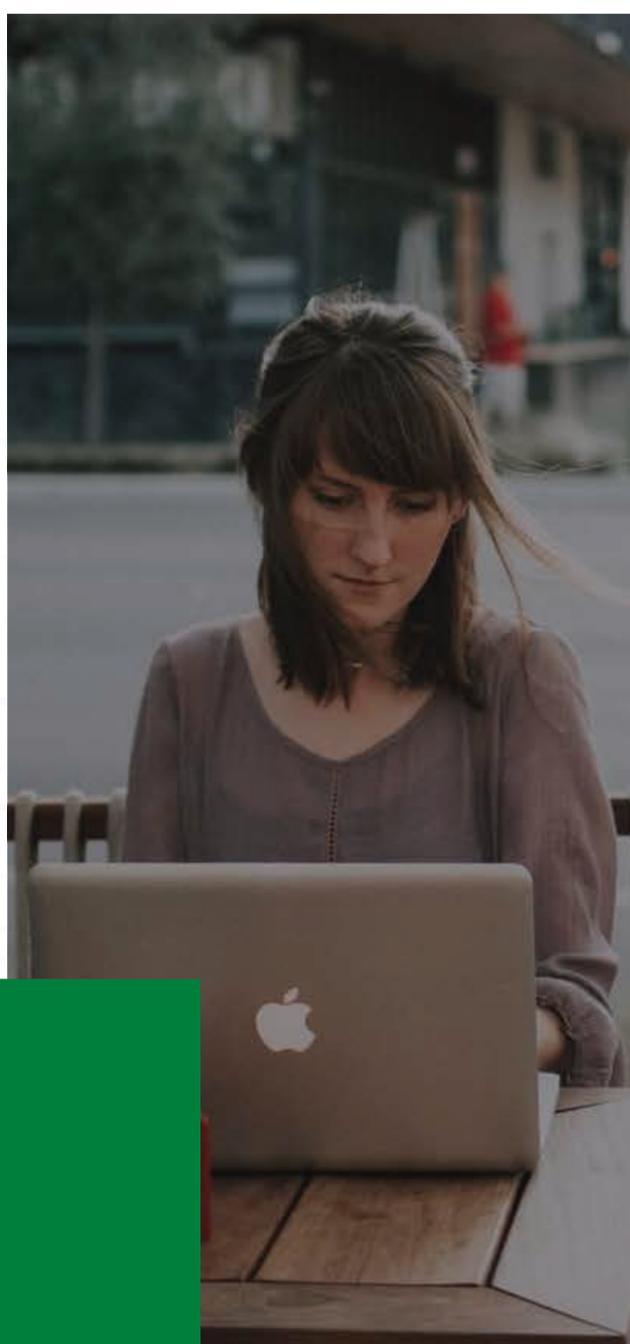


TCR INNOVATION

Data Science with Machine learning and python Internship Program



Who are we?

TCR Innovation is a career platform for Students and Learners where they are provided with practical opportunities, Industrial Training Programs and Internships.

Salient Features of This course

- 1 120+ Hours of Live Intensive Training
- 2 10+ Hours of Hands-on Assignments and Projects
- 3 Career, interview, internship and Placement guidance
- 4 Lifetime Access to Latest Content
- 5 Learn from the Experts
- 6 24X7 Support through Discussion forum





Additional skills You will learn

-
-  LinkedIn
 -  Github
 -  Improved communication skills
 -  Interview cracking
 -  Resume building
 -  Leadership skills

SKILLS YOU WILL LEARN

Structured Query Language (SQL)

Part 1

● Introduction

What is SQL
Real time applications
How SQL works

● Database

What is a Database
Comparison of two Databases
Database Management System(DBMS)
Relational Databases
Database Queries

● Tables and Keys

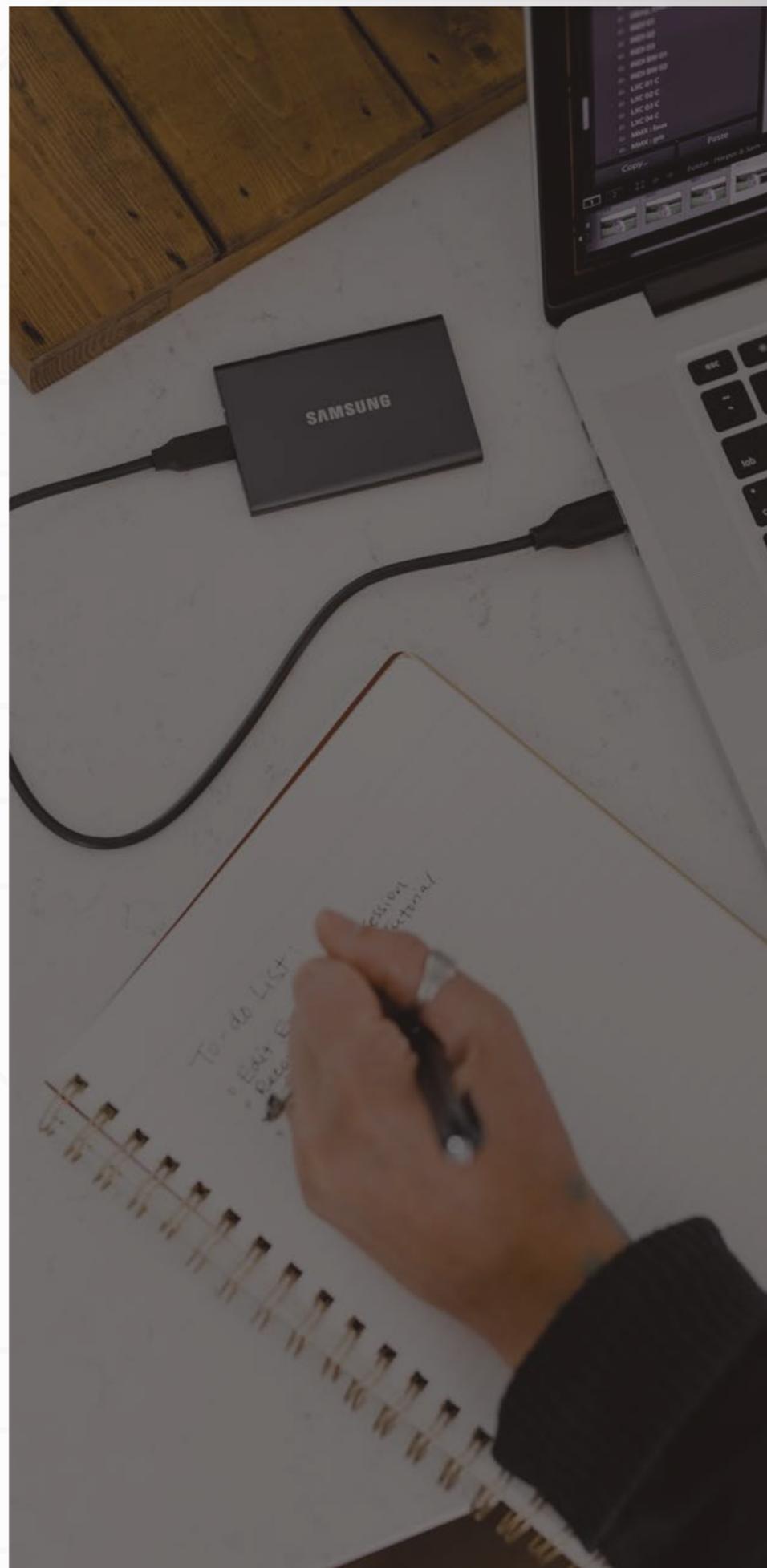
Introduction
Primary key
Foreign Key

● Basics of SQL

Data Query Language
Data Definition Language
Data Control Language
Data Manipulation Language

● Creating tables and Inserting values

Datatypes
Create, Alter and Drop
How to Insert values after creating tables
Select command.



