

Department of Physics, KNUST

PHY 397 & PHY 469

19th March 2024

Duration: 40 minutes

Quiz 1

1. In your own words, explain the difference between Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL).
2. Generate a random **(2000 rows x 4 columns)** DataFrame, with the columns named as **Item1**, **Item2**, **Item3** and **Output1** respectively. With the **Output1** as your **target variable** and **Items 1 to 3** as the **features**, split the data into a training and testing dataset with a **split size of 25%** for testing. Now, apply the **Linear Regression Algorithm** and **Logistic Regression** in modeling the outcome of **Output1** for the test dataset. Compare the performance of the ML algorithms.

N/B: Ensure that your generated dataset and the portion used for training and testing remains the same at each and every new run of the code.