Lab: 07

Task 01:

```
C: > Users > Saad > Downloads > Untitled-1.py > ...
  1  import pandas as pd, scipy,numpy as np
  2  from sklearn.preprocessing import MinMaxScaler
  3  ds=pd.read_csv("C:/Users/Saad/Downloads/Job_Scheduling.csv")
  4  x=ds.iloc[:,0:1].values
  5  y=ds.iloc[:,4].values
  6  from sklearn.impute import SimpleImputer
  7  imp=SimpleImputer(missing_values=np.nan,strategy="mean")
  8  X=imp.fit_transform(x)
  9  Y=y.reshape(-1,1)
 10  Y=imp.transform(Y)
 11  Y=Y.reshape(-1)
 12  print(Y)
 13

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER

PS C:\Users\Saad> & C:/Users/Saad/AppData/Local/Programs/Python/Python39/python.exe c:/Users/Saad/Downloads/Untitled-1.py
[ 4.     4.     4.     5.     6.     5.     4.   401.625  3.
  3.     2.     2.     1.     1.     7.     7.   ]
PS C:\Users\Saad>
```

Task 02:

```
C: > Users > Saad > Downloads > Untitled-1.py > ...
  1  import pandas as pd, scipy,numpy as np
  2  from sklearn.preprocessing import MinMaxScaler
  3  ds=pd.read_csv("C:/Users/Saad/Downloads/iris.csv")
  4  x=ds.iloc[:,0:1].values
  5  y=ds.iloc[:,4].values
  6  from sklearn.impute import SimpleImputer
  7  imp=SimpleImputer(missing_values=np.nan,strategy="mean")
  8  X=imp.fit_transform(x)
  9  Y=y.reshape(-1,1)
 10  Y=imp.transform(Y)
 11  Y=Y.reshape(-1)
 12  print(Y)
 13

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER: VARIABLES

PS C:\Users\Saad> & C:/Users/Saad/AppData/Local/Programs/Python/Python39/python.exe c:/Users/Saad/Downloads/Untitled-1.py
[0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 0.2 0.2 0.1 0.1 0.2 0.4 0.4 0.3 0.3
 0.3 0.2 0.4 0.2 0.5 0.2 0.2 0.4 0.2 0.2 0.2 0.2 0.4 0.1 0.2 0.1 0.2 0.2
 0.1 0.2 0.2 0.3 0.3 0.2 0.6 0.4 0.3 0.2 0.2 0.2 0.2 1.4 1.5 1.5 1.3 1.5
 1.3 1.6 1.  1.3 1.4 1.  1.5 1.  1.4 1.3 1.4 1.5 1.  1.5 1.1 1.8 1.3 1.5
 1.2 1.3 1.4 1.4 1.7 1.5 1.  1.1 1.  1.2 1.6 1.5 1.6 1.5 1.3 1.3 1.3 1.2
 1.4 1.2 1.  1.3 1.2 1.3 1.3 1.1 1.3 2.5 1.9 2.1 1.8 2.2 2.1 1.7 1.8 1.8
 2.5 2.  1.9 2.1 2.  2.4 2.3 1.8 2.2 2.3 1.5 2.3 2.  2.  1.8 2.1 1.8 1.8
 1.8 2.1 1.6 1.9 2.  2.2 1.5 1.4 2.3 2.4 1.8 1.8 2.1 2.4 2.3 1.9 2.3 2.5
 2.3 1.9 2.  2.3 1.8]
PS C:\Users\Saad>
```

Task 03:

```python
from sklearn.neighbors import KNeighborsClassifier
from sklearn.model_selection import train_test_split
from sklearn.datasets import load_iris
import numpy as np
import matplotlib.pyplot as plt

irisData = load_iris()

# Create feature and target arrays
X = irisData.data
y = irisData.target

# Split into training and test set
X_train, X_test, y_train, y_test = train_test_split(
            X, y, test_size = 0.2, random_state=42)

neighbors = np.arange(1, 9)
train_accuracy = np.empty(len(neighbors))
test_accuracy = np.empty(len(neighbors))

# Loop over K values
for i, k in enumerate(neighbors):
    knn = KNeighborsClassifier(n_neighbors=k)
    knn.fit(X_train, y_train)

    # Compute traning and test data accuracy
    train_accuracy[i] = knn.score(X_train, y_train)
    test_accuracy[i] = knn.score(X_test, y_test)

# Generate plot
plt.plot(neighbors, test_accuracy, label = 'Testing dataset Accur
plt.plot(neighbors, train_accuracy, label = 'Training dataset Acc

plt.legend()
plt.xlabel('n_neighbors')
plt.ylabel('Accuracy')
plt.show()
```