SKILLS YOU WILL LEARN

Structured Query Language (SQL)

Part 2

● Constraints

What is a constraint
Not Null constraint
Unique constraint
Primary key constraint
Foreign Key constraint
Check , Create Index and Default constraints

● Update and Delete

Update and Delete commands uses
Working with Update and Delete

● Aggregate Functions

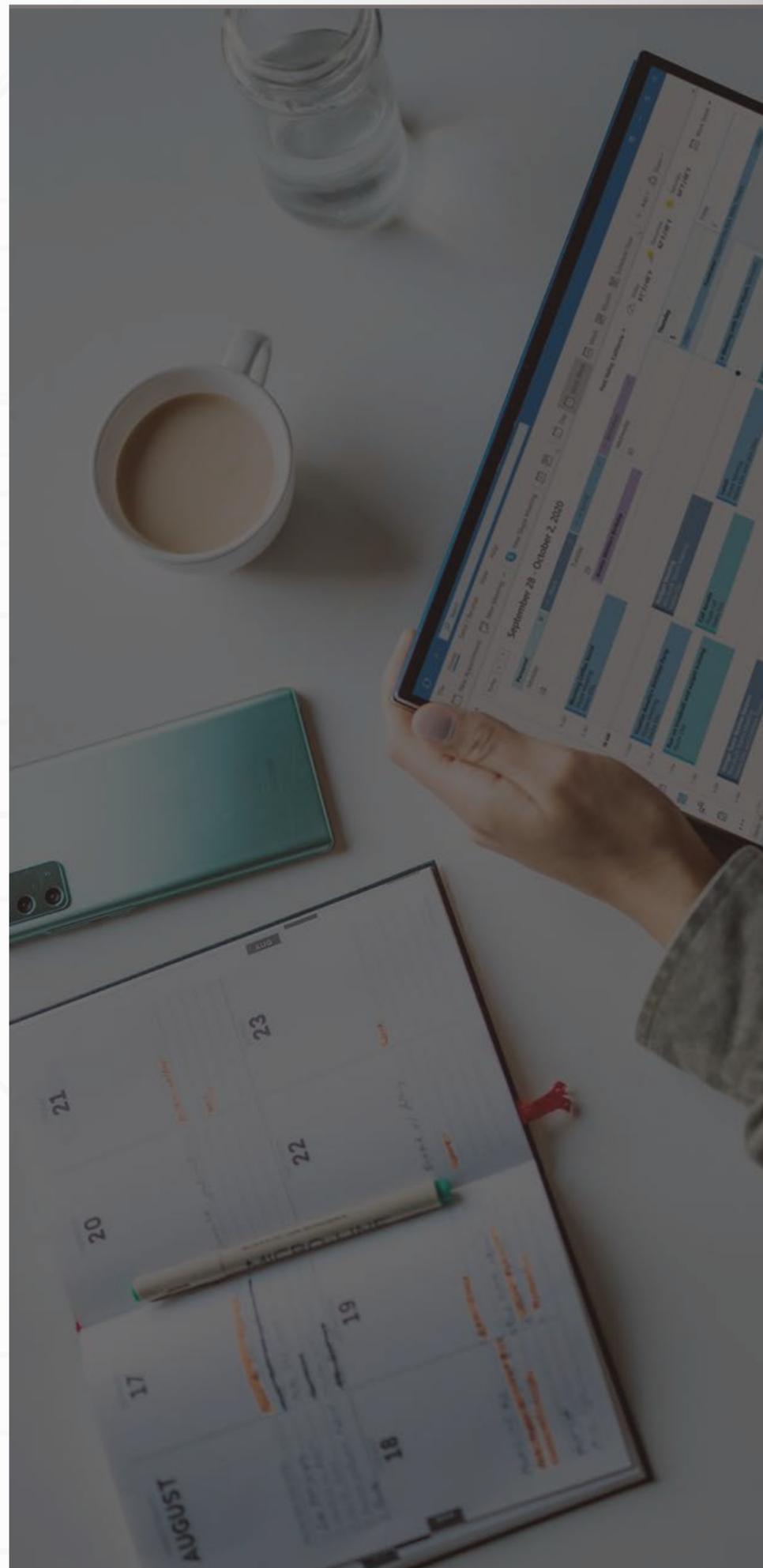
What is an aggregate function
Types of aggregate functions
Working with aggregate functions

● Additional Clauses

As
Between
Group by
Having
Like
Or

● Union and Joins

Union
Inner Join
Outer Join
Left Outer Join
Right Outer Join



SKILLS YOU WILL LEARN

Structured Query Language (SQL)

