

# Project Name - Employee Absenteeism

## Deadline - 15 Days

### Project Description and Problem statement -

XYZ is a courier company. As we appreciate that human capital plays an important role in collection, transportation and delivery. The company is passing through genuine issue of Absenteeism. The company has shared its dataset and requested to have an answer on the following areas:

1. What changes company should bring to reduce the number of absenteeism?
2. How much losses every month can we project in 2011 if same trend of absenteeism continues?

Build suitable model (both R and Python) to answer the above two questions with a proper report ([sample report](#))

**Data set** - [Click on this link to download](#)

### Dataset Details:

Dataset Characteristics: Timeseries Multivariant

Number of Attributes: 21

Missing Values : Yes

### Attribute Information:

1. Individual identification (ID)

2. Reason for absence (ICD).

Absences attested by the International Code of Diseases (ICD) stratified into 21 categories (I to XXI) as follows:

I Certain infectious and parasitic diseases

II Neoplasms

III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism

IV Endocrine, nutritional and metabolic diseases

V Mental and behavioural disorders

VI Diseases of the nervous system

VII Diseases of the eye and adnexa

- VIII Diseases of the ear and mastoid process
- IX Diseases of the circulatory system
- X Diseases of the respiratory system
- XI Diseases of the digestive system
- XII Diseases of the skin and subcutaneous tissue
- XIII Diseases of the musculoskeletal system and connective tissue
- XIV Diseases of the genitourinary system
- XV Pregnancy, childbirth and the puerperium
- XVI Certain conditions originating in the perinatal period
- XVII Congenital malformations, deformations and chromosomal abnormalities
- XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
- XIX Injury, poisoning and certain other consequences of external causes
- XX External causes of morbidity and mortality
- XXI Factors influencing health status and contact with health services.

And 7 categories without (CID) patient follow-up (22), medical consultation (23), blood donation (24), laboratory examination (25), unjustified absence (26), physiotherapy (27), dental consultation (28).

- 3. Month of absence
- 4. Day of the week (Monday (2), Tuesday (3), Wednesday (4), Thursday (5), Friday (6))
- 5. Seasons (summer (1), autumn (2), winter (3), spring (4))
- 6. Transportation expense
- 7. Distance from Residence to Work (kilometers)
- 8. Service time
- 9. Age
- 10. Work load Average/day
- 11. Hit target
- 12. Disciplinary failure (yes=1; no=0)
- 13. Education (high school (1), graduate (2), postgraduate (3), master and doctor (4))
- 14. Son (number of children)
- 15. Social drinker (yes=1; no=0)
- 16. Social smoker (yes=1; no=0)
- 17. Pet (number of pet)
- 18. Weight
- 19. Height
- 20. Body mass index
- 21. Absenteeism time in hours (target)

**Major Hint about the project** - The problem statement looks like a time-series problem, But it is not the only solution. It can also be solved using the techniques taught to you in the curriculum. You are required to select the suitable technique yourself.

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### **Evaluation Basis**

This project will be evaluated on following basis -

- 1) **Quality of R and Python code** - Your R and Python code should be highly optimized according to industry standards taught to you in your curriculum.
- 2) **Project report** - Your project report should be detailed and comprehensive as given in the sample.
- 3) **Originality of code** - Your code will be checked for plagiarism and if it's not original, it will be discarded with a negative skill score.

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### **Deliverables :**

- 1) Code written in both R and Python
  - 2) Comprehensive project report ([please take reference from this sample project report](#))
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**Always remember these evaluation basis, as you do have a deadline. And your aim is to meet the deadline.**

**Warning** - Do not submit incomplete projects or projects that are not running. They will result in negative skill score. Always use support system in case of queries.