Bahria University,

Karachi Campus



LAB EXPERIMENT NO.

08

LIST OF TASKS

|  |  |
| --- | --- |
| TASK NO | OBJECTIVE |
| 1 | **Using python implement KNN with two different splitting ratios and two different k values (i.e k=3 and k=7) on Heart Attack Analysis & prediction dataset to predict the chances of heart failure in a person and performed the following steps:**  * **Data Pre-processing step** * **Fitting KNN to the Training set** * **Predicting the test result** * **Test accuracy of the result(Creation of Confusion matrix)** * **Visualizing the test set result.**   **Compare the performance** |
|  |  |

# **Task # 1: Using python implement KNN with two different splitting ratios and two different k values (i.e k=3 and k=7) on Heart Attack Analysis & prediction dataset to predict the chances of heart failure in a person and performed the following steps:**

* **Data Pre-processing step**
* **Fitting KNN to the Training set**
* **Predicting the test result**
* **Test accuracy of the result(Creation of Confusion matrix)**
* **Visualizing the test set result.**
* **Compare the performance**





A screenshot of a computer

Description automatically generated with low confidence

**Test accuracy of the result(Creation of Confusion matrix):**

from sklearn.metrics import confusion\_matrix

conf\_matrix = confusion\_matrix(y\_true=y\_test, y\_pred=y\_pred)

fig, ax = plt.subplots(figsize=(4, 4))

ax.matshow(conf\_matrix, cmap=plt.cm.Blues, alpha=0.3)

for i in range(conf\_matrix.shape[0]):

    for j in range(conf\_matrix.shape[1]):

        ax.text(x=j, y=i,s=conf\_matrix[i, j], va='center', ha='center', size='xx-large')

plt.xlabel('Predictions', fontsize=18)

plt.ylabel('Actuals', fontsize=18)

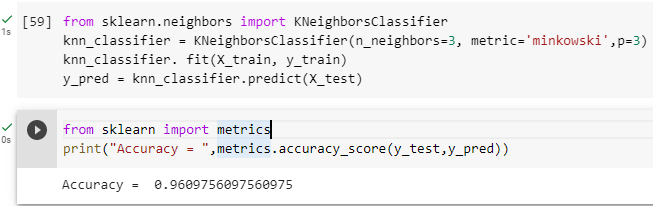
plt.title('Confusion Matrix', fontsize=18)

plt.show()

|  |  |
| --- | --- |
| **K=3** | **K=7** |

**Compare the performance**

**K=3:**



**K=7:**