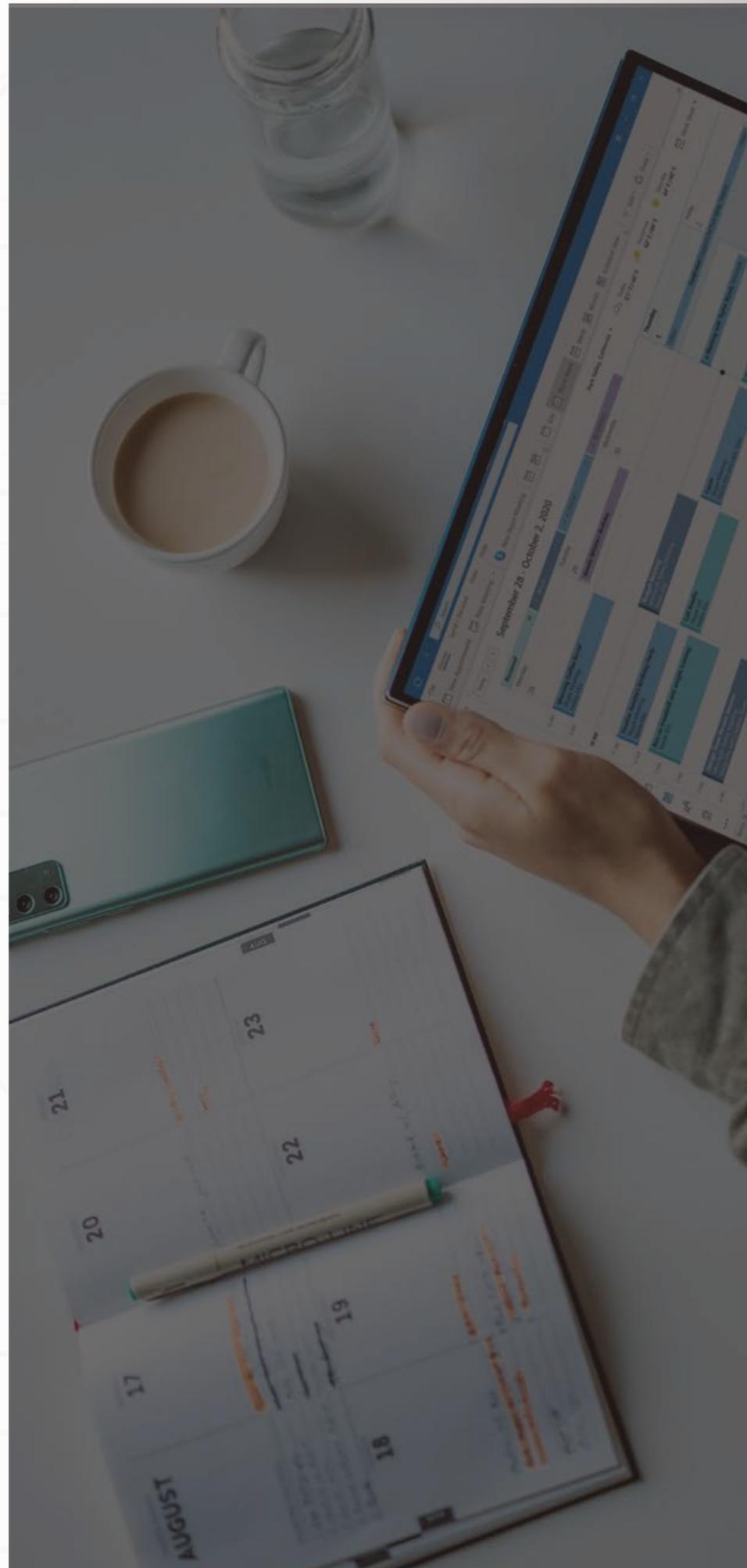
Part 3

● ER Diagrams

- What is an ER Diagram
- Entity, Entity type and Entity set
- Types of Attributes
- Relationships and its types
- Cardinality
- Participation Constraints
- Designing ER Diagrams

● Summary

- Update and Delete commands uses
- Working with Update and Delete



SKILLS YOU WILL LEARN

PYTHON

Part 1

● Introduction

Introduction to python
History of python
Installing and using python

● Basic programs in python

Get started with "Hello world" program.
Addition and multiplication in python

● Variables

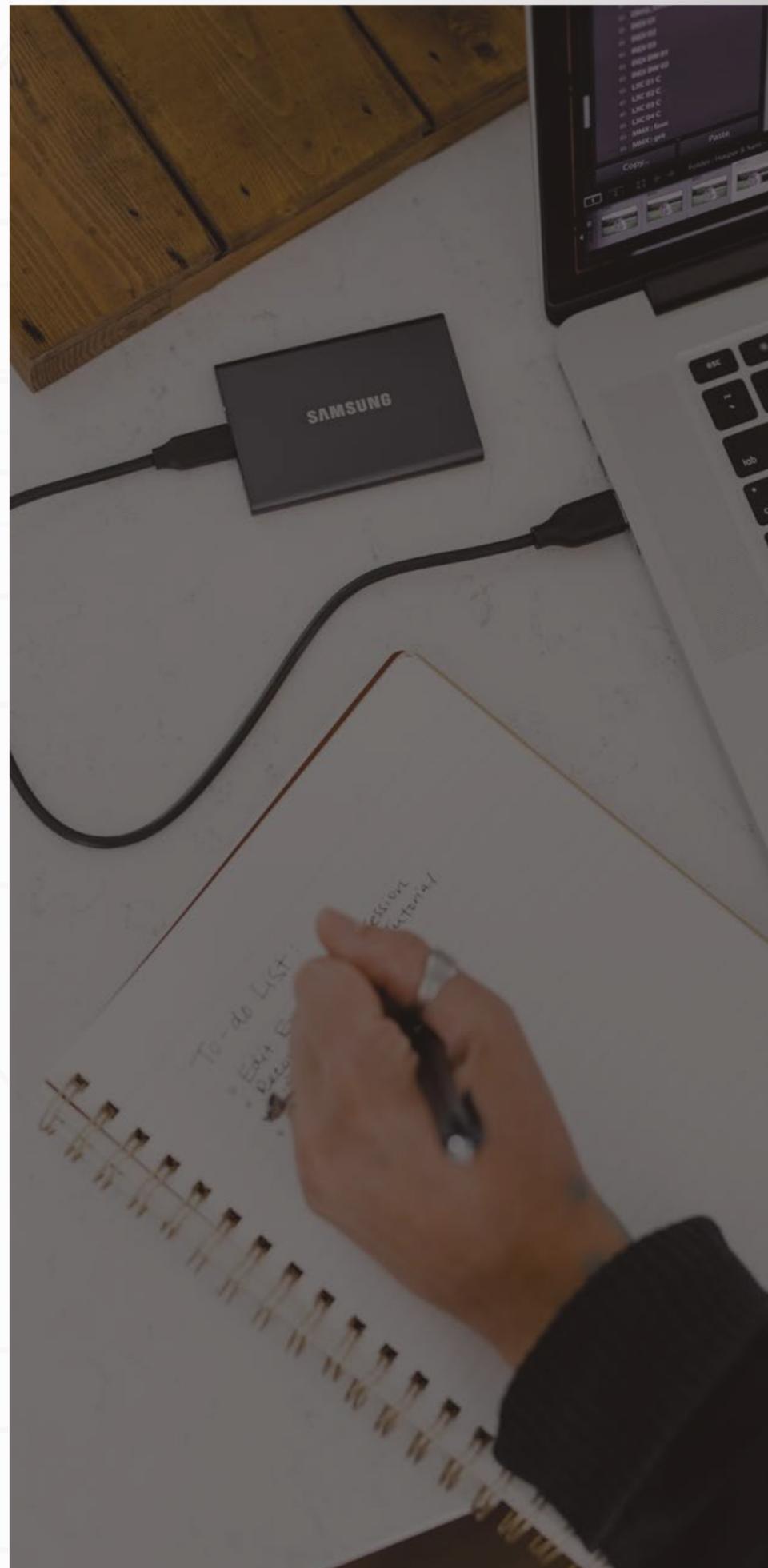
How to work with variables
Datatypes of variables
Type conversion of variables
Writing expressions using variables

● Operators

Arithmetic operators
Comparison operators
Logical operators
Bitwise operators
Assignment operators
Identity operators
Membership operators

● Conditional statements

What are conditional statements in python
Programs using conditional statements
If else and elif



