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Class: TYCSE  
SET Lab (ATU)

PRN: 2019BTECS00076  
Batch: T7  
Assignment-2

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Date: 14<sup>th</sup> Feb 2022

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## Q. 1. Node

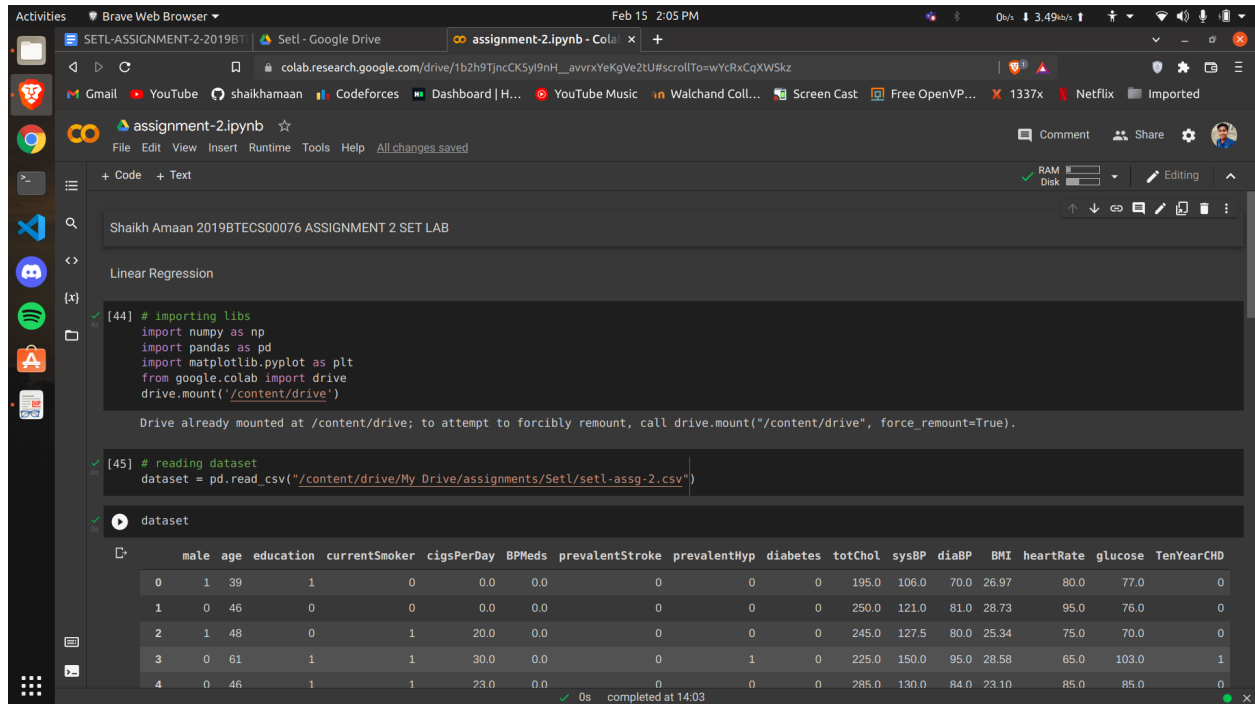
1. **Original author:** Ryan Dahl
2. **Developers:** OpenJs Foundation
3. **Initial release:** 27 May 2009
4. **Stable release:** 17.4.0
5. **Preview release:** 16.14.0
6. **Repository (with cloud support ):** <https://github.com/nodejs/node>
7. **Written in (Languages):** C, C++, JavaScript
8. **Operating System support:** z/OS, Linux, macOS, Microsoft Windows, SmartOS, FreeBSD, OpenBSD, IBM AIX
9. **Platform, portability:** All Platforms and portable
10. **Available in (Total languages):** Javascript only
11. **List of languages supported:** Javascript only
12. **Type (Programming tool, integrated development environment etc.):** Javascript runtime environment
13. **Website:** <https://nodejs.org/>
14. **Features:**
  - A. Cross-platform compatibility.
  - B. The convenience of using one coding language.
  - C. V8 Engine.
  - D. Facilitates quick deployment and microservice development.
  - E. Scalable.
  - F. Commendable data processing ability.
  - G. Active open-source community.

H. Additional functionality of NPM.

- 15. Size (in MB, GB etc.):** 436MB
- 16. Privacy and Security:** The basis of Node is javascript so it is secure as compared to others but also it is susceptible to security exposures.
- 17. Type of software (Open source/License):** Open source
- 18. If License- Provide details:**  
<https://github.com/nodejs/node/blob/master/LICENSE>
- 19. Latest version:** 17.5.0
- 20. Cloud support (Yes/No):** Yes
- 21. Applicability:** Used in designing backend applications
- 22. Drawbacks:**
  - I. Reduces performance when handling Heavy Computing Tasks.
  - II. Node.js invites a lot of code changes due to Unstable API.
  - III. Node.js Asynchronous Programming Model makes it difficult to maintain code.
  - IV. Choose Wisely – Lack of Library Support can Endanger your Code.

