**Dataset loaded successfully!**

First 5 rows of the dataset:

| | day | month | year | Temperature | RH | Ws | Rain | FFMC | DMC | DC | ISI | BUI | FWI | Classes | Region |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 6 | 2012 | 29 | 57 | 18 | 0.0 | 65.7 | 3.4 | 7.6 | 1.3 | 3.4 | 0.5 | not fire | Bejaia |
| 1 | 2 | 6 | 2012 | 29 | 61 | 13 | 1.3 | 64.4 | 4.1 | 7.6 | 1.0 | 3.9 | 0.4 | not fire | Bejaia |
| 2 | 3 | 6 | 2012 | 26 | 82 | 22 | 13.1 | 47.1 | 2.5 | 7.1 | 0.3 | 2.7 | 0.1 | not fire | Bejaia |
| 3 | 4 | 6 | 2012 | 25 | 89 | 13 | 2.5 | 28.6 | 1.3 | 6.9 | 0.0 | 1.7 | 0 | not fire | Bejaia |
| 4 | 5 | 6 | 2012 | 27 | 77 | 16 | 0.0 | 64.8 | 3.0 | 14.2 | 1.2 | 3.9 | 0.5 | not fire | Bejaia |

## Data types of each column:

| | |
|---|---|
| day | int64 |
| month | int64 |
| year | int64 |
| Temperature | int64 |
| RH | int64 |
| Ws | int64 |
| Rain | float64 |
| FFMC | float64 |
| DMC | float64 |
| DC | object |
| ISI | float64 |
| BUI | float64 |
| FWI | object |
| Classes | object |
| Region | object |
| dtype: | object |

Shape of the dataset (rows, columns):

(244, 15)

Column names:

Index(['day', 'month', 'year', 'Temperature', ' RH', ' Ws', 'Rain ', 'FFMC',

 'DMC', 'DC', 'ISI', 'BUI', 'FWI', 'Classes ', 'Region'],

 dtype='object')

## Dataset Information:

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 244 entries, 0 to 243

Data columns (total 15 columns):

| # | Column | Non-Null Count | Dtype |
|---|--------|----------------|-------|
| 0 | day | 244 non-null | int64 |
| 1 | month | 244 non-null | int64 |
| 2 | year | 244 non-null | int64 |
| 3 | Temperature | 244 non-null | int64 |
| 4 | RH | 244 non-null | int64 |
| 5 | Ws | 244 non-null | int64 |
| 6 | Rain | 244 non-null | float64 |
| 7 | FFMC | 244 non-null | float64 |
| 8 | DMC | 244 non-null | float64 |
| 9 | DC | 244 non-null | object |
| 10 | ISI | 244 non-null | float64 |
| 11 | BUI | 244 non-null | float64 |
| 12 | FWI | 244 non-null | object |
| 13 | Classes | 243 non-null | object |
| 14 | Region | 244 non-null | object |

dtypes: float64(5), int64(6), object(4)

Module 2: Dataset Loaded Successfully!

## Missing values in each column:

| day | 0 |
|---|---|
| month | 0 |
| year | 0 |
| Temperature | 0 |
|  RH | 0 |
|  Ws | 0 |
| Rain | 0 |
| FFMC | 0 |
| DMC | 0 |
| DC | 0 |
| ISI | 0 |
| BUI | 0 |
| FWI | 1 |
| Classes | 244 |
| Region | 244 |
| dtype: | int64 |

Number of duplicate rows: 0

Outliers in day: 0

Outliers in month: 0

Outliers in year: 0

Outliers in Temperature: 2

Outliers in  RH: 0

Outliers in  Ws: 8

Outliers in Rain : 35

Outliers in FFMC: 16

Outliers in DMC: 12

Outliers in DC: 15

Outliers in ISI: 4

Outliers in BUI: 12

Outliers in FWI: 4

Outliers in Classes : 0

Outliers in Region: 0

## Correlation Matrix:

|  | day | month | Temperature | RH | Ws |
|---|---|---|---|---|---|
| day | 1.000 | 0.000 | 0.096 | -0.074 | 0.047 |
| month | 0.000 | 1.000 | -0.059 | -0.038 | -0.041 |
| Temperature | 0.096 | -0.059 | 1.000 | -0.654 | -0.278 |
| RH | -0.074 | -0.038 | -0.654 | 1.000 | 0.236 |
| Ws | 0.047 | -0.041 | -0.278 | 0.236 | 1.000 |

|  | Rain | FFMC | DMC | DC |
|---|---|---|---|---|
| Rain | 1.000 | -0.544 | -0.289 | -0.297 |
| FFMC | -0.544 | 1.000 | 0.602 | 0.504 |
| DMC | -0.289 | 0.602 | 1.000 | 0.875 |
| DC | -0.297 | 0.504 | 0.875 | 1.000 |

|             | day    | month  | Temperature | RH     | Ws     |
| ----------- | ------ | ------ | ----------- | ------ | ------ |
| day         | 1.000  | 0.000  | 0.096       | -0.074 | 0.047  |
| month       | 0.000  | 1.000  | -0.059      | -0.038 | -0.041 |
| Temperature | 0.096  | -0.059 | 1.000       | -0.654 | -0.278 |
| RH          | -0.074 | -0.038 | -0.654      | 1.000  | 0.236  |
| Ws          | 0.047  | -0.041 | -0.278      | 0.236  | 1.000  |

|     | ISI   | BUI   | FWI   |
| --- | ----- | ----- | ----- |
| ISI | 1.000 | 0.636 | 0.923 |
| BUI | 0.636 | 1.000 | 0.858 |
| FWI | 0.923 | 0.858 | 1.000 |