SKILLS YOU WILL LEARN

PYTHON

Part 2

● Loops and Iteration

For loops
While loops
Various programs using loops

● Functions

User defined functions and predefined functions
Types of arguments
Input and output
Recursion

● Strings

Introduction to strings
String methods
Working with strings

● Lists

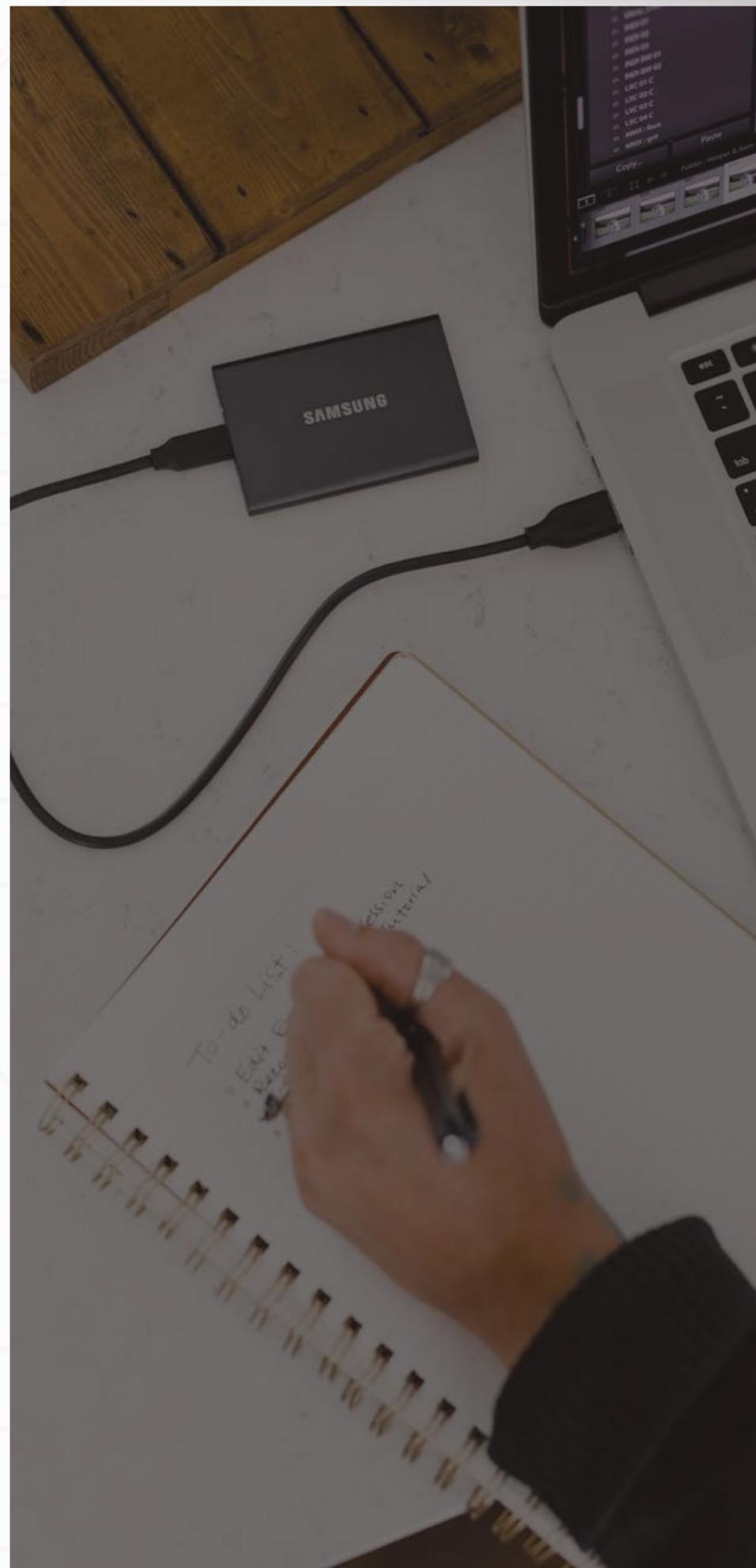
What is a list and how does it differ from array
List methods
Programs using lists

