

**HOPE ARTIFICIAL INTELLIGENCE  
INTERNSHIP**

**TEAM MEMBERS**

**1)VIHAS**

**2)KARTHIKKUMAR**

**3)KESHAV KUMAR**

**Sri Sai Ram Institute of Technology,Chennai.**

**MACHINE LEARNING PROJECT**

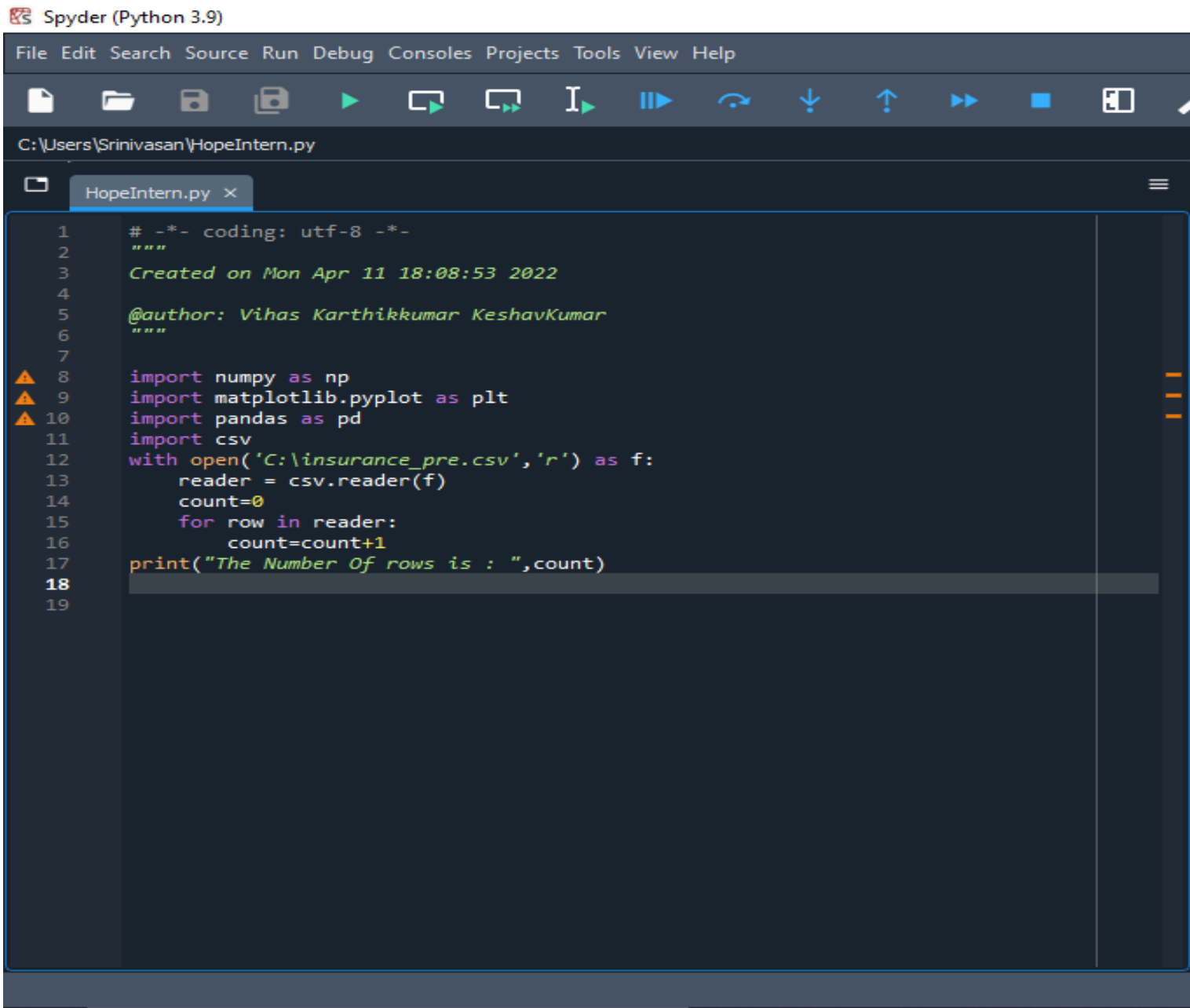
**GUIDED BY**

**Ms. RAMISHA RANI K**

**Problem Statement:-**

The dataset is provided and wanted to predict the insurance charges or insurance required for a individual based on their age,whether they are a Smoker or whether they have a unhealthy Bmi and classify based on the parameters.

