Assignment25: Session 25 Machine Learning 6

**2. Problem Statement**

In this assignment students need to predict whether a person makes over 50K per year

or not from classic adult dataset using XGBoost. The description of the dataset is as

follows:

Data Set Information:

Extraction was done by Barry Becker from the 1994 Census database. A set of

reasonably clean records was extracted using the following conditions: ((AAGE>16) &&

(AGI>100) && (AFNLWGT>1)&& (HRSWK>0))

Attribute Information:

Listing of attributes:

>50K, <=50K.

age: continuous.

workclass: Private, Self-emp-not-inc, Self-emp-inc, Federal-gov, Local-gov, State-gov,

Without-pay, Never-worked.

fnlwgt: continuous.

education: Bachelors, Some-college, 11th, HS-grad, Prof-school, Assoc-acdm, Assoc-voc,

9th, 7th-8th, 12th, Masters, 1st-4th, 10th, Doctorate, 5th-6th, Preschool.

education-num: continuous.

marital-status: Married-civ-spouse, Divorced, Never-married, Separated, Widowed,

Married-spouse-absent, Married-AF-spouse.

occupation: Tech-support, Craft-repair, Other-service, Sales, Exec-managerial, Profspecialty,

Handlers-cleaners, Machine-op-inspct, Adm-clerical, Farming-fishing,

Transport-moving, Priv-house-serv, Protective-serv, Armed-Forces.

relationship: Wife, Own-child, Husband, Not-in-family, Other-relative, Unmarried.

race: White, Asian-Pac-Islander, Amer-Indian-Eskimo, Other, Black.

sex: Female, Male.

capital-gain: continuous.

capital-loss: continuous.

hours-per-week: continuous.

native-country: United-States, Cambodia, England, Puerto-Rico, Canada, Germany,

Outlying-US(Guam-USVI-etc), India, Japan, Greece, South, China, Cuba, Iran, Honduras,

Philippines, Italy, Poland, Jamaica, Vietnam, Mexico, Portugal, Ireland, France,

Dominican-Republic, Laos, Ecuador, Taiwan, Haiti, Columbia, Hungary, Guatemala,

Nicaragua, Scotland, Thailand, Yugoslavia, El-Salvador, Trinadad&Tobago, Peru, Hong,

Holand-Netherlands.

Following is the code to load required libraries and data:

import numpy as np

import pandas as pd

train\_set = pd.read\_csv('http://archive.ics.uci.edu/ml/machine-learningdatabases/

adult/adult.data', header = None)

test\_set = pd.read\_csv('http://archive.ics.uci.edu/ml/machine-learningdatabases/

adult/adult.test', skiprows = 1, header = None)

col\_labels = ['age', 'workclass', 'fnlwgt', 'education', 'education\_num', 'marital\_status',

'occupation','relationship', 'race', 'sex', capital\_gain', 'capital\_loss', 'hours\_per\_week',

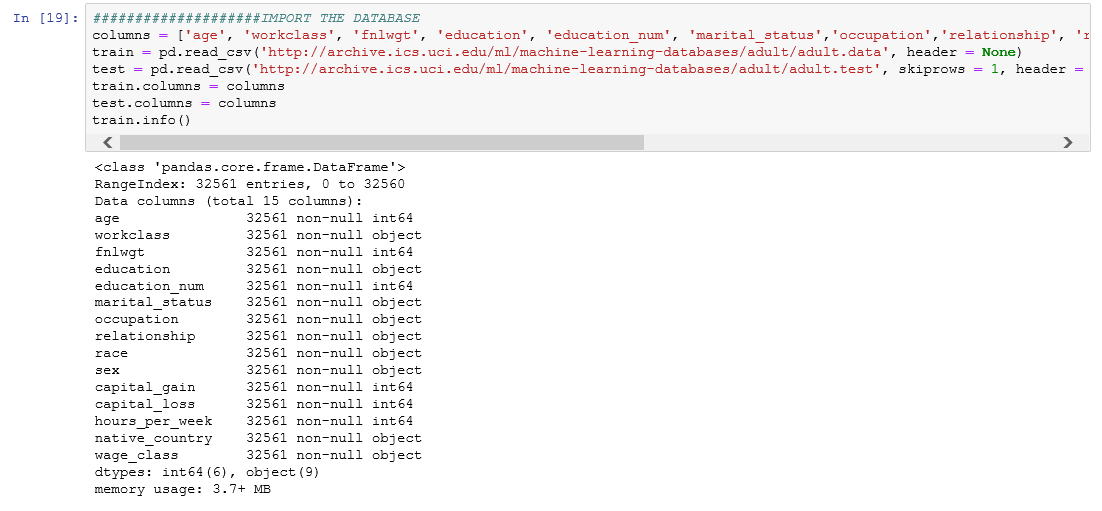
'native\_country', 'wage\_class']

