

```

import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
(pd.set_option('future.no_silent_downcasting', True
.I put this line in to hide the warning about pandas updates #

} = raw
, ["?", "age": [25, "N/A", 40, 33"
,[income": [50000, 60000, None, "unknown", 80000"
,[churned": [0, 1, 0, 1, 0"
{

(df = pd.DataFrame(raw

(df.replace(["N/A", "?", "unknown"], np.nan, inplace=True
(print(df

Percentage_column1 = df["age"].isnull().sum() / len(df) * 100
Percentage_column2 = df["income"].isnull().sum() / len(df) * 100
Percentage_column3 = df["churned"].isnull().sum() / len(df) * 100
(print("Percentage of the first column:", Percentage_column1
(print("Percentage of the second column:", Percentage_column2
(print("Percentage of the third column:", Percentage_column3

Percentage_row = df.isnull().sum(axis=1) / len(df) * 100
(print("Percentage of rows:", "\n", Percentage_row

(["Version_A = df.dropna(subset=["age", "income", "churned"
(print(Version_A

:-----Version_B----- #

(df["age_missing"] = df["age"].isnull().astype(int

()mean_of_age = df["age"].mean
(df["Age after adding values."] = df["age"].fillna(mean_of_age
([".print(df["Age after adding values

(df["income_missing"] = df["income"].isnull().astype(int

()mean_of_income = df["income"].mean
df["Income after adding values."] =
(df["income"].fillna(mean_of_income
([".print(df["Income after adding values

```

```
(df["Churned_missing"] = df["churned"].isnull().astype(int)

()mean_of_churned = df["churned"].mean
df["Churned after adding values."] =
(df["churned"].fillna(mean_of_churned
([".print(df["Churned after adding values
(print(df

()mean_A = Version_A["age"].astype(float).mean

()mean_B = df["Age after adding values."].astype(float).mean

((plt.figure(figsize=(6, 4
plt.bar(['Version A', 'Version B'], [mean_A, mean_B],
(['color=['blue', 'red

('plt.title('Average Age Comparison
('plt.ylabel('Mean Age

()plt.show
```