

Introduction to Data Science

Assignment 1

University of Koblenz-Landau

Members Name:

Nirav Sureshbhai Satani (221100483)
Krupali Sureshbhai Kumbhani (221202160)
Mohit Rajeshbhai Hihoriya (221100599)

Que 1): Categories the movie's popularity in either best, average or poor as per the user's ratings.

Design: Researcher collect the data which contain the rating of movies. Rating is generally given by the viewers in the scale of 1 to 10. Here 1 is the worst while 10 is the best rating point.

Study type:

- Observational: Despite any prior instruction, interviewer collect the ratings from the viewers.
- Experimental: Interviewer give some parameters to the viewers and ask to give rating accordingly.

Critical for the study type: While judging the movies, external factors should not be manipulating the ratings. Hence, observational study is the optimal for this task compare to experimental.

Data sources: <https://www.kaggle.com/stefanoleone992/imdb-extensive-dataset>

Que 2) How meditation affect the individual's daily routine?

Design: Researcher want to know how the daily routine of a person is changed due to meditation compare to those who do not.

Study type:

- Observational: Researcher may collect the data randomly in public and categorise in two categories. Later, researcher can conclude the result.

- Experimental : A study randomly assigned people to one of the two groups. Group 1 was asked to follow a strict 20 minutes meditation before the sleep whereas Group 2 was asked to follow their daily routine as usual.

Critical for the study type: Here, observational study is not the optimal way to conclude the accurate result. Monitoring the people after giving the task is looking more beneficial.

Que 3) To know whether the person has a diabetes or not.

Design: The task of the researcher in this problem is to find out whether the person suffering from the diabetes or not.

Study type:

- Observational: Researcher should collect the general medical data of people and conclude if person has the diabetes or not.
- Experimental: Research should make two groups. Strict diet plan need to be followed by the first group, while other group allow to eat their regular meal. Later researcher conclude the result.

Critical for the study type: Here the experimental type is not a feasible. Random data collecting of the people is more useful to predict the symptoms of the diabetes.

Data source: <https://www.kaggle.com/uciml/pima-indians-diabetes-database>

Que 4) To know how the mind get affected after watching horror movie.

Design: The task of the researcher in this problem is to find out how the horror movies can affect the individual's state of mind.

Study type:

- Observational: Researcher may use the medical data and movie likeliness of the individual to conclude the decision.
- Experimental: Researcher should make a two group. One group should be asked to watch only horror movie while other group suggest to watch the movie as per their like.

Critical for the study: here, Experimental test is clearly feasible method compare to observational test. Observational method cannot give the convincible output in this case.