Classification Task

Task1: You have to build a neural network (NN) in Keras which predicts whether or not a patient has diabetes, based on certain diagnostic measurements included in the dataset (see the description in the following section). You have to print the accuracy, f1 score, precision and recall. Test data should contain 20% of the original data. Your NN should contain two hidden layers. Both the hidden layers use "sigmoid activation function". No of hidden units in first and second hidden layers are 500 and 100 respectively. The output layer uses softmax activation functions. Batchsize is 70 and no epochs are set to 1000.

Note: Use sklearn library for "train_test_split".

Dataset: We have used "Pima Indians Diabetes Dataset" for this task. The dataset can be downloaded from the kaggle website which can be found (https://www.kaggle.com/uciml/pima-indians-diabetes-database)

Dataset Description: Description of variables in the dataset:

- Pregnancies: Number of times pregnant
- Glucose: Plasma glucose concentration a 2 hours in an oral glucose tolerance test
- BloodPressure: Diastolic blood pressure (mm Hg)
- SkinThickness: Triceps skin fold thickness (mm)
- Insulin: 2-Hour serum insulin (mu U/ml)
- BMI: Body mass index (weight in kg/(height in m)^2)
- DiabetesPedigreeFunction: Diabetes pedigree function
- Age: Age (years)
- Outcome: Class variable (0 or 1)

(Deadline: 29/03/2021)