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    "import pandas as pd"
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    "survival Survival (0 = No; 1 = Yes)  \n",
    "name Name  \n",
    "sex Sex  \n",
    "age Age  \n",
    "sibsp Number of Siblings/Spouses Aboard  \n",
    "parch Number of Parents/Children Aboard  \n",
    "ticket Ticket Number  \n",
    "fare Passenger Fare (British pound)  \n",
    "cabin Cabin  \n",
    "embarked Port of Embarkation (C = Cherbourg; Q = Queenstown; S = Southampton)  \n",
    "boat Lifeboat  \n",
    "body Body Identification Number  \n",
    "home.dest Home/Destination"
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  "df.shape"
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```

```
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"      <th>Insulin</th>\n",
"      <th>BMI</th>\n",
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        "\n",
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        "      <th>SkinThickness</th>\n",
```

```
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```

```
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      "\n",
      "     DiabetesPedigreeFunction  Age  Outcome  \n",
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     " 1   Glucose                   768 non-null    int64  \n",
     " 2   BloodPressure             768 non-null    int64  \n",
     " 3   SkinThickness             768 non-null    int64  \n",
     " 4   Insulin                   768 non-null    int64  \n",
     " 5   BMI                       768 non-null    float64\n",
     " 6   DiabetesPedigreeFunction  768 non-null    float64\n",
     " 7   Age                       768 non-null    int64  \n",
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  no\n",
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        "BloodPressure               47\n",
        "SkinThickness               51\n",
        "Insulin                    186\n",
        "BMI                        248\n",
        "DiabetesPedigreeFunction   517\n",
        "Age                         52\n",
        "Outcome                      2\n",
        "dtype: int64"
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    ],
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     "#revisa cuántos valores únicos tiene cada atributo del archivo usando la función nunique()\n",
     "df.nunique()"
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        "\n",
```

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"      <th>Insulin</th>\n",
"      <th>BMI</th>\n",
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      "std       3.369578   31.972618      19.355807      15.952218  115.244002   \n",
      "min       0.000000    0.000000       0.000000       0.000000    0.000000   \n",
```

```
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        "50%       3.000000  117.000000      72.000000      23.000000   30.500000   \n",
        "75%       6.000000  140.250000      80.000000      32.000000  127.250000   \n",
        "max      17.000000  199.000000     122.000000      99.000000  846.000000   \n",
        "\n",
        "              BMI  DiabetesPedigreeFunction         Age     Outcome  \n",
        "count  768.000000                768.000000  768.000000  768.000000  \n",
        "mean    31.992578                  0.471876   33.240885    0.348958  \n",
        "std      7.884160                  0.331329   11.760232    0.476951  \n",
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     "df.describe()"
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     "df.Pregnancies.unique()"
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        "       189, 166, 100, 118, 107, 103, 126,  99, 196, 119, 143, 147,  97,\n",
        "       145, 117, 109, 158,  88,  92, 122, 138, 102,  90, 111, 180, 133,\n",
        "       106, 171, 159, 146,  71, 105, 101, 176, 150,  73, 187,  84,  44,\n",
        "       141, 114,  95, 129,  79,   0,  62, 131, 112, 113,  74,  83, 136,\n",
        "        80, 123,  81, 134, 142, 144,  93, 163, 151,  96, 155,  76, 160,\n",
        "       124, 162, 132, 120, 173, 170, 128, 108, 154,  57, 156, 153, 188,\n",
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        "        91, 165,  86, 193, 191, 161, 167,  77, 182, 157, 178,  61,  98,\n",
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     "df.Glucose.unique()"
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     "df.Outcome.unique()"
```

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    "\n",
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      "Median_pregnancies: 3.0\n",
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      "Name: Pregnancies, dtype: int64\n"
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    "#Pregnancies\n",
    "#Se puede obtener la media, mediana y moda para\n",
    "mean_pregnancies = df['Pregnancies'].mean()\n",
    "median_pregnancies = df['Pregnancies'].median()\n",
    "mode_pregnancies = df['Pregnancies'].mode()\n",
    "print(\"Mean_pregnancies:\",mean_pregnancies)\n",
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    "print(\"Mode_pregnancies:\",mode_pregnancies)"
   ]
