import pandas as pd

import numpy as np

heart = pd.read\_csv("heart.csv")

heart.head()

print true false for null values

heart.isnull()

check the number of null values

heart.isnull().sum()

add null value

heart.loc[1,"Age"] = np.nan

check again number of null values

heart.isnull().sum()

heart.loc[4,"Age"] = np.nan

heart.loc[5,"Age"] = np.nan

heart.head()

heart.shape

check not null values

heart.notnull().sum()

drop row containing na values

heart\_drop = heart.dropna(axis=0)

heart\_drop.shape

drop columns containing na values

heart\_drop = heart.dropna(axis=1)

heart\_drop.shape

drop rows with atleast one na value

heart\_drop = heart.dropna(how = "any")

heart\_drop.shape

drop rows if and only if every element is na

heart\_drop = heart.dropna(how = "all")

heart\_drop.shape

if there are not more than 5 notnull values row will drop.

heart\_drop = heart.dropna(thresh = 5)

heart\_drop.shape

heart\_drop = heart.dropna(thresh = 20)

heart\_drop.shape

heart\_drop = heart.dropna(subset = ["Age" , "ID"])

heart\_drop.shape

heart\_drop = heart.dropna(subset = ["Gender" , "ID"])

heart\_drop.shape

fill na values with -1.

heart.fillna(-1)

new\_data = pd.read\_csv("fillna.csv")

new\_data.head()

new\_data.fillna(-1)

mean of age for new data

meanofa = new\_data["Age"].mean()

print(meanofa)

add mean of age of new data to clo age in na values.

new\_data["Age"].fillna(new\_data["Age"].mean())

cal salary median

medianofs = new\_data["Salary"].median()

print(medianofs)

add salary median to na values of salary.

new\_data["Salary"].fillna(new\_data["Salary"].median())

add unknown to na values in state column.

new\_data["State"].fillna("Unknown")

backward fill joining date.

new\_data["Joining\_Date"].bfill()

forward fill joining data.

new\_data["Joining\_Date"].ffill()

new\_data["Salary"].ffill()

check mean after forward fill.

new\_data["Salary"].ffill().mean()

new\_data["Salary"].bfill()

cal mean after backward fill.

new\_data["Salary"].bfill().mean()