Question 1. The cost of stock on each day is given in an array **A**[] of size **N**. Find all the segments of days on which you buy and sell the stock so that in between those days your profit is maximum.

Example 1:

```
Input:
N = 7
A[] = {100,180,260,310,40,535,695}
Explanation:
One possible solution is (0 3) (4 6)
We can buy stock on day 0,
and sell it on 3rd day, which will
give us maximum profit. Now, we buy
stock on day 4 and sell it on day 6.
```

Example 2:

```
Input:
N = 5
A[] = {4,2,2,2,4}
Output:
1
Explanation:
There are multiple possible solutions.
one of them is (3 4)
We can buy stock on day 3,
and sell it on 4th day, which will
give us maximum profit.
```

Your Task:
The task is to complete the function **stockBuySell()** which takes an array A[] and N as input parameters and finds the days of buying and selling stock. The function must return a 2D list of integers containing all the buy-sell pairs i.e. first value of pair will represent the day on which you buy the stock and second value represent the day on which you sell that stock. If there is No Profit, return an empty list.

Question 2. Figure out the logic and then write a program in your preferred language to produce the output table based on the Input table as below,

Input Table:

Group	First	Max	Min	Last	Sum
1	10	10	10	10	10
1	15	15	15	15	15
1	25	25	25	25	25
1	5	5	5	5	5
2	20	20	20	20	20
2	15	15	15	15	15
2	10	10	10	10	10
3	5	5	5	5	5
3	30	30	30	30	30
3	20	20	20	20	20
3	25	25	25	25	25
3	35	35	35	35	35
4	10	10	10	10	10
4	20	20	20	20	20
4	30	30	30	30	30
4	55	55	55	55	55
5	30	30	30	30	30
5	40	40	40	40	40
5	20	20	20	20	20

Output Table:

Group	First	Max	Min	Last	Sum
1	10	25	5	5	55
2	20	20	10	10	45
3	5	35	5	35	115
4	10	55	10	55	115
5	30	40	20	20	90

An Excel file containing the input table is attached as **"Test Question 2.xlsx"**.

Question 3: In the given file containing OHLC data of a commodity product as **"CL Data.xlsx",** you need to calculate

- Average True Range (ATR) You can refer the below link to understand the methodology of how to calculate ATR:

  https://www.investopedia.com/terms/a/atr.asp

- Moving Standard Deviation "Close" price, as well as the "ATR."

  Moving standard deviation would imply standard deviation of last N data points where N should be dynamic and user defined

- Create a simple front end (you can use repl or github or any other) that shows a candlestick chart along with an overlaid ATR chart, on a different vertical axis, as well as the Moving Standard Deviation on an underlaid chart.

- Add a slicer that can be used to adjust the date range for the chart.

- Overall, your chart should look something like this (slider, as well as moving standard deviations are not visible in this chart):

  https://www.tradingview.com/x/6VcbZxA9/

You are free to use any language of your choice. You are also required to document all the code and send it to us alongside your final submission.