***Trading Strategy for SPY (Technology ETF)***

* The prices of single name stocks are subject to “gaping” i.e. sudden major moves- SVB, First Republic Banks are cases in point. Therefor the project is based on SPY (S&P500) ETF that is less prone to such big moves
* The trading strategy involves day trading with a one-day investment horizon.
* Objective: Trade when there's a "good" chance of a profit (Δ), e.g., Δ = 0.01 (1%).
* Δ is an adjustable parameter.
* Objective: Estimate the probability that High of the day is ≥ (1+Δ) Open.
* Enter the trade at the open or a limit order less than open, closing during the day if profit Δ is achieved; otherwise, close at the day's end.
* Go long if this probability > p (e.g., p = 55%).
* p is another adjustable parameter.
* Use AI techniques like Logistic Regression, Nearest Neighbor, Neural Network, or ensemble methods to estimate this probability.
* Download daily data from Yahoo Finance, including Open, Close, High, Low, Volume, and any other feature that you think might have predictive power like VIX, the market volatility.
* Standardize, normalize, or use other techniques to make features comparable.
* Reserve 1/3 of the data for confirmation and the rest to train your model.
* **Deliverables:**
  + Report describing the strategy/strategies.
  + Performance of the strategy/strategies.
  + Confusion Matrix (if applicable).
  + ROC (if applicable).
  + Fully commented Python code indicating inputs and outputs.
  + Real test run and resulting P&L.
  + Due by the final exam date.