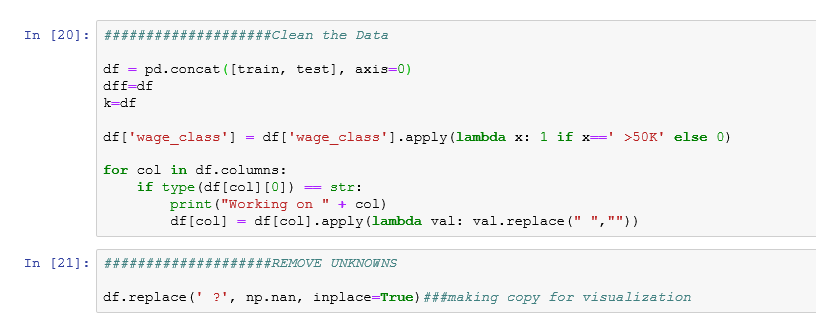
train\_set.columns = col\_labels

test\_set.columns = col\_labels

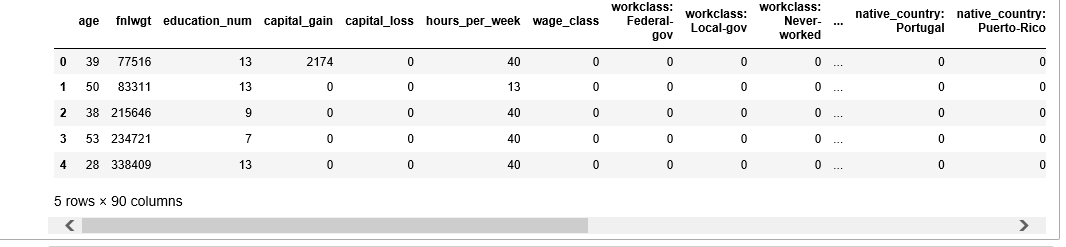
**3. Output**

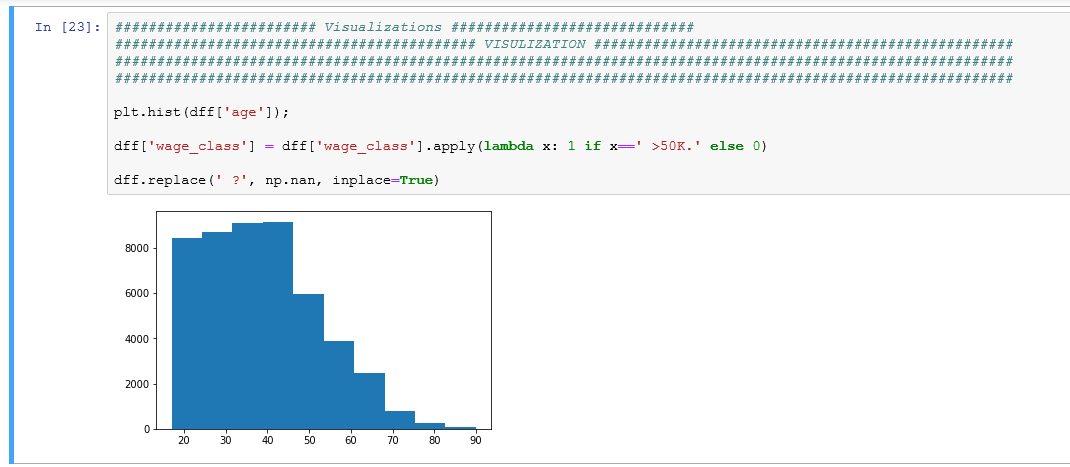
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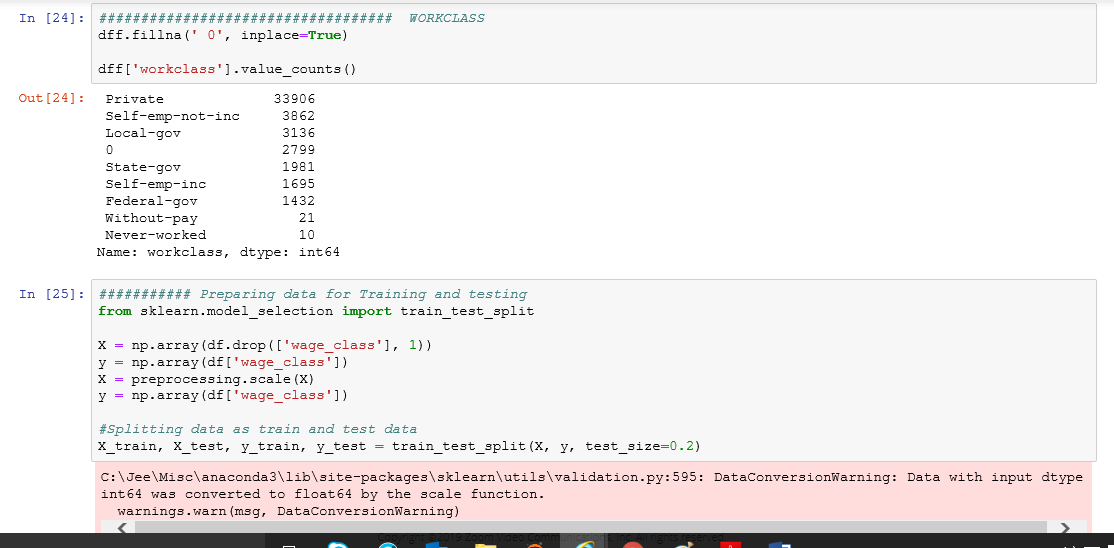