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    "El promedio de embarazos fue de 3  \n",
    "La cantidad de embarazos al centro es 3  \n",
    "La cantidad de embarazos más repetida fue de 0 y 1"
   ]
  },
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        "Mode_glucose: 0     99\n",
        "1    100\n",
        "Name: Glucose, dtype: int64\n"
       ]
      }
     ],
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      "#Se puede obtener la media, mediana y moda para\n",
      "mean_glucose = df['Glucose'].mean()\n",
      "median_glucose = df['Glucose'].median()\n",
      "mode_glucose = df['Glucose'].mode()\n",
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      "print(\"Median_glucose:\",median_glucose)\n",
      "print(\"Mode_glucose:\",mode_glucose)"
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      "El promedio de glucosa fue de 120  \n",
      "La glucosa al centro es 117  \n",
      "La glucosa más repetida fue de 0, 1, 99 y 100"
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        "Mode_outcome: 0    0\n",
        "Name: Outcome, dtype: int64\n"
       ]
      }
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      "mean_outcome = df['Outcome'].mean()\n",
      "median_outcome = df['Outcome'].median()\n",
      "mode_outcome = df['Outcome'].mode()\n",
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     "El resultado al centro es 0  \n",
     "El resultado más repetido fue de 0"
    ]
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     "Cabe mencionar que, en las discusiones en Kaggle, se menciona que el dato \"0\" significa que el
 paciente es sano y el dato \"1\" significa que el paciente tiene diabetes. Por lo tanto, la mayoría
 de los datos indican un paciente sano."
    ]
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      "data": {
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        "1     135\n",
        "0     111\n",
        "2     103\n",
        "3      75\n",
        "4      68\n",
        "5      57\n",
        "6      50\n",
        "7      45\n",
        "8      38\n",
        "9      28\n",
        "10     24\n",
        "11     11\n",
        "13     10\n",
        "12      9\n",
        "14      2\n",
        "15      1\n",
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        "Name: count, dtype: int64"
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```

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\n",
     "# nombreDataframe.columna.value_counts()\n",
     "# nombreDataframe['columna'].value_counts()\n",
     "df.Pregnancies.value_counts()"
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      "data": {
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        "99     17\n",
        "100    17\n",
        "111    14\n",
        "129    14\n",
        "125    14\n",
        "       ..\n",
        "191     1\n",
        "177     1\n",
        "44      1\n",
        "62      1\n",
        "190     1\n",
        "Name: count, Length: 136, dtype: int64"
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\n",
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     "# nombreDataframe['columna'].value_counts()\n",
     "df.Glucose.value_counts()"
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      "data": {
       "text/plain": [
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        "0    500\n",
        "1    268\n",
        "Name: count, dtype: int64"
       ]
      },
      "execution_count": 26,
```

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\n",
     "# nombreDataframe.columna.value_counts()\n",
     "# nombreDataframe['columna'].value_counts()\n",
     "df.Outcome.value_counts()"
    ]
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       "text/plain": [
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        "1     135\n",
        "0     111\n",
        "2     103\n",
        "3      75\n",
        "4      68\n",
        "5      57\n",
        "6      50\n",
        "7      45\n",
        "8      38\n",
        "9      28\n",
        "10     24\n",
        "11     11\n",
        "13     10\n",
        "12      9\n",
        "14      2\n",
        "15      1\n",
        "17      1\n",
        "Name: count, dtype: int64"
       ]
      },
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\n",
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     "# nombreDataframe['columna'].value_counts()\n",
     "df[\"Pregnancies\"].value_counts()"
    ]
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    },
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```

```
     {
      "data": {
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        "99     17\n",
        "100    17\n",
        "111    14\n",
        "129    14\n",
        "125    14\n",
        "       ..\n",
        "191     1\n",
        "177     1\n",
        "44      1\n",
        "62      1\n",
        "190     1\n",
        "Name: count, Length: 136, dtype: int64"
       ]
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     "#Para conteo  de cada valor en una columna, en orden descendente usar función value_counts():
\n",
     "# nombreDataframe.columna.value_counts()\n",
