**How to Run Project**

To begin, we must install libraries, and there are several methods for installing Python libraries on your machine. I will offer one approach for each operating system in this section.

First, check if libraries are already installed on your system:

#python

> >> import library\_name

If you do not receive an error message, Libraries is already installed on your machine, and you should be able to begin working on the projects in this chapter right immediately. If you see an error notice, proceed to the section below for assistance in installing libraries on your operating system.

pip install (‘Libraries names’)

In this project it has been used some python libraries you can see below:

Numpy

Pandas

Tkinter

Matplotlib

This project is two chapters firstly, Analysing covid Data and Secondly Stop and Search Tames Walley Police in 2020, in the UK

**Covid Cases Analysis**

The purpose of the first chapter project is to analyse covid data in 2020 in the UK, has been chosen a variety of questions to answer and then created charts. You can see below to chart details

1. ***Total number of cases reported each day over a given date range to All Areas.***

This chart shows that sharply increase covid cases in all areas one in April the second one in October. On the other hand, this chart shows that sharply decrease covid cases in all areas in May and November***.***

1. ***Total number of cases reported each day over a given date range in Oxfordshire: start\_date = 2020-07-1 end date = 2020-07-30***

This chart shows that the highest number of cases is on the 21st of July with 28 cases. The second-highest number of cases on days 9th, 20th, and 27th of July with 24 cases. Also, the lowest number of cases on days 4,7,10, and the 11th of July with 2 cases.

1. ***Total number of cases reported each week over a given date range in Oxfordshire***

This chart shows that covid cases increase until 15th of the week in the year, and then there is fluctuation until the week of 20th after that sharply decrease covid cases. Between the weeks of 25th and 37th, there are not many changes in covid cases. However, Cases increase sharply from the week of 39th to 44th.

1. ***Total number of cases reported each month over from the start of reporting to end in Oxfordshire***

This chart shows that covid cases increase until April and then it sharply decreases until June. It is very clearly seen that there is a sharp increase from September to October. Therefore, in Oxfordshire the highest number of cases in October with 6220 cases.

1. ***Areas with the highest number of cases on a given day: start\_date = 2020-07-01 end\_date = 2020-07-30***

This chart shows that the highest number of cases is in Area North West with 576 cases in July. Moreover, the chart shows that The second-highest number of cases where is Yorkshire and The Humber with 326 cases and The third-highest number of cases where is East Midlands with 278 cases in July.

1. ***Areas with the largest positive change of cases for a given 7 day period: start\_date =2020-07-01 end\_date = 2020-07-07***

This chart shows the areas where are St Albans with the largest positive change of cases for a given 7 days start\_date =2020-07-01 end\_date = 2020-07-07, followed by Lincolnshire and Southend-on-Sea.

1. ***Comparison of two or more areas concerning their daily change over a given date range: start\_date = 2020-07-01 end\_date = 2020-07-30***

This chart compares areas(Oxfordshire, Kent, Buckinghamshire, Berkshire, Hampshire, Surrey, Sussex) concerning their daily percentage\_change in July. Kent has the most significant percentage\_change on the 8th of July, that day followed Surrey and Oxfordshire; however, Buckingham and Hampshire have negative percentage\_change on the 8th of July.

1. ***Comparison of two or more areas concerning their cumulative cases total over a given date range: start\_date = 2020-07-01 end\_date = 2020-07-30***

This chart compares areas(Oxfordshire, Kent, Buckinghamshire, Berkshire, Hampshire, Surrey, Sussex) cumulative total cases in July. Kent has the highest cases every day in July and it has the highest case with 66 on the 20th of July. That day Oxfordshire has 24 cases Hampshire and Surrey have 16 cases, and Buckingham has 4 cases.

**Stop and Search Tames Walley Police**

The purpose of the first chapter project is to analyse Stop and search Tames Walley Police data in 2020 February to December in the UK, has been chosen a variety of questions to answer and then created charts. You can see below to chart details

1. ***All Age Stop & Search Tames Walley Police each month***

This chart shows that stop and search Tames Walley Police all age range each month. May has the highest number of stop and search with 2105, followed by November with 1978. On the other hand, February lowest number of stop and search with 1167, followed by April with 1231.

1. ***Teen Age Stop and Search Tames Walley Police each month***

This chart shows that Stop and search on Tames Walley Police teenage range each month. October has the highest number of stop and search with 470, followed by November with 364. On the other hand, April lowest number of stop and search with 153, followed by February with 267.

1. ***Teen Age Stop and Search Tames Walley Police in July***

This chart shows that July's stop and search on Tames Walley Police teenage range. The 4th and 25th days of July has the highest number of stop and search with 22, followed by The 6th and 18th days of July with 15. On the other hand, The 12th day has the lowest number of stop and search with 1.

1. ***Breakdown of age ranges for stop and search for Tames Walley Police***

this chart show age range(10-17, 18-24, 25-34, over 34, under 10) for stop and search. 18-24 Age range has highest percentage of stop and search with 39.1%, followed by 25-34 age range with 23.3%, over34 age range with 19.05, and10-17 age range with 18.0%. On the other hand, under 10 age range has a number of 6 stop and search on Tames Walley Police.