**CS 210 TERM PROJECT REPORT**

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Geographically, in middle zone countries the four seasons have different characteristics and unique conditions. For instance, Turkey is one of these middle zone countries in the world located at 36-42 North latitudes and 26-45 East meridians. In these countries people have different set of activities throughout the seasons. The weather conditions force people to act in certain ways and do various activities. In this project, I studied my activity selection based on the time of the year by gathering data from my Netflix account and my Apple Health application in my cellphone. My motivation on this project was to find out how does my lifestyle and my hobbies/activities vary throughout different months and seasons in a year. Thus, the purpose of the project was to discover the shift in my lifestyle and hobbies throughout the year.

Prior to my studies and analysis, my hypothesis was that during summer, I liked more outdoor activities and during the winter, I choose to stay at home and do more indoor activities. The reason why I made my hypothesis this way is because at summer I go to my seaside resort in İzmir and I do all kinds of sports such as football, basketball, volleyball. I like to go to cinema, go to pool, hangout with my friends. On the other hand, at winter, I became more of a home person, I like staying in my bed and watch a movie/TV series, read a book and do nothing.

In order to prove my hypothesis, I collected data from my Netflix account where each movie or an episode of a TV series is seen by the exact date I watched it in title and DD-MM-YYYY format. I download the data and stored in an Excel file. The reason why I used my Netflix data is because the movies and TV series I watch represents the time I spend in my house, doing indoor activities. So the more I watch Netflix, the more I do indoor activities in my house. Thus, my own Netflix data is a way to show how I decide to spend my time throughout the year. On the other hand, I also collected data from an application called “Health Export CSV” which directly takes data from my own Apple Health application. IPhones have a technology which counts your steps during the day by date, exact time and number of steps person have taken. That information is stored on Apple Health application. However Apple Health does not allow you to directly access to that data, you cannot download Apple Health app on your Windows computer. That’s why I downloaded Health Export CSV app on my phone so that I can access my step count data. After installing the app, I downloaded the data and stored in an Excel file where it is seen which device detects the number of steps I take, the start and the end date of that movement, which is almost always the same day, and the count value. I used my step count data in order to correlate it with my movement outside of my house and my outdoor activities. In other words, the average number of my steps shows a pattern of my outdoor activities. The more my step count is, the more I did outdoor activities. Both of these data start from the January 2020 and end in January 2024, which is present day. Thus, my gatherings are consistent.

I analyzed my data on Jupyter Notebook by coding Python. While doing that, I get help from Chat GPT and my previous homeworks to guide me analyze the data more efficiently and clearly. I constructed two distinct dataframes; one for Netflix data and one for step count data. I created three more columns in my dataframe and separated all the films - series episodes I have watched as day, month and year. After that, I plotted charts to see the months in which I watch Netflix media the most. The result was obvious: January is the first in the list with 14% and February is the second with 12% of all the Netflix media I have been watching since January 2020. I watched more than 320 Netflix media throughout January and February time period from 2020 to 2024. On the other hand, the months in which I least frequently watched Netflix media are July with 6%, August with 7.5% and October with 5% of watched media among all the films / TV series I have watched. As a conclusion, during the winter time, I watched twice as much Netflix media in comparison to summer time. In addition, the year I watched the Netflix media the most was 2021, which was the year I prepared for my national university exam, so that pretty much explains the strong correlation between home staying time and the frequency of watching Netflix media.

My second dataframe was about my step count. I dropped unnecessary columns from the dataframe and I combined the number of steps taken in the same day by summing them. I get help from Chat GPT and recitation videos while constructing a more optimal and readable dataframe. After that, I plotted 5 different charts which 4 of them demonstrates the average number of steps I took during 12 months of the year and the last plot was the total average of step counts during 12 months from 2020 to 2024. (2024 data is not consistent since we are currently in January). Looking at the charts, it is clear that the timeline in which I took the least number of steps was from 2020 December to 2021 March, where I had been studying for the university exam, which was also the time I watched Netflix media the most. At the same time, the final average graph gave the information that I have taken most steps in July and October with an average of more than 6000 steps, the two months in which I watched the least amount of Netflix media during these years. Plus, the two months I have taken the fewest number of steps are January and February with an average of 3000 steps, almost half of the summer time.

To sum up, it is clearly seen that my Netflix media watching time and number of steps taken are inversely proportional: during summer time my step count is at its highest and my Netflix time is at its lowest. On the other hand, during the winter time my step count minimizes and my Netflix time maximizes. Thus, it is convenient to say that in summer time I like doing outdoor activities and don’t prefer doing indoor activities. In the meantime, during winter time, I prefer staying home and doing indoor activities rather than outdoor activities. From these findings, I proved my hypothesis and I executed the purpose of this project which was understanding the shift in my lifestyle and my hobbies during different time periods in a year.

For the things I could have done better, I may have used another source of data, such as my sleep time during these periods to show my physical activity level and laziness. The time period I sleep the most will probably be the time I enjoy doing indoor activities, which is winter. In future, I can include this data source into my project.