● Tuple

Introduction to tuple
Working with tuples
Methods of tuples

● Dictionary

Keys and values
Working with dictionaries



SKILLS YOU WILL LEARN

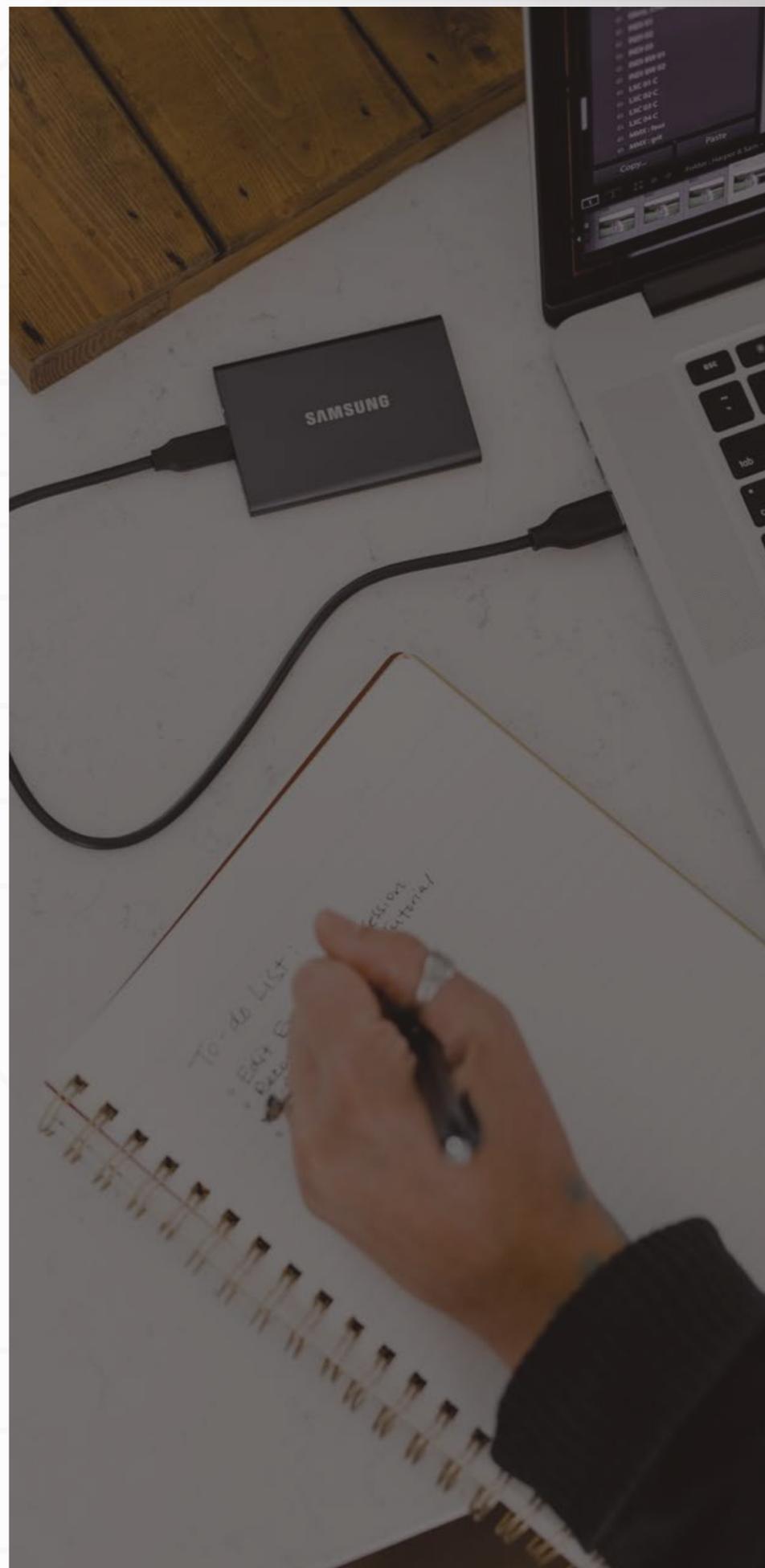
PYTHON

Part 3

● Modules and packages

Introduction to modules and packages

Working with user defined modules and packages



SKILLS YOU WILL LEARN

DATA SCIENCE

Part 1

- **Data Science**

Inferential and descriptive statistics

Measures of center and measures of spread

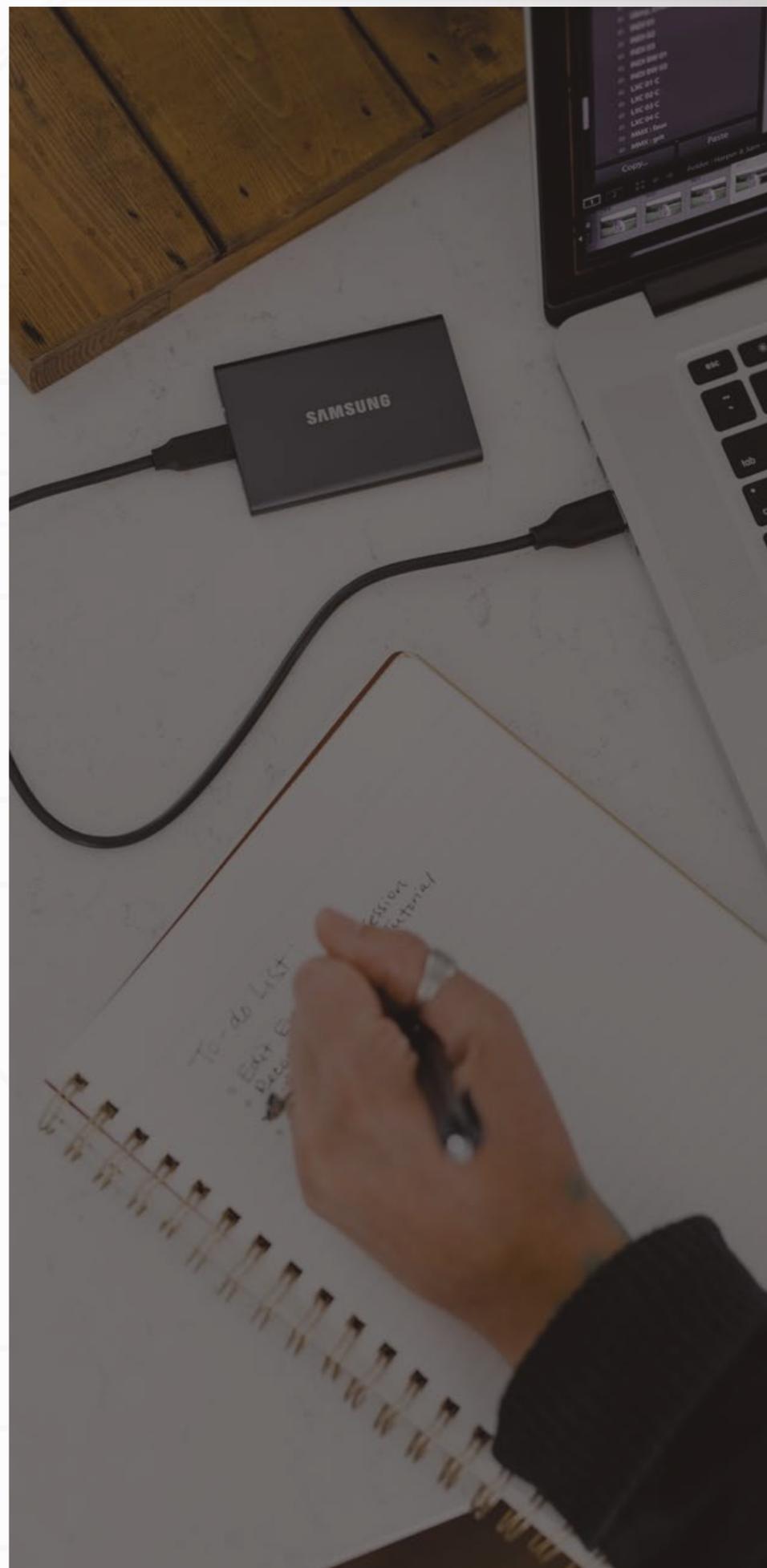
Normal distribution

Binomial distribution

Poisson distribution

Bernoulli distribution

Predictive modeling



SKILLS YOU WILL LEARN

MACHINE LEARNING WITH PYTHON

Part 1

● Introduction to Machine Learning

What is Machine Learning
Realtime applications of Machine Learning.
Get started with Machine Learning

