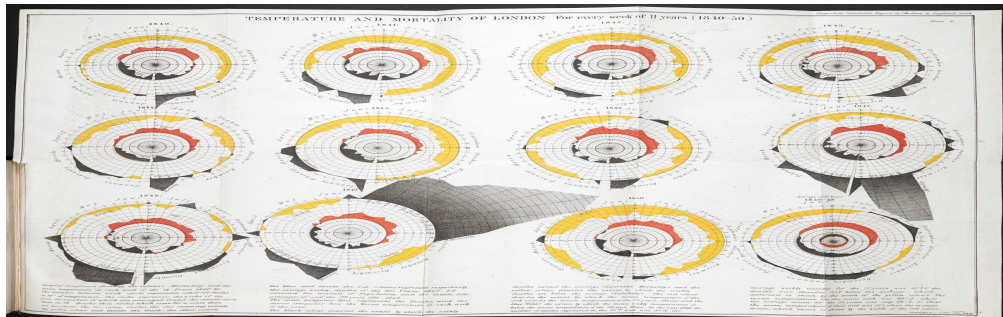


# **Data Visualisation**

## **Assignment 3**

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### **Part 1.a**



#### **Data-**

- 1) The given visualisation is of radial chart form.
- 2) Circular diagrams showing mortality and temperature in each week for 11 years.
- 3) The data used is numerical data of continuous type that is real values between 11 years interval from 1840 to 1850, (temperature, mortality, salubrity) and also of discrete type that is integral values. (years and weeks).
- 4) The data used is also categorical data of the ordered types. (months)

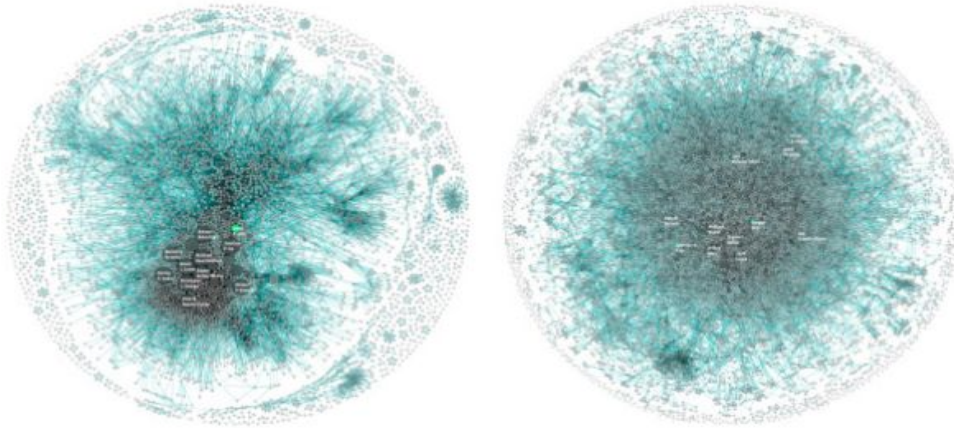
#### **Task-**

- 1) The major task is to develop a correlation between the given data attributes.
- 2) To compare values over different time interval and identify the trends.
- 3) To associate different attributes and find out the relations between them.
- 4) To compare the different values over the years and plotting a chart for average values over the years.

#### **Encoding-**

- 1) The distance between each concentric circle represents 100 deaths or 10 degree change in temperature.
- 2) The radius line represents the week count of that particular year.
- 3) Apart from the above circles, there are two more circles, one of which representing the average weekly death for 10 years, corrected for the increase in population and other representing the mean temperature of 79 years.
- 4) The yellow colour graph and the black colour graph over the average weekly death shows the excess death or excess salubrity of people in that particular year.
- 5) The red colour and the blue colour on the average mean temperature show the excess or less temperature was as compared to average.

## Part 1.b



### Data-

- 1) The given data visualisation is a node link diagram.
- 2) The data type is categorical with data being nominal that is the data can be represented in a table for with the following attributes inventors and the the patents, note that several inventors can be associated with one patent.