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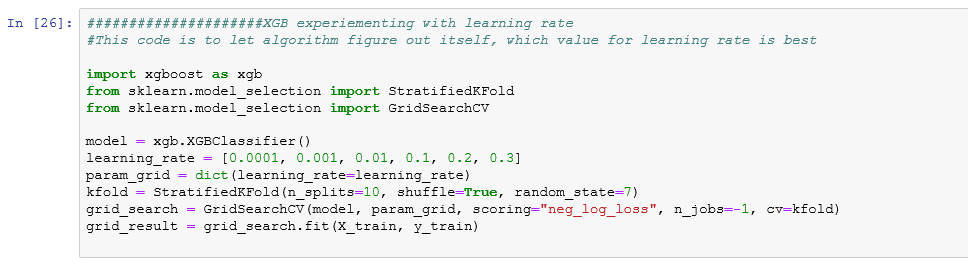
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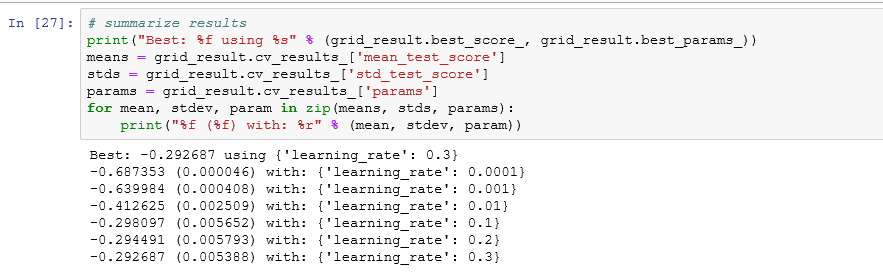
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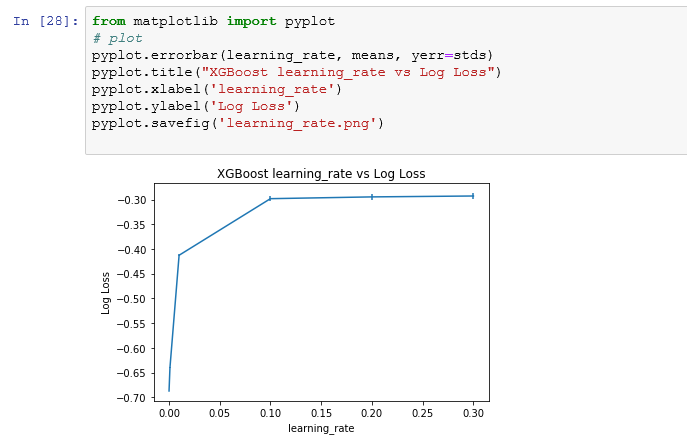
