Connect 4

In this project you are going to use dataset for game called ***Connect 4***. Link for data: https://archive.ics.uci.edu/ml/datasets/Connect-4

Import the necessary libraries and load the dataset into panadas.

Step 1. Pre-process data

As you can notice all data is in string format, those next steps you should consider while working with this dataset:

- Encode each layer to numbers
- Split data into features and labels
- win column (class column) also encode to 0 - 1 - 2 classes
- Split data into training and testing set

Step 2. Deep Neural Netwrok

You have 42 features which is pretty much. Train a neural network to do the prediction.

Step 3. Prediction

- **KNN**
- **Logistic regression**
- **NN**

Step 4: Generate necessary graphs for visualizations using matplotlib packages.

Your report must include the followings:

a) Background of the problem

b) Detail description of Datasets (Including attributes, data types, values etc.). You must reflect your understanding of the dataset.

c) Detail explanation of KNN, Logistic regression and NN.

d) Implementation of the case in python. (Must include code in the appendix section)

e) Analysis of your result: Must explain any graphs, plots.

f) Discussion: Overall discussion on the problem and the implemented solution.