

Create the different
explorations

Water potability:

- Potability refers to the quality of water that makes it safe and suitable for human consumption, including drinking, cooking, and personal hygiene. Potable water is free from harmful contaminants and pathogens that can cause health issues when consumed. Ensuring the potability of water sources is of paramount importance for public health and well-being.

Significance:

- **Prevention of Waterborne Diseases:** Potable water is crucial in preventing waterborne diseases, particularly in developing regions where access to safe drinking water can be challenging. By providing potable water, governments and organizations can reduce the incidence of waterborne illnesses and Improve overall health.
- **Hygiene and Sanitation:** Potable water is essential for personal hygiene, including bathing and handwashing. Access to clean water supports good hygiene practices, which, in turn, reduces the spread of diseases.

- **Agriculture and Industry:** Potable water is also essential for agricultural and industrial processes. Many industrial processes require clean water, and contaminated water can damage equipment and affect product quality.
- **Environmental Protection:** Ensuring water potability extends to environmental protection. Pollution and contamination of water sources can harm aquatic ecosystems, disrupt biodiversity, and affect aquatic life. Maintaining potable water sources helps preserve ecosystems and aquatic habitats.

Program:

```
Import numpy as np  
import pandas as pd  
import seaborn as sns  
import matplotlib.pyplot as plt  
import plotly.express as px  
import missingno as msno
```

Data analysis:

Let's start by taking a quick look at the first five rows and some descriptive statistics of the dataset:

```
df.head()
```

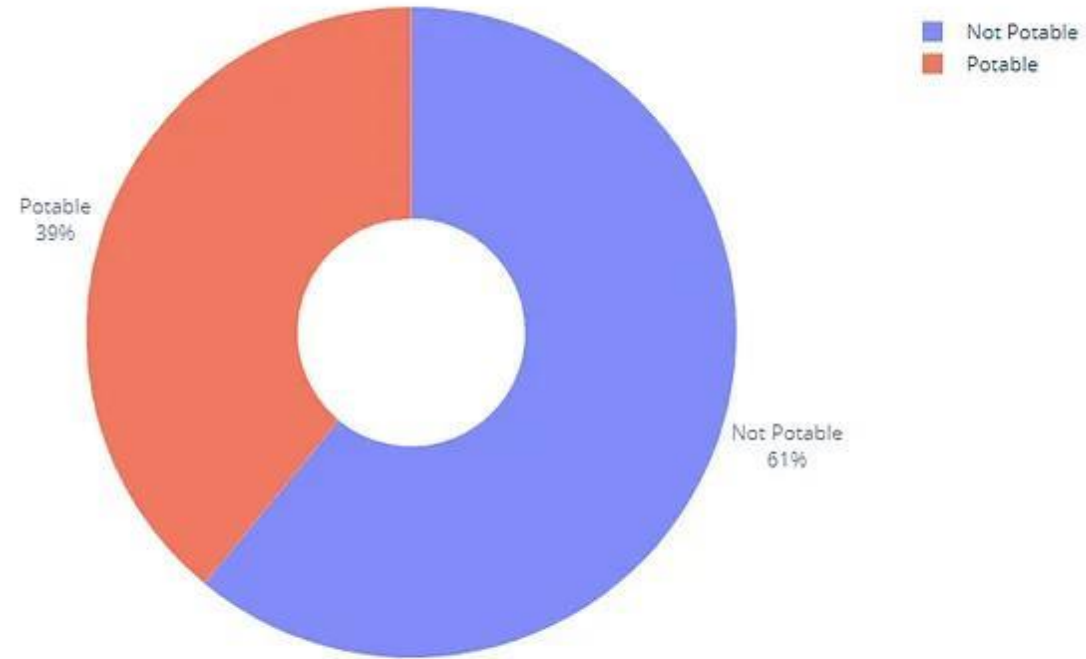
```
df.describe().T
```

We also check for missing values and visualize them:

```
msno.matrix(df)
```

Pie chart:

Pie Chart of Potability Feature



Correlation analysis:

