Power BI Industrial Training Project

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**Branch: BCA Section/Group: 23BCA/9-B**

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**Project Title: FITNESS TRACKER**

# Project Objective: The objective of this Fitness Analysis project is to provide a data-driven overview of user workout patterns, caloric balance, hydration levels, and overall well-being. By leveraging Power BI's interactive visualizations, the dashboard enables both users and fitness professionals to monitor key fitness metrics and make informed decisions to improve health and performance.

# Kaggle Dataset Link: <https://www.kaggle.com/datasets/neethaporathurjoseph/workout-fitness-tracker-data>

# Academic/Website Platform Link: <https://github.com/SU-M1T/POWER-BI>

# Project Step Evaluation:

# Problem Identification

# Need to analyze and monitor fitness data (workouts, calories, hydration) for improved health insights.

# Objective: Help users and trainers make data-driven fitness decisions.

# Data Collection

# Dataset sourced from fitness tracking records (e.g., Kaggle or CSV files).

# Includes attributes like workout type, duration, calories burned, water intake, BMI, etc.

# Data Cleaning and Preparation

# Removed nulls and duplicate entries in Power Query Editor.

# Transformed data types (e.g., date, numeric, categorical).

# Created calculated columns for metrics like BMI category, calorie balance, etc.

# Data Modeling

# Established relationships between tables (e.g., Users, Workouts, Diet).

# Implemented star schema for performance.

# DAX Measures

# Created measures such as:

# Total Calories Burned

# Average Workout Duration

# Daily Water Intake

# Active Days per Month

# Visualization and Dashboard Creation

# Built visual charts: bar charts, line graphs, KPI cards, pie charts.

# Used Report View, Table View, and Model View effectively.

# Filters for date, user, and activity type added for interactivity.

# Insights and Decision Support

# Identified trends in workout consistency and hydration.

# Highlighted days of calorie surplus/deficit.

# Provided fitness suggestions based on patterns.

# Evaluation

# Dashboard tested for readability, interactivity, and responsiveness.

# Shared with users/trainers for feedback.

# Performance optimized by reducing visuals and using slicers wisely.

# Documentation

# Prepared PPT/Word report with objective, visuals, insights, and conclusions.

# Mentioned dataset source and tools used (Power BI, DAX, Power Query).

# Screenshot of Dashboard:

# 

# Conclusion: The Fitness Dashboard effectively provides a comprehensive view of key health metrics such as workout frequency, calories burned, hydration levels, and overall fitness trends. By transforming raw fitness data into meaningful visual insights, the dashboard empowers users and fitness professionals to track progress, identify patterns, and make informed decisions for better health outcomes. The use of Power BI enabled seamless data modeling, interactive visualizations, and performance-focused analytics. This project highlights the importance of data-driven fitness monitoring in promoting healthier lifestyles.

# What you have learned:

* **Data Transformation Skills:** Gained hands-on experience with Power Query for cleaning, shaping, and preparing raw fitness data.
* **Data Modeling Concepts:** Learned to build efficient data models using relationships, normalization, and a star schema approach.
* **DAX Formula Writing:** Developed skills in writing DAX measures and calculated columns to derive meaningful insights (e.g., total calories, average duration).
* **Dashboard Design:** Improved my ability to create visually appealing and interactive dashboards using slicers, charts, and KPIs.
* **Analytical Thinking:** Learned how to analyze fitness trends, detect behavioral patterns, and translate data into actionable recommendations.
* **Power BI Tools Usage:** Understood how to use Report View, Table View, and Model View efficiently for better project management.
* **Project Documentation:** Enhanced my ability to document objectives, steps, and insights clearly in a structured format.