TASK 1:

Data Quality issues and handling:

1. The .csv file contains 5 columns and 10000 rows.
2. However, it is seen that the 'sensor_temp_c' column had missing values (NaNs). These would cause an error during analysis and so, it is necessary to replace them with relevant values. In this case, the NaNs were replaced by the temperature value from the next row by performing Backward fill so that data continuity is maintained. The number of NaNs before and after the imputation has been verified in the .ipynb file.
3. The column 'vibration_mm_s' has no missing values. However, there are abrupt 0s in some rows which is technically wrong. Hence, these 0s are replaced with the mean vibration value of the previous and the next row to ensure continuity and technical significance.
4. The 'status_code' column has spelling errors. Instead of 'Running', some rows have 'Runing'. This mistake has been replaced with the right 'Running' string to prevent future errors.

Data Analysis:

It is seen that the sensor's temperature is increasing over time. The vibration levels remain more or less in the same range.