## Q. 2. Implement linear regression problem using Google colab (Perform preprocessing, training and testing)

<https://www.kaggle.com/spittman1248/cdc-data-nutrition-physical-activity-obesity>



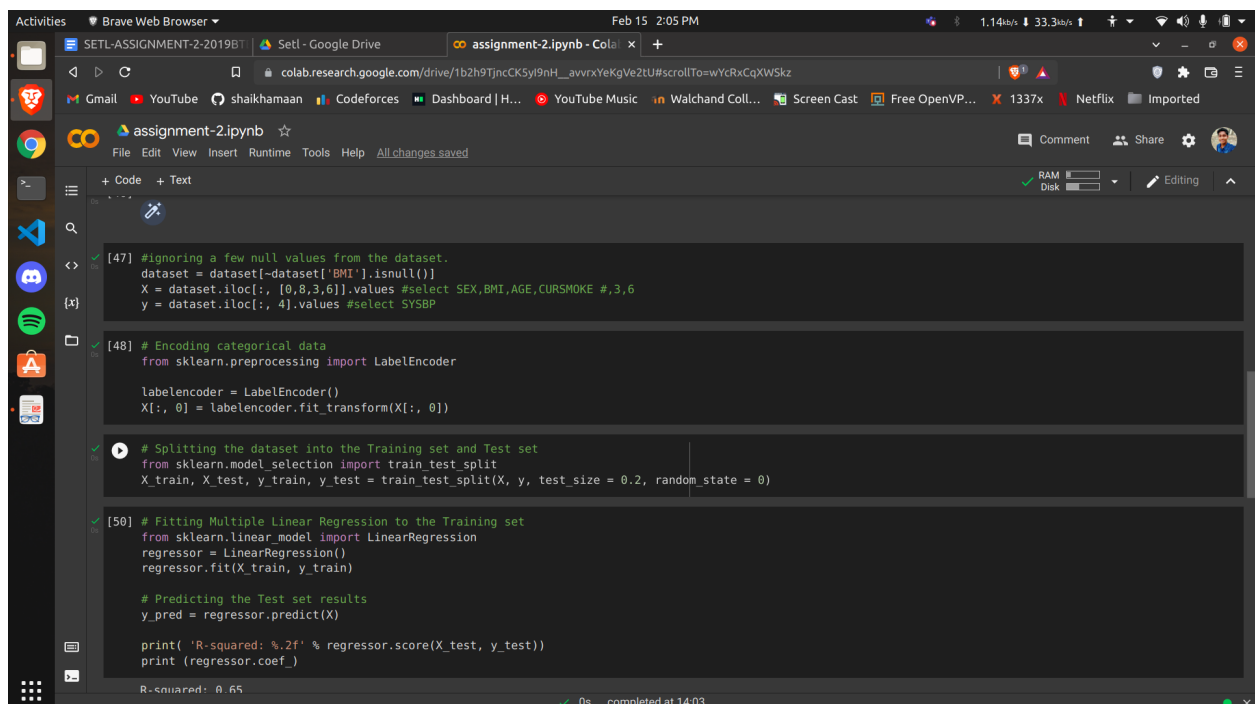
```
[44] # importing libs
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from google.colab import drive
drive.mount('/content/drive')

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

[45] # reading dataset
dataset = pd.read_csv("/content/drive/My Drive/assignments/Set1/setl-assg-2.csv")

dataset
```

	male	age	education	currentSmoker	cigsPerDay	BPMeds	prevalentStroke	prevalentHyp	diabetes	totChol	sysBP	diaBP	BMI	heartRate	glucose	TenYearCHD
0	1	39	1	0	0.0	0.0	0	0	0	195.0	106.0	70.0	26.97	80.0	77.0	0
1	0	46	0	0	0.0	0.0	0	0	0	250.0	121.0	81.0	28.73	95.0	76.0	0
2	1	48	0	1	20.0	0.0	0	0	0	245.0	127.5	80.0	25.34	75.0	70.0	0
3	0	61	1	1	30.0	0.0	0	1	0	225.0	150.0	95.0	28.58	65.0	103.0	1
4	0	46	1	1	23.0	0.0	0	0	0	285.0	130.0	84.0	23.10	85.0	85.0	0



```
[47] #ignoring a few null values from the dataset.
dataset = dataset[-dataset['BMI'].isnull()]
X = dataset.iloc[:, [0,8,3,6]].values #select SEX,BMI,AGE,CURSMOKE #,3,6
y = dataset.iloc[:, 4].values #select SYSBP

[48] # Encoding categorical data
from sklearn.preprocessing import LabelEncoder

labelencoder = LabelEncoder()
X[:, 0] = labelencoder.fit_transform(X[:, 0])

# Splitting the dataset into the Training set and Test set
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.2, random_state = 0)

[50] # Fitting Multiple Linear Regression to the Training set
from sklearn.linear_model import LinearRegression
regressor = LinearRegression()
regressor.fit(X_train, y_train)

# Predicting the Test set results
y_pred = regressor.predict(X)

print('R-squared: %.2f' % regressor.score(X_test, y_test))
print(regressor.coef_)

R-squared: 0.65
```

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SETL-ASSIGNMENT-2-2019B1 Setl - Google Drive assignment-2.ipynb - Colab

colab.research.google.com/drive/1b2h9TjncCKSyf9nH\_avvxYeKgVe2tU#scrollTo=wYcRxCqXWSkz

Gmail YouTube shaikhamaan Codeforces Dashboard | H... YouTube Music Walchand Coll... Screen Cast Free OpenVP... 1337x Netflix Imported

assignment-2.ipynb

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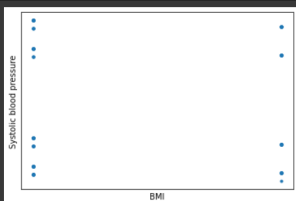
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Editing

[50] R-squared: 0.65  
[ 4.22345242 -0.96349582 17.38689608 -1.20994989]

```
fig, ax = plt.subplots()
ax.set_xticks([18.5, 24.9, 29.9], minor=False) #important values of BMI
ax.set_yticks([120, 130, 140, 180], minor=False) #important values of SysBP
ax.xaxis.grid(True, which='major', linewidth='0.5', color='red')
ax.yaxis.grid(True, which='major', linewidth='0.5', color='blue')

plt.scatter(X[:,1], y_pred, marker='.')
plt.ylabel("Systolic blood pressure")
plt.xlabel("BMI")
plt.show()
```



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