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        "import pandas as pd\n",
        "import seaborn as sns\n",
        "import matplotlib.pyplot as plt\n",
        "import warnings"
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analysis\\Data\\water_dataX.csv',encoding='ISO-8859-1',low_memory=False)"
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```

```
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"        <th>FECAL COLIFORM (MPN/100ml)</th>\n",
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      "2   1475   ZUARI AT PANCHAWADI   \n",
      "3   3181   RIVER ZUARI AT BORIM BRIDGE   \n",
      "4   3182   RIVER ZUARI AT MARCAIM JETTY   \n",
      "\n",
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      "0 DAMAN & DIU 30.6   6.7 7.5   203   NAN   \n",
      "1   GOA 29.8   5.7 7.2   189   2   \n",
      "2   GOA 29.5   6.3 6.9   179   1.7   \n",
      "3   GOA 29.7   5.8 6.9   64   3.8   \n",
      "4   GOA 29.5   5.8 7.3   83   1.9   \n",
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      "1   0.2   4953   \n",
      "2   0.1   3243   \n",
      "3   0.5   5382   \n",
      "4   0.4   3428   \n",
      "\n",
      " TOTAL COLIFORM (MPN/100ml)Mean year \n",
      "0   27 2014 \n",
      "1   8391 2014 \n",
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      "3   8443 2014 \n",
      "4   5500 2014 "
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         " 1   LOCATIONS                           1991 non-null   object\n",
         " 2   STATE                               1991 non-null   object\n",
         " 3   Temp                                1991 non-null   object\n",
         " 4   D.O. (mg/l)                         1991 non-null   object\n",
         " 5   PH                                  1991 non-null   object\n",
         " 6   CONDUCTIVITY (µmhos/cm)             1991 non-null   object\n",
         " 7   B.O.D. (mg/l)                       1991 non-null   object\n",
         " 8   NITRATENAN N+ NITRITENANN (mg/l)    1991 non-null   object\n",
         " 9   FECAL COLIFORM (MPN/100ml)          1991 non-null   object\n",
         " 10  TOTAL COLIFORM (MPN/100ml)Mean      1991 non-null   object\n",
         " 11  year                                1991 non-null   int64 \n",
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       "PH                                    float64\n",
       "CONDUCTIVITY (µmhos/cm)               float64\n",
       "B.O.D. (mg/l)                         float64\n",
       "NITRATENAN N+ NITRITENANN (mg/l)      float64\n",
       "TOTAL COLIFORM (MPN/100ml)Mean        float64\n",
       "year                                    int64\n",
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       "Temp                                  False\n",
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       "PH                                    False\n",
       "CONDUCTIVITY (µmhos/cm)               False\n",
       "B.O.D. (mg/l)                         False\n",
       "NITRATENAN N+ NITRITENANN (mg/l)      False\n",
       "FECAL COLIFORM (MPN/100ml)            False\n",
       "TOTAL COLIFORM (MPN/100ml)Mean        False\n",
       "year                                  False\n",
       "dtype: bool"
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        "D.O. (mg/l)                          float64\n",
        "PH                                   float64\n",
        "CONDUCTIVITY (µmhos/cm)              float64\n",
        "B.O.D. (mg/l)                        float64\n",
        "NITRATENAN N+ NITRITENANN (mg/l)     float64\n",
        "TOTAL COLIFORM (MPN/100ml)Mean       float64\n",
        "year                                   int64\n",
        "dtype: object"
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      "Temp                                 0\n",
      "D.O. (mg/l)                          0\n",
      "PH                                   0\n",
      "CONDUCTIVITY (µmhos/cm)              0\n",
      "B.O.D. (mg/l)                        0\n",
      "NITRATENAN N+ NITRITENANN (mg/l)     0\n",
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      "year                                 0\n",
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```json
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       "LOCATIONS                               object\n",
       "STATE                                   object\n",
       "Temp                                    object\n",
       "D.O. (mg/l)                             object\n",
       "PH                                      object\n",
       "CONDUCTIVITY (µmhos/cm)                 object\n",
       "B.O.D. (mg/l)                           object\n",
       "NITRATENAN N+ NITRITENANN (mg/l)        object\n",
       "FECAL COLIFORM (MPN/100ml)              object\n",
       "TOTAL COLIFORM (MPN/100ml)Mean          object\n",
       "year                                     int64\n",
       "dtype: object"
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        "STATE   object\n",
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        "PH   float64\n",
        "CONDUCTIVITY (µmhos/cm)   float64\n",
        "B.O.D. (mg/l)   float64\n",
        "NITRATENAN N+ NITRITENANN (mg/l)   float64\n",
        "FECAL COLIFORM (MPN/100ml)   object\n",
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        "year   int64\n",
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     "data['D.O. (mg/l)']=pd.to_numeric(data['D.O. (mg/l)'],errors='coerce')\n",
     "data['PH']=pd.to_numeric(data['PH'],errors='coerce')\n",
     "data['B.O.D. (mg/l)']=pd.to_numeric(data['B.O.D. (mg/l)'],errors='coerce')\n",
     "data['CONDUCTIVITY (µmhos/cm)']=pd.to_numeric(data['CONDUCTIVITY (µmhos/cm)'],errors='coerce')\n",
     "data['NITRATENAN N+ NITRITENANN (mg/l)']=pd.to_numeric(data['NITRATENAN N+ NITRITENANN (mg/l)'],errors='coerce')\n",
     "data['TOTAL COLIFORM (MPN/100ml)Mean']=pd.to_numeric(data['TOTAL COLIFORM (MPN/100ml)Mean'],errors='coerce')\n",
     "data.dtypes"
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          "LOCATIONS                           0\n",
          "STATE                               0\n",
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          "D.O. (mg/l)                        31\n",
          "PH                                  8\n",
          "CONDUCTIVITY (µmhos/cm)            25\n",
          "B.O.D. (mg/l)                      43\n",
          "NITRATENAN N+ NITRITENANN (mg/l)  225\n",
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       "data['D.O. (mg/l)'].fillna(data['D.O. (mg/l)'].mean(),inplace=True)\n",
       "data['PH'].fillna(data['PH'].mean(),inplace=True)\n",
```

```
      "data['CONDUCTIVITY (µmhos/cm)'].fillna(data['CONDUCTIVITY
(µmhos/cm)'].mean(),inplace=True)\n",
      "data['B.O.D. (mg/l)'].fillna(data['B.O.D. (mg/l)'].mean(),inplace=True)\n",
      "data['NITRATENAN N+ NITRITENANN (mg/l)'].fillna(data['NITRATENAN N+
NITRITENANN (mg/l)'].mean(),inplace=True)\n",
      "data['TOTAL COLIFORM (MPN/100ml)Mean'].fillna(data['TOTAL COLIFORM
(MPN/100ml)Mean'].mean(),inplace=True)"
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     "data=data.rename(columns = {'CONDUCTIVITY (µmhos/cm)': 'co'})\n",
     "data=data.rename(columns = {'B.O.D. (mg/l)': 'bod'})\n",
     "data=data.rename(columns = {'NITRATENAN N+ NITRITENANN (mg/l)': 'na'})\n",
     "data=data.rename(columns = {'TOTAL COLIFORM (MPN/100ml)Mean': 'tc'})\n",
     "data=data.rename(columns = {'STATION CODE': 'station'})\n",
     "data=data.rename(columns = {'LOCATIONS': 'location'})\n",
     "data=data.rename(columns = {'STATE': 'state'})\n",
     "data=data.rename(columns = {'PH': 'ph'})"
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