## **Context**

We live in the era of e-commerce and digital marketing. We have even small-scale businesses going online, as the opportunities are endless. Since a huge chunk of the people who have access to the internet is switching to online shopping, large retailers are actively searching for ways to increase their profit. Market Basket analysis is one such essential technique large retailers use to increase sales by understanding the customers' purchasing behavior & patterns. Market basket analysis examines collections of items to find relationships between items that go together within the business context.

## **Content**

The dataset belongs to "The Bread Basket," a bakery in Edinburgh. The dataset provides the transaction details of customers who ordered different items from this bakery online from 26-01-11 to 27-12-03. The dataset has 20507 entries, over 9000 transactions, and 4 columns.

### **Variables**

* TransactionNo: unique identifier for every single transaction
* Items: items purchased
* DateTime: date and time stamp of the transactions
* Daypart: part of the day when a transaction is made (morning, afternoon, evening, night)
* DayType: classifies whether a transaction has been made on weekend or weekdays

## **Problem:** Increase Cross-Selling Opportunities in an E-commerce Platform

Background: You are working as a data scientist for a large e-commerce platform that wants to boost its sales by increasing cross-selling opportunities. Cross-selling involves suggesting complementary or related products to customers based on their purchasing behavior and patterns. The goal is to enhance customer satisfaction, increase average order value, and maximize revenue.

Objective: Develop a market basket analysis solution to identify associations and relationships between products frequently purchased together. Use these insights to create effective cross-selling strategies and recommendations for customers.

Data: The e-commerce platform has a vast transactional database containing information about customer purchases. Each transaction includes a list of products a customer buys in a single order. The dataset contains additional information, such as customer demographics, product categories, and order details.