● Libraries in python

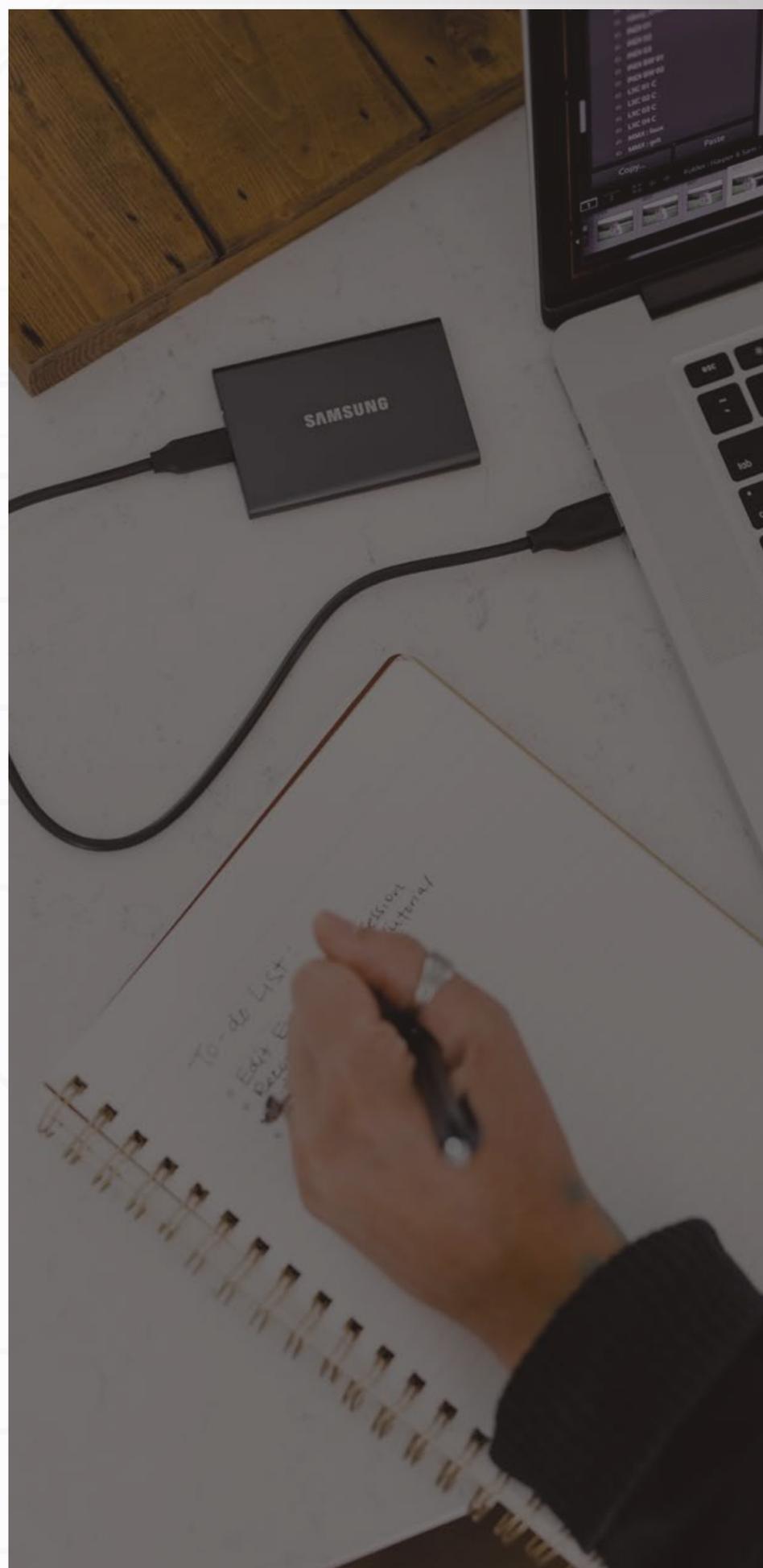
Numpy
Scipy
Matplotlib
Seaborn
Sklearn
Pandas

● Data visualization and manipulation using pandas

Reading a Dataset
Readers and types of files
Dataframes
Identifying and Treating null values
Dealing with categorical variables

● Data Exploration

Outliers
Graphs and Plots
Barplot, histograms, box plot, count plot, reg plot, dist plot etc.
Splitting and Training the data



SKILLS YOU WILL LEARN

MACHINE LEARNING WITH PYTHON

Part 2

● Types of Machine Learning

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning

● Supervised Learning

- What is supervised learning
- Examples of supervised Learning
- Classification
- Regression

● Unsupervised Learning

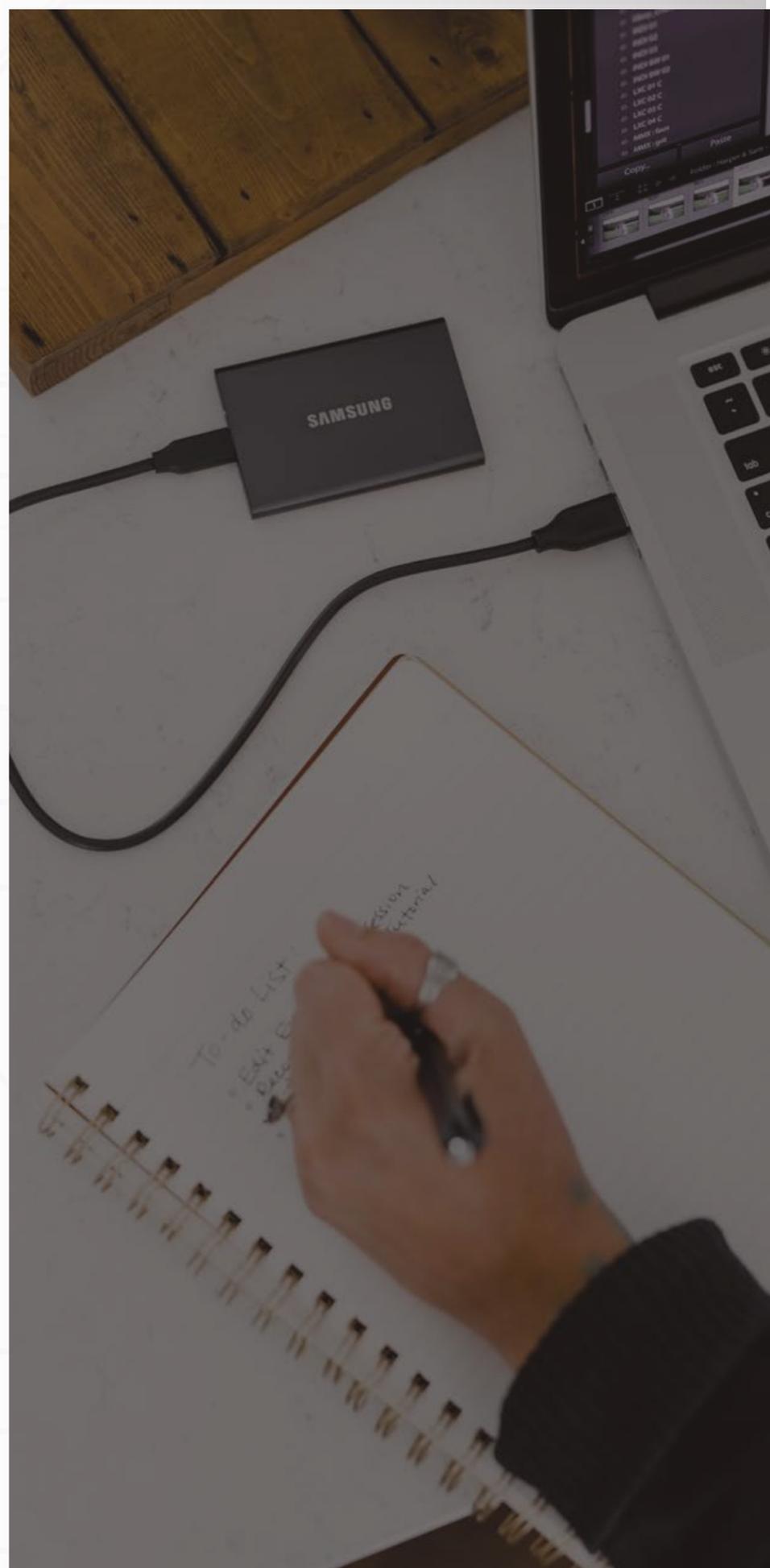
- What is Unsupervised Learning
- Examples of Unsupervised Learning
- Clustering with examples
- Association Rule Mining and real time applications

