Exercise- Data Measurement

Student Name: Animesh Johri **Student Id:** 2021292753

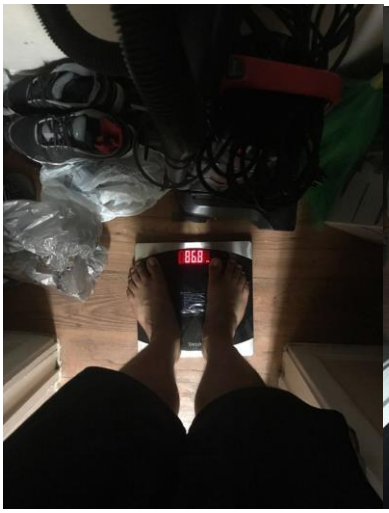
1. Science Phenomenon:

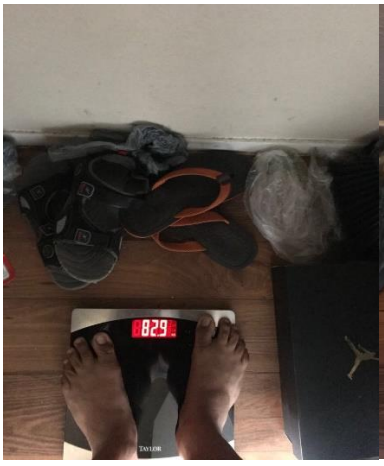
Measured the rate of my weekly weight loss for 9 weeks

I was on a weight loss mission for over 2 months starting from 1st November 2017 to mid of January 2018. I recorded the weight I lost after the end of each following week.

Procedure:

- Exercised regularly to burn at-least 350 calories for the first month in gym by running.
- After 1 month, I exercised regularly to burn at-least 400 calories.
- In the second month diet was strictly followed like sweet potato, fruits, vegetables, salads, protein rich food and no food with high carbohydrates contents.
- Measured weight on every weekend and recorded it.

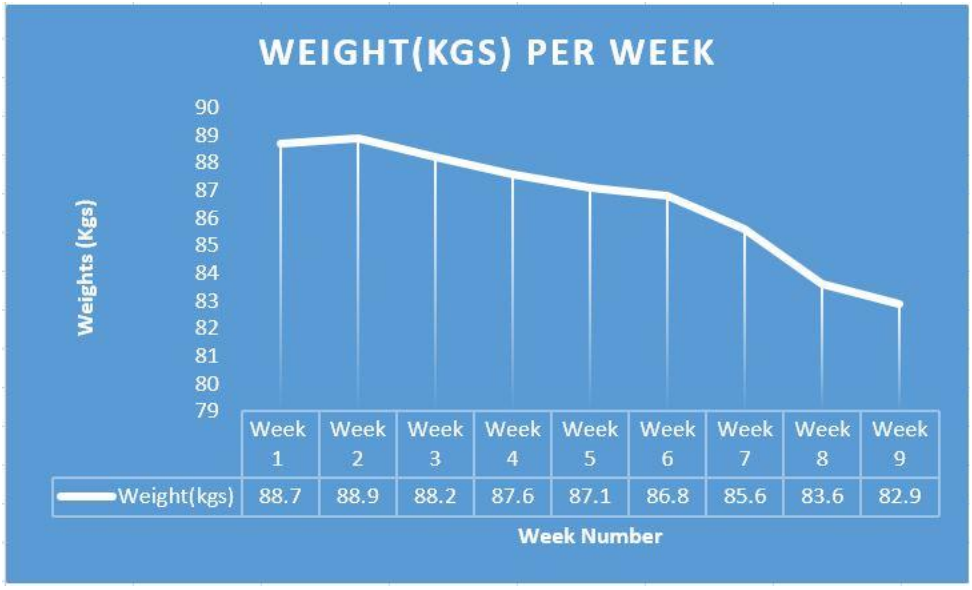




Data Points:

Measure of my weight per week	
Week Number	**Weight(kgs)**
Week 1	88.7
Week 2	88.9
Week 3	88.2
Week 4	87.6
Week 5	87.1
Week 6	86.8
Week 7	85.6
Week 8	83.6
Week 9	82.9

Data Visualization:



Color coded data table:

Measure of my weight per week		
Week Number	**Weight(kgs)**	**loss in weight(Kgs) per week**
Week 1	88.7	0
Week 2	88.9	-0.2
Week 3	88.2	0.7
Week 4	87.6	0.6
Week 5	87.1	0.5
Week 6	86.8	0.3
Week 7	85.6	1.2
Week 8	83.6	2
Week 9	82.9	0.7
Average loss of weight(Kgs) per week		**0.725**

Insights:

1. From the graph, we can infer that there is a weight decreasing trend with each passing week.
2. Data table shows that the average loss in the weight of a person is 0.725 Kgs per week.
3. Maximum reduction in the weight occurred in the 7^{th} week. It is during the month when more calories were burnt with a healthy and strict diet.
4. Initially the weight increased a little bit but with time the rate of weight loss increased. This shows improvement in the metabolism due to regular exercise.

