**DEEP LEARNING**

**PRACTICAL 2**

**Saurabh Agarwal**

**J001**

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**Aim :-**

To learn about different initializers available in Keras.

**Observations :-**

In this python notebook we worked on CIFAR10 dataset. A sequential model was created with 4 layers i.e. 1 Input layer, 1 Output layer and 2 hidden layers.

The kernel initializers used were as follows :-

1. **Random uniform** – 0.5220

2. **Ones** – 0.1

3. **Constant** – 0.1

4. **Random normal** – 0.5215

5. **Truncated normal** (gives a truncated normal distribution) – 0.5027

6. **Variance Scaling** – 0.5160

7. **Orthogonal** (creates a random orthogonal matrix) – 0.1

8. **Identity** (creates an identity matrix) – 0.2623

9. **Lecun uniform** – 0.5137

10. **Glorot normal** – 0.5113

11. **Glorot uniform** – 0.5187

12. **He normal** – 0.5139

13. **Lecun normal** – 0.51

14. **He uniform** – 0.5119

The best initializer out of the above 14 initializers is Random uniform. It has an accuracy of 0.5220.

**Conclusion :-**

Successfully learnt about the performances of these kernel initializers.