



BONUS CHALLENGE

CSET301

Important Points for Bonus Challenge

- Total Marks for bonus challenge is 5 marks.
- The First 5 correct entries will be only given the marks.
- Submissions will automatically close after the first five correct entries are received or Friday 6pm whichever is earlier.
- In case the entries are found to be copied 0 marks will be awarded to both.

KOOLKAT - ICE CREAM STORE



KoolKat Ice Cream stores is one of the favourite spots for ice cream lovers. However, the manager is unhappy with their existing manual ordering system. The staff makes mistakes in prices and taking orders. This makes the customers unhappy and thus the manager wants to overcome these issues.

Therefore, the store manager wants a new automated ordering system that can take orders. The system will avoid any variations in prices and types of orders. The manager also wants to understand the sales by using this system.

So, the manager contacts your company to design a system for them that can take orders as well as do some data analysis also.

1. In the first part you have to design a python code that can take orders. The following requirements are provided by the manager:
 - a. Customer may choose from plain cone, waffle or a cup in which he wants his ice-cream.
 - b. Next the staff asks for number of scoops. Maximum number of scoops can be 3 for each ice cream.
 - c. The customer accordingly chooses the flavours also for these scoops. Presently, KoolKat has eight flavours to serve.
 - d. Also, the customers can choose toppings from the available topping list. Each ice cream may have maximum 4 toppings.

Based on these inputs your application will compute the price and the customer will pay.

- When a new customer comes his/her name should be recorded to make the experience more personalized.
- Then, the customer must tell the number of ice creams he wants to purchase.
- Thereafter, the customer must tell his choices for points 1.(a) – (c).
- Finally, an itemised order with total amount to be paid must be generated.
- The program should be able to handle all types of wrong or invalid inputs. Like unknown flavor type or toppings etc.

Price List		
<i>Type of Cone</i>	Plain	50
	Waffle	60

	Cup	50
<i>Scoop Flavour</i>	Strawberry	50
	Butter Scotch	65
	Vanilla	40
	Chocolate	55
	Oreo	65
	Raspberry	45
	Coffee	45
	Tutti Fruity	55
<i>Toppings</i>		
	Peanut	15
	Cookie	20
	Rainbow	17
	Sprinkles	12
	Caramel	22

2 Ice cream Sales trends

The manager has also asked you to give some trends in ice cream sales so that they can make informed decisions. For this you have collected weekly sales data from forty five stores from 5 regions for a time of three years from 2010 to 2012 ([Bonus Data](#)) .

Apply exploratory data analysis to generate atleast 4 useful data visualizations that help understand the icecream trends. As the data is in 3 different csv files you may need to merge them to generate the insights. Some hints include:

- Sales trends from 2010 to 2012.
- Trends in different stores in different years.
- Analyse temperature or unemployment
- Sales trends region wise
- Show the relationship amid sales and store details.

These are just a few hints you can explore more and different. Just make sure you add a commentary in each section of your jupyter notebook to explain what you intend to do in that section.

NOTE: A pandas cheat sheet is available on LMS that might be helpful for this assignment.

ALL THE BEST