● Linear Regression

- What is Linear Regression
- Representation of Linear Regression
- Prediction using Linear Regression
- Implementation using Python
- MultiLinear Regression

● Logistic Regression

- What is Logistic Regression Algorithm
- Uses of Logistic Regression algorithm
- Visualisation and Predictions of Logistic Regression
- Implementation using Python
- Working of Logistic Regression



SKILLS YOU WILL LEARN

MACHINE LEARNING WITH PYTHON

Part 3

● Decision Trees

- What is a Decision Tree
- Examples of Decision Tree
- Classification Trees and Regression Trees
- Working of Decision Trees
- Python implementation
- Visualizing Decision Trees

● Random Forest

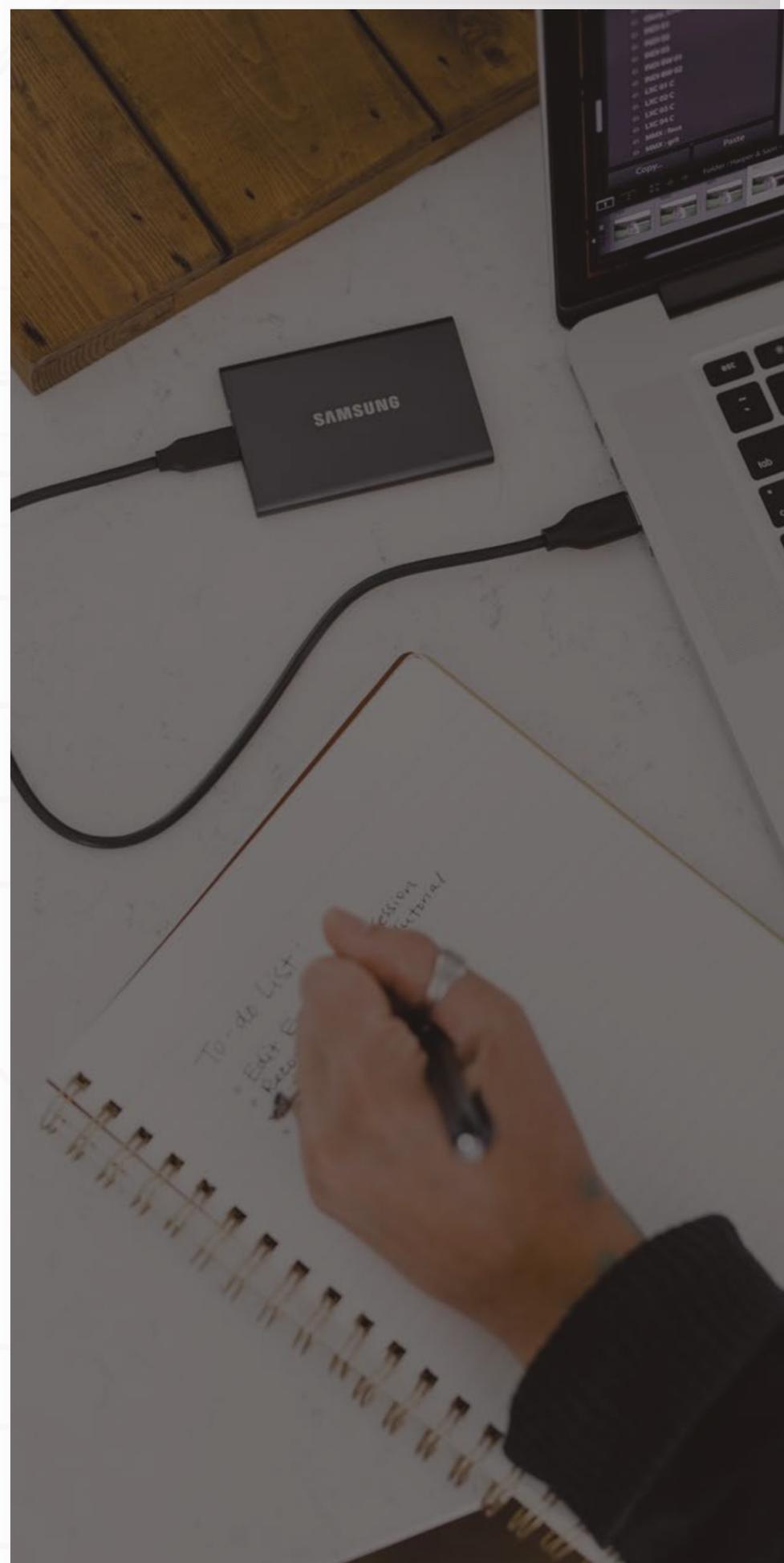
- What is a Random Forest algorithm
- Difference between Random Forest and Decision Trees
- Examples and implementation
- Working of Random Forest

● K Nearest Neighbor

- Need of KNN
- Working of KNN
- Finding the value of k
- Advantages and Disadvantages
- Python Implementation
- Visualization of KNN

● Naive Bayes Classifier

- Bayes Theorem
- Working of Naïve Bayes
- Advantages and Disadvantages
- Types of Naïve Bayes model
- Python Implementation



