

**HWK 5:** Due on 04/28/2023 at 11:59 pm

Use the regression from HWK 3 to choose one currency pair to go LONG (1M units), and one currency pair to go SHORT (1M units). Then, follow the execution rules below (times are EST):

1. First execution window: from **3 pm to 5 pm (2 hours)**: 20% of the order (200K units).
    - a. Execute 10K units every 6 minutes like in HWK 4.
    - b. Store the average execution price  $[Avg]_1$ .
  2. Second execution window: from **7 pm to 10 pm (3 hours)**: 30% of the order (300K units).
    - a. Execute 10K units every 6 minutes after checking the condition:
      - i. LONG: IF  $P \geq [Avg]_1$ , THEN go LONG (buy). Otherwise, do nothing.
      - ii. SHORT: IF  $P \leq [Avg]_1$ , THEN go SHORT (sell). Otherwise, do nothing.
    - b. Calculate the EXECUTED amount, and the NON-EXECUTED amount. The NON-EXECUTED amount will be added to the units to be executed on the third execution window.
    - c. Store the average execution price  $[Avg]_2$ , i.e., the **TOTAL** average execution price from the first and the second execution window.
  3. Third execution window: from **11 pm to 1 am (2 hours)**: 20% of the order (200K units).
    - a. Recalculate the number of units to be executed, i.e., add the NON-EXECUTED amount from the previous execution window to 200K units. Then, recalculate the number of units to be executed every 6 minutes.
    - b. Repeat steps a, b, and c from the second execution window.
  4. Fourth execution window: from **3 am to 6 am (3 hours)**: 30% of the order.
    - a. Repeat the steps from the third execution window.
    - b. Calculate the TOTAL EXECUTED amount, and the TOTAL NON-EXECUTED amount (the TOTAL NON-EXECUTED amount is the NON-EXECUTED units in the fourth execution window).
- You can use Python or Meta Trader 4 (or 5) for HWK 5 – Meta Trader preferred and running for bonus.
  - Post your team code and a 1-page rapport on Brightspace – one submission per team.
  - Use the same teams of HWK 4.