     "# nombreDataframe['columna'].value_counts()\n",
     "df[\"Glucose\"].value_counts()"
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    },
    "outputs": [
     {
      "data": {
       "text/plain": [
        "Outcome\n",
        "0    500\n",
        "1    268\n",
        "Name: count, dtype: int64"
       ]
      },
      "execution_count": 29,
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      "output_type": "execute_result"
     }
    ],
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\n",
     "# nombreDataframe.columna.value_counts()\n",
     "# nombreDataframe['columna'].value_counts()\n",
     "df[\"Outcome\"].value_counts()"
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    "source": [
     "# Crear variable totalPregDiabetic que incluya la suma de las columnas Pregnancies y Outcome con
valor \"1\"\n",
     "# Mostrar el total por cada tamaño de familia\n",
     "conteo_preg = df[\"Pregnancies\"].count()\n",
     "conteo_outcome = (df[\"Outcome\"] == 1).sum()\n",
     "df[\"totalPregDiabetic\"] = df[\"Pregnancies\"] + (df[\"Outcome\"] == 1).astype(int)"
    ]
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Insulin   BMI  \\\n",
        "0              6      148             72             35        0  33.6   \n",
        "1              1       85             66             29        0  26.6   \n",
        "2              8      183             64              0        0  23.3   \n",
        "3              1       89             66             23       94  28.1   \n",
        "4              0      137             40             35      168  43.1   \n",
        "..           ...      ...            ...            ...      ...   ...   \n",
        "763           10      101             76             48      180  32.9   \n",
        "764            2      122             70             27        0  36.8   \n",
        "765            5      121             72             23      112  26.2   \n",
        "766            1      126             60              0        0  30.1   \n",
        "767            1       93             70             31        0  30.4   \n",
        "\n",
        "     DiabetesPedigreeFunction  Age  Outcome  totalPregDiabetic  \n",
        "0                       0.627   50        1                  7  \n",
        "1                       0.351   31        0                  1  \n",
        "2                       0.672   32        1                  9  \n",
        "3                       0.167   21        0                  1  \n",
        "4                       2.288   33        1                  1  \n",
        "..                        ...  ...      ...                ...  \n",
        "763                     0.171   63        0                 10  \n",
        "764                     0.340   27        0                  2  \n",
        "765                     0.245   30        0                  5  \n",
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         "Glucose                     148.000\n",
         "BloodPressure                72.000\n",
         "SkinThickness                35.000\n",
         "Insulin                       0.000\n",
         "BMI                          33.600\n",
         "DiabetesPedigreeFunction      0.627\n",
         "Age                          50.000\n",
         "Outcome                       1.000\n",
         "totalPregDiabetic             7.000\n",
         "Name: 0, dtype: float64"
        ]
       },
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      "# Acceder a la primera fila\n",
      "df.iloc[0]"
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"      <th>Glucose</th>\n",
"      <th>BloodPressure</th>\n",
"      <th>SkinThickness</th>\n",
"      <th>Insulin</th>\n",
"      <th>BMI</th>\n",
"      <th>DiabetesPedigreeFunction</th>\n",
"      <th>Age</th>\n",
"      <th>Outcome</th>\n",
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"  </thead>\n",
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"      <td>29</td>\n",
"      <td>0</td>\n",
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"      <td>183</td>\n",
"      <td>64</td>\n",
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"      <td>0</td>\n",
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```
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        "0            6      148             72             35        0  33.6   \n",
        "1            1       85             66             29        0  26.6   \n",
        "2            8      183             64              0        0  23.3   \n",
        "\n",
        "   DiabetesPedigreeFunction  Age  Outcome  totalPregDiabetic  \n",
        "0                     0.627   50        1                  7  \n",
        "1                     0.351   31        0                  1  \n",
        "2                     0.672   32        1                  9  "
       ]
      },
      "execution_count": 45,
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    ],
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        "\n",
        "    .dataframe thead th {\n",
        "        text-align: right;\n",
        "    }\n",
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