SKILLS YOU WILL LEARN

MACHINE LEARNING WITH PYTHON

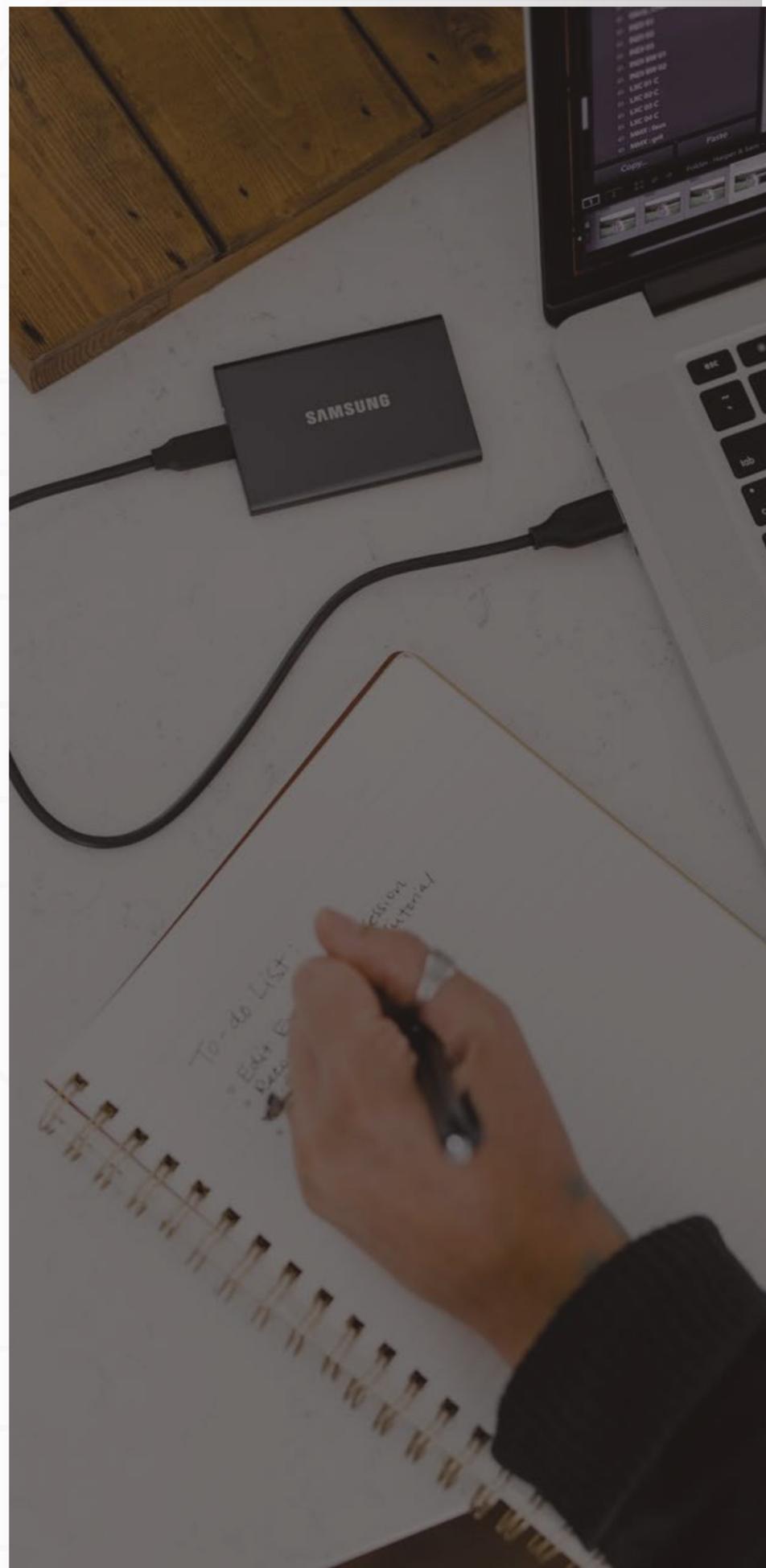
Part 4

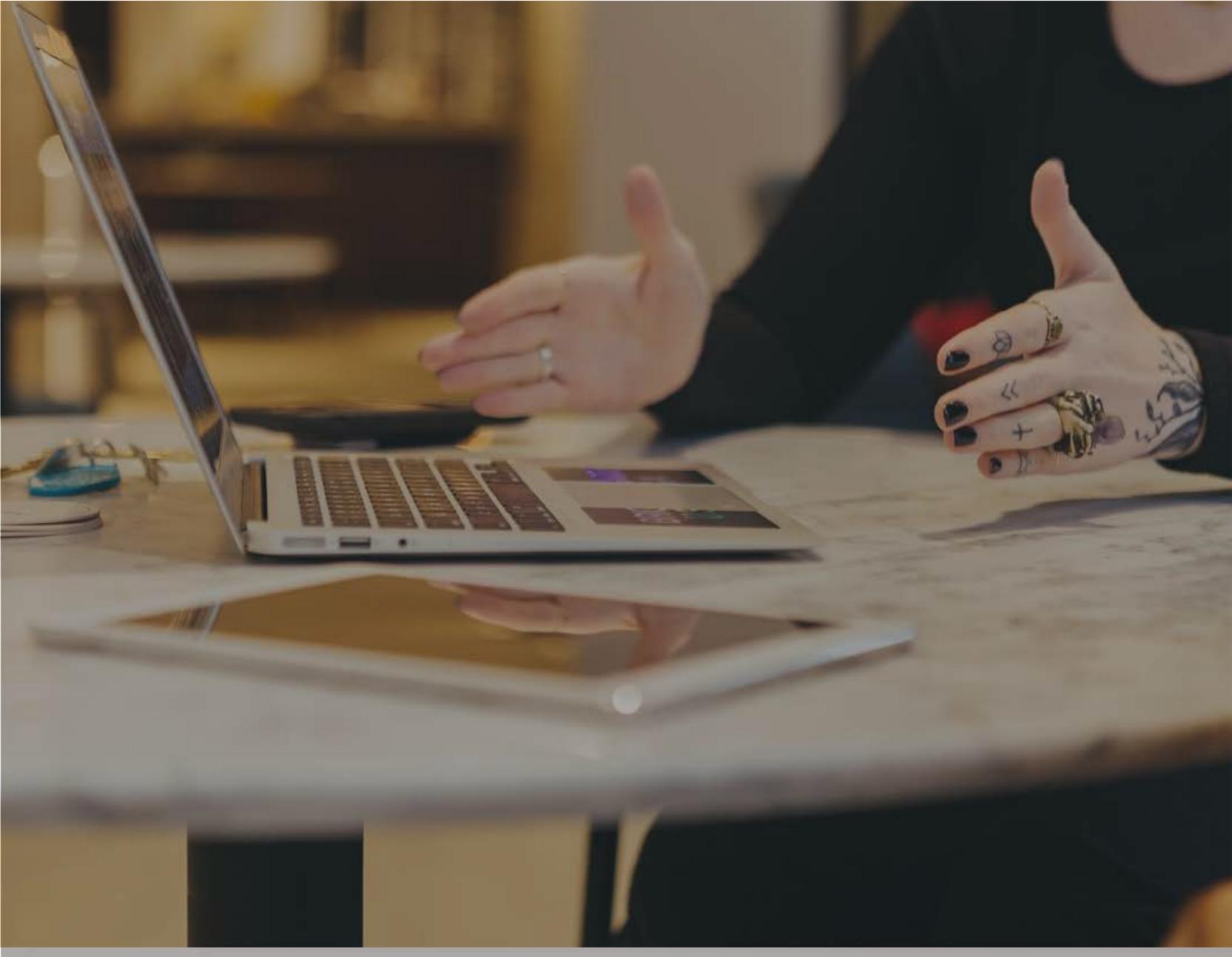
● K Means Clustering

- What is K means Clustering
- Working of K means
- Finding value of K
- Python Implementation

● Association Rule Mining

- What is Association Rule Mining
- Examples of Association Rule Mining
- Realtime applications





Internship Project report

You will create a project report on your final internship project

-
- What have we learnt
 - How can be these applied in realtime
 - Projects

CERTIFICATION & REGISTRATION



CERTIFICATE

Training Completion Certificate

Internship Certificate

Letter of recommendation

Appreciation certificate

Internship Program Registration

Duration of the internship program: 2 Months

How to Register & Fees:

Step 1: Attend the free orientation to get the detailed information about our internship program.

Step 2: Final Registration Form will be provided and fees will be disclosed in the orientation itself.