

# Quant Wing - Wall Street Club

## BITS Goa 2022-23



### A starter guide to Quantitative Finance

Quantitative Finance has 3 domains:

- Algorithmic Trading
- Mathematical Finance
- Time Series Analysis

#### Algorithmic Trading

Algorithmic Trading is a process in which trading strategies are automated such that no human intervention is required. This helps eliminate human emotions while trading.

Skills to Learn:

- Python - Required for coding strategies. Libraries to learn are NumPy, Pandas, Matplotlib, SciPy
- Backtesting - For calculating historical performance of any trading strategy.
- Trading - Implementation of strategies using APIs (e.g. Zerodha Kite, FYERS).

Resources:

- Python for Financial Analysis and Algorithmic Trading by Jose Portilla ([Udemy](#))
- Trade Hull ([YouTube](#)) -Live AlgoTrading in Indian markets.
- Automate the Boring Stuff (Book)
- Learn Python the Hard Way (Book)

#### Mathematical Finance

Concerned with mathematical modelling of financial markets.

Important Concepts: No arbitrage theory, time value of money, futures and options and respective pricing models.

Resources:

- Paul Wilmott Introduces Quantitative Finance [Chapter 1-6, 8(optional),22(optional)]
- Options, Futures and Other Derivatives by John C Hull

## Time Series Analysis

Understanding components of a financial time series and forecasting predictions using various time series prediction models. Machine Learning and Deep Learning models are useful for time series prediction.

Resources:

- Practical Time Series Analysis by SUNY University ([Coursera](#))
- Introduction to Time Series Forecasting in Python by Jason BrownLee
- Machine Learning (CS229(Andrew NG) - [YouTube](#)/[Coursera](#))
- Deep Learning (CS231N - [YouTube](#))

## Repository

This repository contains aforementioned resources and more [[LINK](#)]

Contact for queries:

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