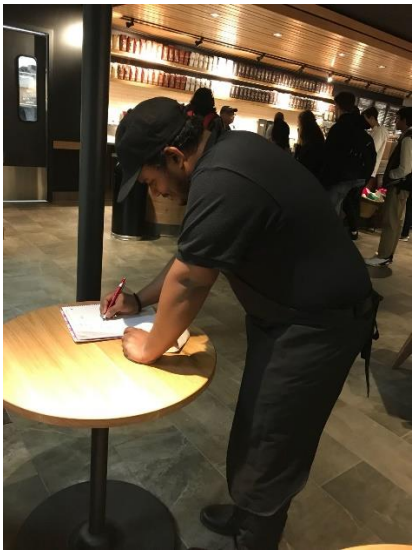
2. Business Phenomenon:

Measure of the Starbucks customer traffic throughout the day for Espresso

Starbucks is a famous coffee outlet and many students buy coffee from there.It sometimes gets difficult to be available with the required number of employees at the counter. Moreover, the most in demand product's raw material may also run out at the peak time. Therefore, I stood in front of Starbucks to collect data and visualize to understand the customer traffic pattern.

Procedure:

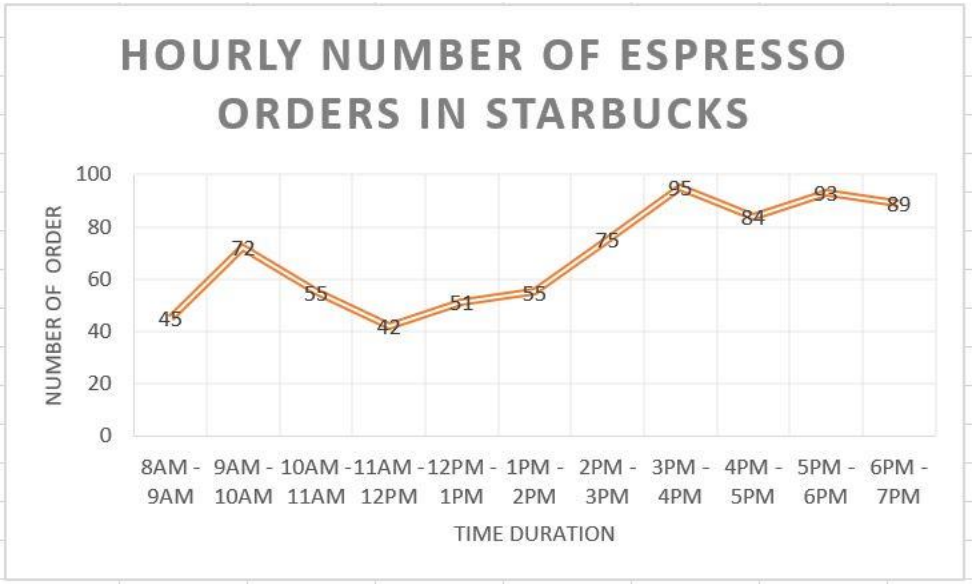
1. Convinced the employees to draw a line on the copy when someone buys espresso for each hour.
2. Monitored the correct data entry in my copy.
3. Calculated the total number of lines to determine total number of customers and noted it down.
4. At the end of the day, summarized whole data and visualized it.



Data points:

Hourly Number of Orders in Starbucks	
Time	**Number of Espresso Orders**
8AM - 9AM	45
9AM - 10AM	72
10AM - 11AM	55
11AM - 12PM	42
12PM - 1PM	51
1PM - 2PM	55
2PM - 3PM	75
3PM - 4PM	95
4PM - 5PM	84
5PM - 6PM	93
6PM - 7PM	89

Data Visualization:



Color coded data table:

	Hourly Number of Orders in Starbucks	
Time	**Number of Espresso Orders**	**Change in the Number of Orders**
8AM - 9AM	45	0
9AM - 10AM	72	27
10AM - 11AM	55	-17
11AM - 12PM	42	-13
12PM - 1PM	51	9
1PM - 2PM	55	4
2PM - 3PM	75	20
3PM - 4PM	95	20
4PM - 5PM	84	-11
5PM - 6PM	93	9
6PM - 7PM	89	-4

Insights:

1. From the data table, it can be observed that during the morning hours there is an increase in coffee consumers at around 9 AM. It is the time when people start their job or studies of the day and they need themselves active at that time.
2. From the graph, we can see that during the evening time more number of people come to sit and relax with the coffee after finishing the busy day.
3. From the color-coded table, we can infer that the highest number of increase in sale is around 4 PM.