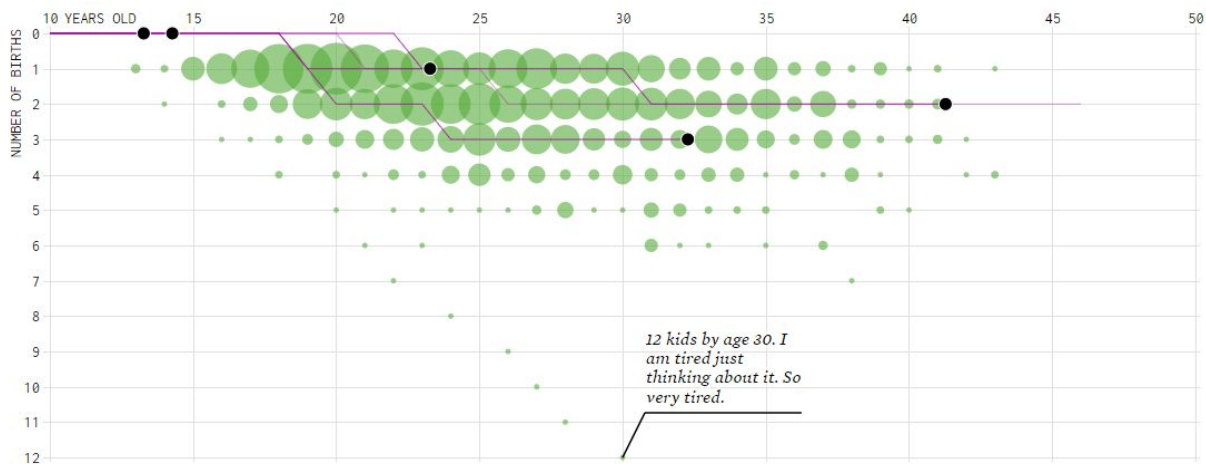
### Task-

- 1) The major task was to choose the appropriate data visualisation for the given data set.
- 2) Identify the relationship between attributes as in who all worked on a which all patents.
- 3) Explore the topology and identify what paths link which nodes.

### Encoding-

- 1) Each inventor is represented by the node whereas each link represents the patent on which the inventor/inventors are working on.
- 2) Membrane like ring surround the entire structure and represents the inventors working on a patent in isolation.

## Part 1.c



### Data-

- 1) The given data visualisation is of dot and line chart.
- 2) The data give is of quantitative of the discrete type that is number of kids whereas age is the ordered key.
- 3) Each of the 1000 women are categorical data of arbitrary type.

### Task-

- 1) The first take is to identify the attributes and form a relation between them.
- 2) Choose the appropriate data visualisation for the given data set depending on the attributes..
- 3) Compare different values.
- 4) Associate a relation and show trends.

### Encoding-

- 1) An age vs number of birth graph is plotted.
- 2) The timeline of each of the 1000 women is plotted on the graph in the the age at which they gave birth is marked with a bubble.
- 3) Each moving dot is representing a woman.
- 4) The bubble gets bigger as the number of birth at that particular point increase that is more and more births take place at the same very age.
- 5) The percentage of women who gave birth to kids in a particular age group is also inferred and represented.

## Part 2-

**Dataset in consideration** - <https://www.kaggle.com/abcsds/pokemon>

### Data-

- 1) The data given is in a tabular form with several attributes.
- 2) The numerical attributes of discrete type are poke index no which is also the ordered key, attack, defence, sp. Attack, sp defence, speed, hp, sum total of all and generation.
- 3) The categorical attributes of the binary type is legendary pokemon or not.
- 4) The other categorical attributes are name of the pokemon and type.

### Task-

- 1) To identify all the attributes.
- 2) To associate and form a relation between the different attributes.
- 3) Classifying the different types of datatypes.
- 4) Depending on the different types of data available choose appropriate data visualisation for the given problem.

### Encoding-

- 1) The given data can be represented using radial chart.
- 2) The circle will be divided into 8 angular division representing , attack, defence, sp attack , sp defence , speed, hp , sum and generation.
- 3) Each type of pokemon will be encoded with different colour for instance grass type will be green, fire type will be red and so on.
- 4) The value of a particular attribute of a pokemon will be represented by a bubble in the division and the bubble will be of same colour as the type of pokemon, for instance if a grass type pokemon has 80 attack so a green bubble will be marked at 80 in the attack angular division.
- 5) Similarly each pokemon with all its attributes can be represented in the way mentioned above.
- 6) To represent the legendary we will use different background for the graph where the value will be true. For instance, for normal pokemon we can use the white background with black colour radial chart lines and for legendary pokemon we can use the black background with white colour radial chart lines.