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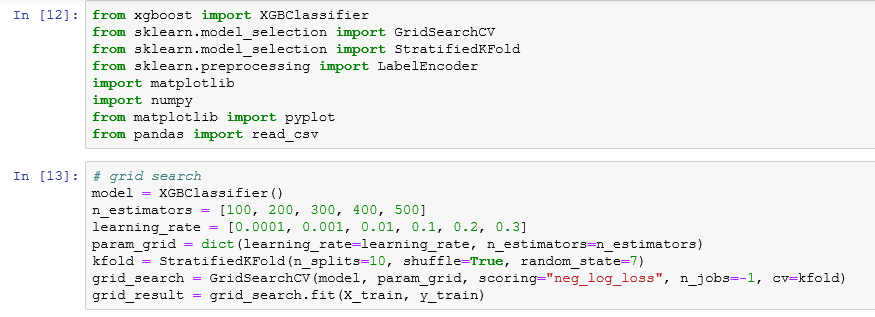
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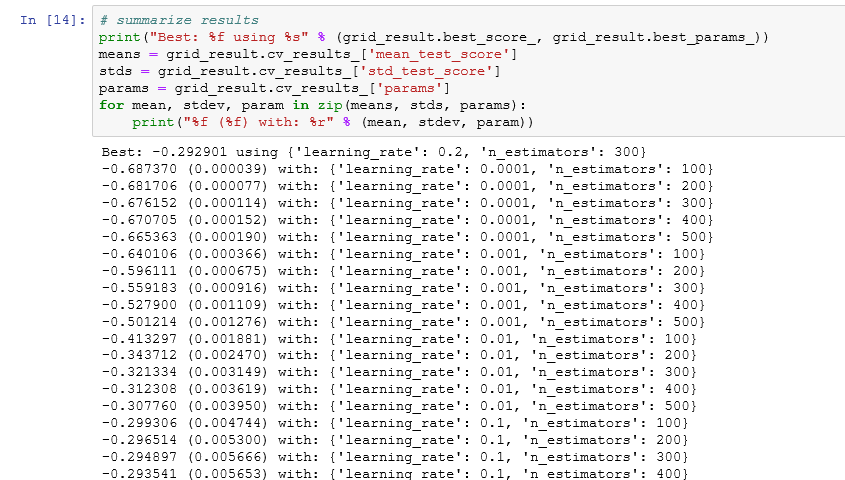
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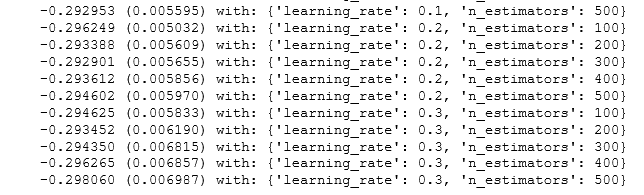