## The Number of Rows:-



The image shows the Spyder Python IDE interface. The top menu bar includes File, Edit, Search, Source, Run, Debug, Consoles, Projects, Tools, View, and Help. Below the menu is a toolbar with icons for file operations and execution. The file path bar shows 'C:\Users\Srinivasan\HopeIntern.py'. The editor window has a tab labeled 'HopeIntern.py'. The code in the editor is as follows:

```
1  # -*- coding: utf-8 -*-
2  """
3  Created on Mon Apr 11 18:08:53 2022
4
5  @author: Vihas Karthikkumar KeshavKumar
6  """
7
8  import numpy as np
9  import matplotlib.pyplot as plt
10 import pandas as pd
11 import csv
12 with open('C:\insurance_pre.csv','r') as f:
13     reader = csv.reader(f)
14     count=0
15     for row in reader:
16         count=count+1
17 print("The Number Of rows is : ",count)
18
19
```

C:\Users\Srinivasan

Source Console Object

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

---

New to Spyder? Read our [tutorial](#)

Help Variable Explorer Plots Files

Console 1/A

```
In [1]: runfile('C:/Users/Srinivasan/untitled0.py', wdir='C:/Users/Srinivasan')
The Number Of rows is : 1339

In [2]:
```

IPython console History

LSP Python: ready conda: base (Python 3.9.7) Line 18, Col 1 UTF-8 CRLF RW Mem 84%

## The Number of Columns:-

Spyder (Python 3.9)

```
File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\Srinivasan\HopeIntern.py

HopeIntern.py x

1  # -*- coding: utf-8 -*-
2  """
3  Created on Mon Apr 11 18:08:53 2022
4
5  @author: Vihas Karthikkumar KeshavKumar
6  """
7
8  import numpy as np
9  import matplotlib.pyplot as plt
10 import pandas as pd
11 import csv
12 with open('C:\insurance_pre.csv','r') as f:
13     df = pd.DataFrame(columns=['age','sex','bmi','children','smoker','charges'])
14     print("The Number of Columns : ",len(df.columns))
15
```

C:\Users\Srinivasan

Source Console Object

Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

---

New to Spyder? Read our [tutorial](#)

Help Variable Explorer Plots Files

Console 1/A

```
In [17]: runfile('C:/Users/Srinivasan/HopeIntern.py', wdir='C:/Users/Srinivasan')
The Number of Columns : 6

In [18]:
```

IPython console History

LSP Python: ready conda: base (Python 3.9.7) Line 15, Col 9 UTF-8 CRLF RW Mem 79%

## KNN Nearest Neighbour

Spyder (Python 3.9)

File Edit Search Source Run Debug Consoles Projects Tools View Help

C:\Users\Srinivasan

C:\Users\Srinivasan\HopeIntern.py

```
HopeIntern.py X
21 url = 'C:\insurance_pre.csv'
22
23 # Assign column names to dataset:
24 names = ['age', 'bmi', 'charges']
25
26 # Convert dataset to a pandas dataframe:
27 dataset = pd.read_csv(url, names=names)
28
29 # Use head() function to return the first 5 rows:
30 dataset.head()
31 # Assign values to the X and y variables:
32 X = dataset.iloc[:, :].values
33 y = dataset.iloc[:, 2].values
34
35 # Split dataset into random train and test subsets:
36 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.20)
37
38 # Standardize features by removing mean and scaling to unit variance:
39 scaler = StandardScaler()
40 scaler.fit(X_train)
41
42 X_train = scaler.transform(X_train)
43 X_test = scaler.transform(X_test)
44
45 # Use the KNN classifier to fit data:
46 classifier = KNeighborsClassifier(n_neighbors=5)
47 classifier.fit(X_train, y_train)
48
49 # Predict y data with classifier:
50 y_predict = classifier.predict(X_test)
51
52 # Print results:
53 print(confusion_matrix(y_test, y_predict))
54 print(classification_report(y_test, y_predict))
55
```

Source Console Object

### Usage

Here you can get help of any object by pressing **Ctrl+H** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

New to Spyder? Read our [tutorial](#)

Help Variable Explorer Plots Files

Console 1/A X

```
File "C:\Users\Srinivasan\anaconda3\lib\site-packages\numpy\core\_asarray.py", line 102,
in asarray
    return array(a, dtype, copy=False, order=order)
```

ValueError: could not convert string to float: 'no'

In [33]:

IPython console History

LSP Python: ready conda: base (Python 3.9.7) Line 55, Col 9 UTF-8 CRLF RW Mem 78%

## Usage

Here you can get help of any object by pressing **Ctrl+I** in front of it, either on the Editor or the Console.

Help can also be shown automatically after writing a left parenthesis next to an object. You can activate this behavior in *Preferences > Help*.

New to Spyder? Read our [tutorial](#)

Help Variable Explorer Plots Files

File "C:\Users\Srinivasan\anaconda3\lib\site-packages\numpy\core\\_asarray.py", line 102, in `asarray`

return `array(a, dtype=False, order=order)`

**ValueError:** could not convert string to float: 'no'

In [33]: |

IPython console History