About the Dataset (CSV File)

This dataset contains **information about exoplanets** (planets outside our solar system), mainly discovered by the **TESS (Transiting Exoplanet Survey Satellite)** mission.

Source

- **NASA Exoplanet Archive**

- Data filtered using:

    o default_flag = 1

    o Discovery facility = **TESS**

Dataset Overview

- **Total rows:** ~39,000

- **Total columns: 289**

- **Each row represents:** One **exoplanet**

- **Each column represents:** A **property or measurement** of that planet, its star, or discovery details

Here are the main attributes present in the exoplanet dataset:-

- **Planet Name:** Uniquely identifies each exoplanet in the dataset.

- **Host Star Name:** Specifies the star around which the planet orbits.

- **Planet Radius:** Indicates the size of the planet and helps distinguish rocky planets from gas giants.

- **Planet Mass:** Represents the planet's mass and helps assess gravity and atmospheric retention.

- **Orbital Period:** Defines the time taken by the planet to complete one orbit around its star.

- **Orbital Radius (Semi-major Axis):** Measures the average distance between the planet and its host star, influencing temperature.

- **Eccentricity:** Describes the shape of the planet's orbit and its climate stability.

- **Equilibrium Temperature:** Estimates the planet's surface temperature based on received stellar energy.

- **Star Temperature:** Indicates the temperature of the host star, affecting planetary heating.

- **Star Luminosity:** Measures the energy output of the host star and determines the habitable zone.

- **Star Mass:** Influences planetary orbital dynamics and stability.

- **Star Radius:** Helps understand star size and radiation impact on the planet.

- **Discovery Method:** Describes how the exoplanet was detected, such as transit or radial velocity.

- **Discovery Year:** Indicates when the exoplanet was discovered.

- **Transit Depth:** Measures the decrease in star brightness during a transit, related to planet size.

- **Signal-to-Noise Ratio:** Indicates the reliability and quality of the observed data.

- **Validation Flag:** Confirms whether the exoplanet data is verified and reliable.