3. General Observation Phenomenon:

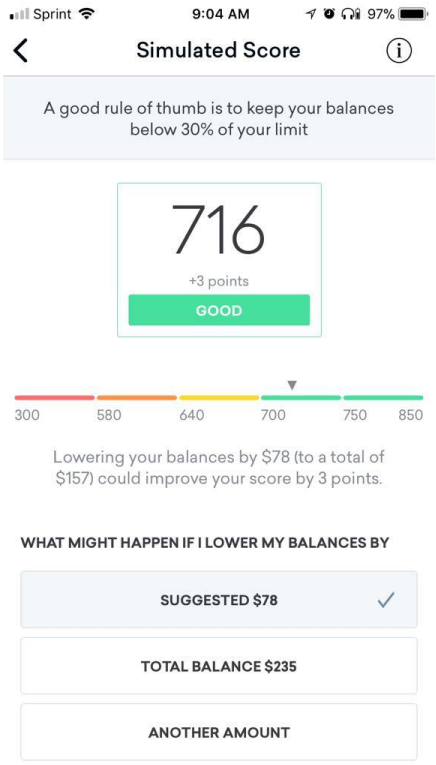
Record my credit score after each week V/S the balance of credit card at that time.

Procedure

To improve my credit history, I used to record my credit score each week and the balance at that time. I keep in mind the suggestion by credit karma app and make variations in the balance each week to see the effect on the credit score.

Procedure:

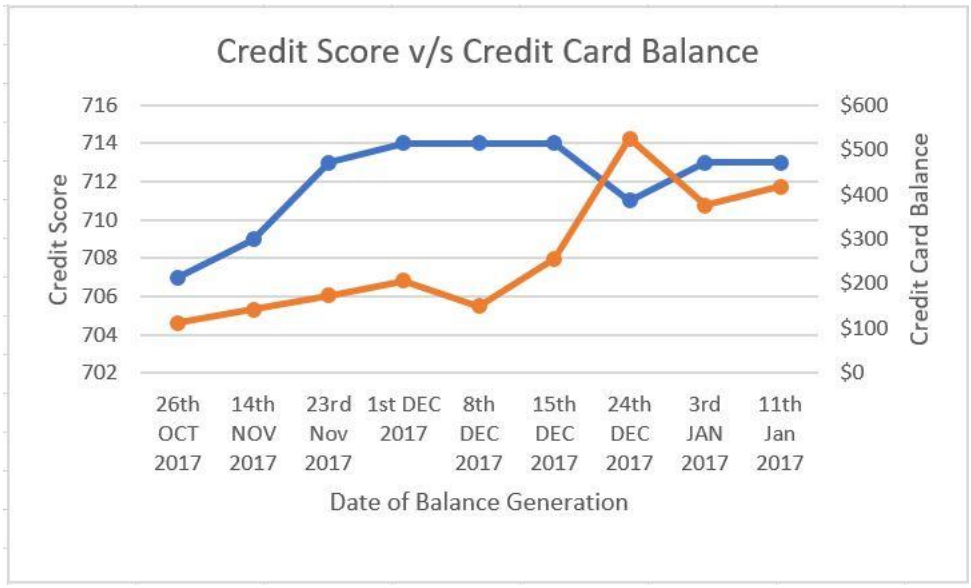
1. Record credit score and balance at the time of score generation date each week.
2. Simulate the balance suggested by the app and see the credit score.
3. Increase and decrease the balance to see the changes.
4. Repeat the above procedure.



Data points:

Credit Score v/s Credit Card Balance		
Date	**Credit Score**	**Credit Card Balance**
26th OCT 2017	707	$112
14th NOV 2017	709	143
23rd Nov 2017	713	174
1st DEC 2017	714	207
8th DEC 2017	714	150
15th DEC 2017	714	256
24th DEC 2017	711	525
3rd JAN 2017	713	375
11th Jan 2017	713	418

Data Visualization:



Color coded data table:

Credit Score v/s Credit Card Balance			
Date	**Credit Score**	**Credit Card Balance**	**Change in Credit Score**
26th OCT 2017	707	$112	0
14th NOV 2017	709	143	2
23rd Nov 2017	713	174	4
1st DEC 2017	714	207	1
8th DEC 2017	714	150	0
15th DEC 2017	714	256	0
24th DEC 2017	711	525	-3
3rd JAN 2017	713	375	2
11th Jan 2017	713	418	0

Insights:

- When balance crosses the 30% of the credit limit the credit score significantly drops by -3. At that time balance was $525 and 30% of credit limit was $500.
- Credit score remains almost constant when the spending is nearly constant and under the 30% of the credit limit amount.
- Paying off the balance before the statement generation data actually improved the credit score significantly as shown in the graph.