Question 19.1

1. Remove seasonality and random volatility to get the weekly average units of a product sold.

Given {time series data, units sold of a product)
Use [Exponential smoothing}
To {remove random variance and seasonality from a product's sale volume}

2. Allocating shelf space for each item in the store should be optimized.

Given {Exponentially smoothed sales volume from step 1, product price, area unit per shelf, total shelf space in the store, product name, product surface area per unit, product profit per unit sold)
Use {Optimization Models}
To {maximize the utilized shelf space and the profit)

3. Find complementary products that can be bundled together to boost sales of both products.

Given {Products offered, products historically purchased)
Use {K means clustering}
To {identify cluster groups of high-value paired items that benefit from shared space}