**Course – Data Analytics Open Elective**

|  |  |
| --- | --- |
| **UID** | 2021300126 |
| **Name** | Pranay Singhvi |
| **Class and Batch** | TE Computer Engineering - Batch A |
| **Date** | 13-01-2024 |
| **Lab #** | 3 |
| **Aim** | To perform Hypothesis testing t test,z test, p value /ANOVA test |
| **Data Set** | <https://www.kaggle.com/datasets/uciml/red-wine-quality-cortez-et-al-2009> |
| **Purpose** | To test different hypothesis on the given dataset |
| **Code** | T Test  Null Hypothesis (H₀): The mean alcohol content is the same for high-quality and low-quality wines.  Alternative Hypothesis (H₁): There is a significant difference in the mean alcohol content between high-quality and low-quality wines.    Z test:  Null Hypothesis (H₀): The mean pH of the wines is equal to a standard pH value of 3.  Alternative Hypothesis (H₁): The mean pH of the wines is significantly different from the standard pH value.    P Test  Null Hypothesis (H₀): There is no association between chlorides and wine quality.  Alternative Hypothesis (H₁): There is a significant association between chlorides and wine quality.    ANOVA:  Null Hypothesis (H₀): The mean alcohol content is the same across all wine quality ratings.  Alternative Hypothesis (H₁): At least one wine quality rating has a different mean alcohol content. |
| **Conclusion** | In conclusion, I have learnt to test a hypothesis using different method like t Test, z test and ANOVA |