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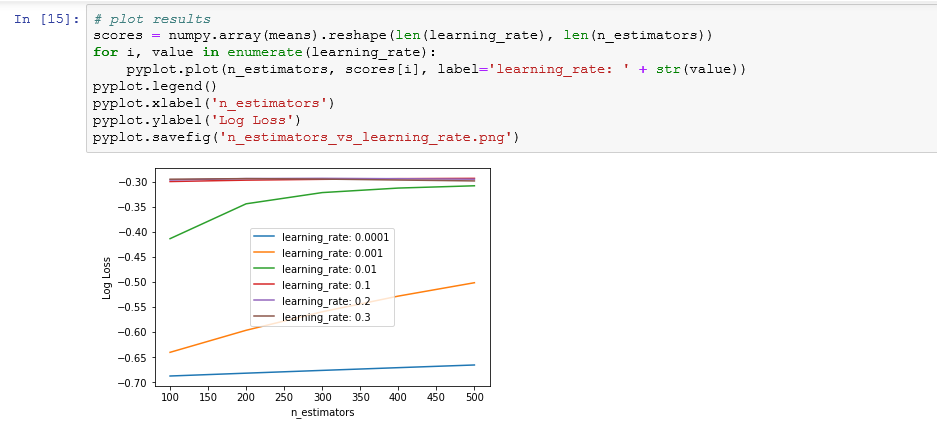
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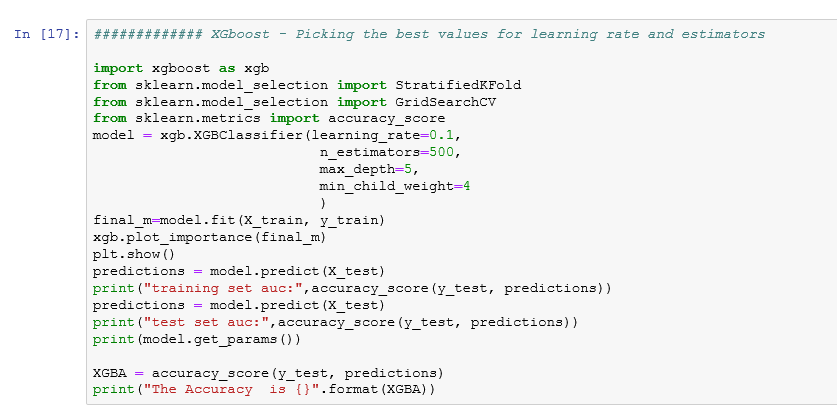
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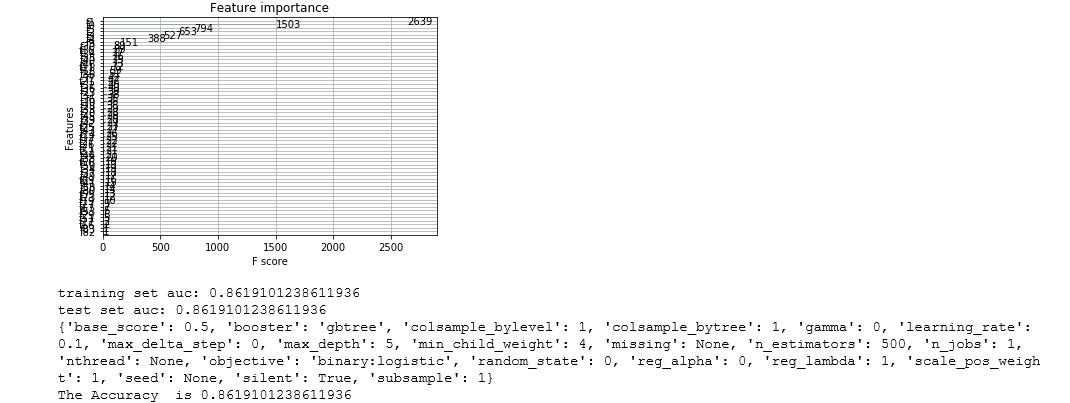
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