

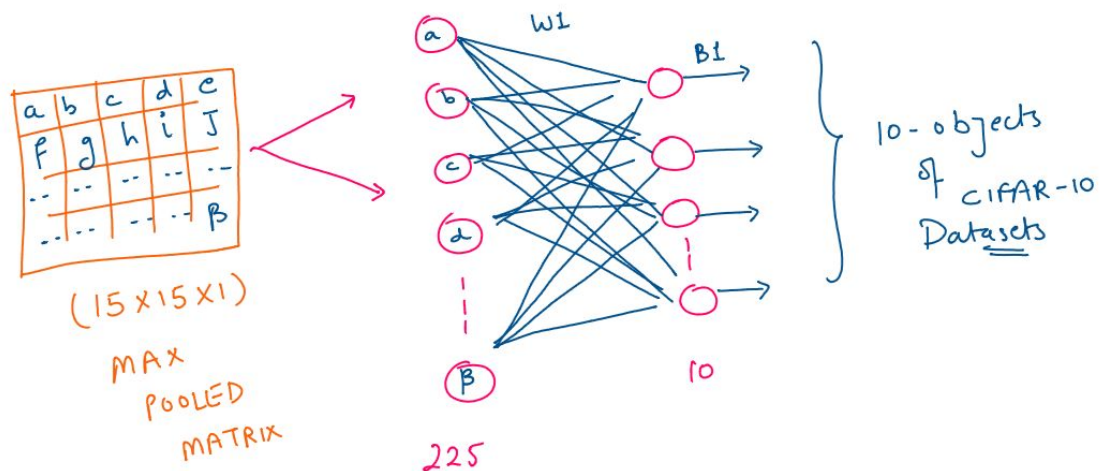
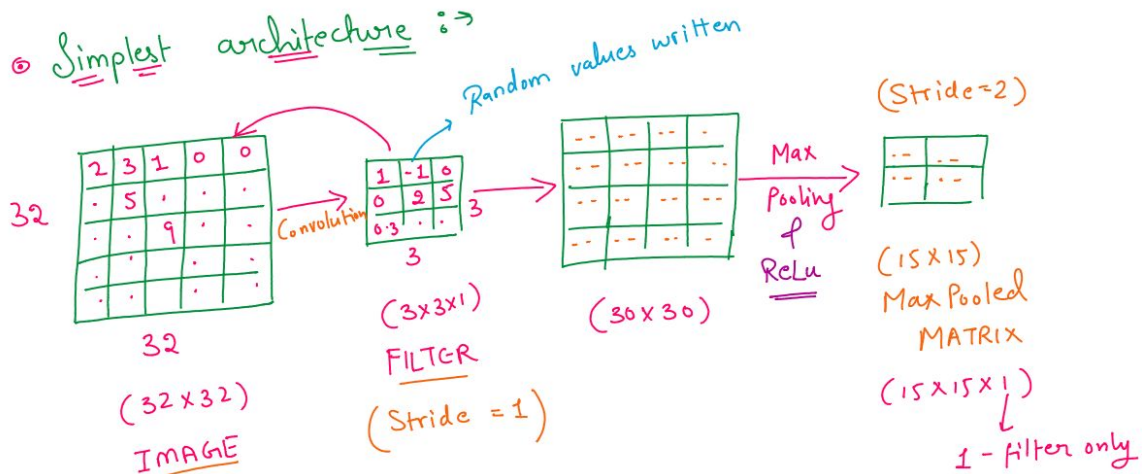
# Implementation of CNN Architecture on FPGA

## 1.) Overview Of CNN →

CNN

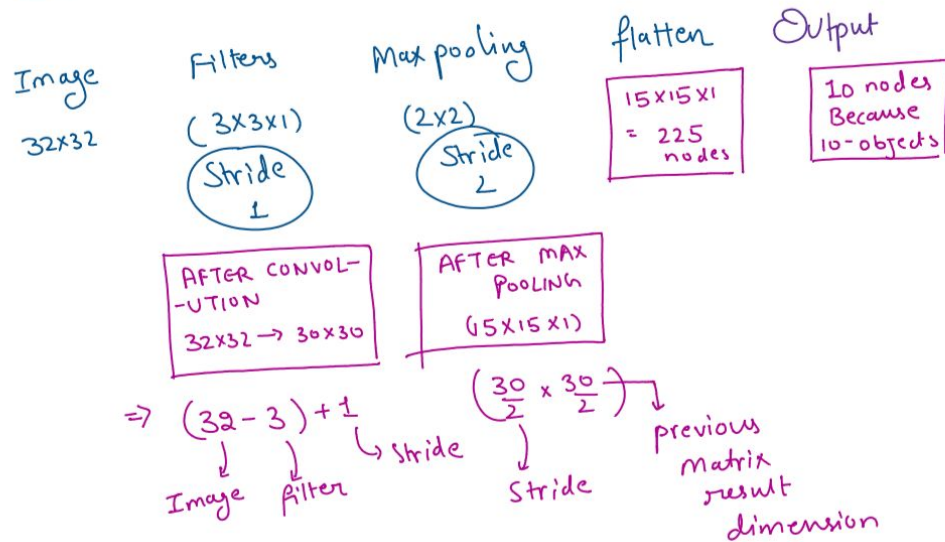
CNN IMPLEMENTATION ON FPGA (Field Programmable gate Array)

① Simplest architecture :→

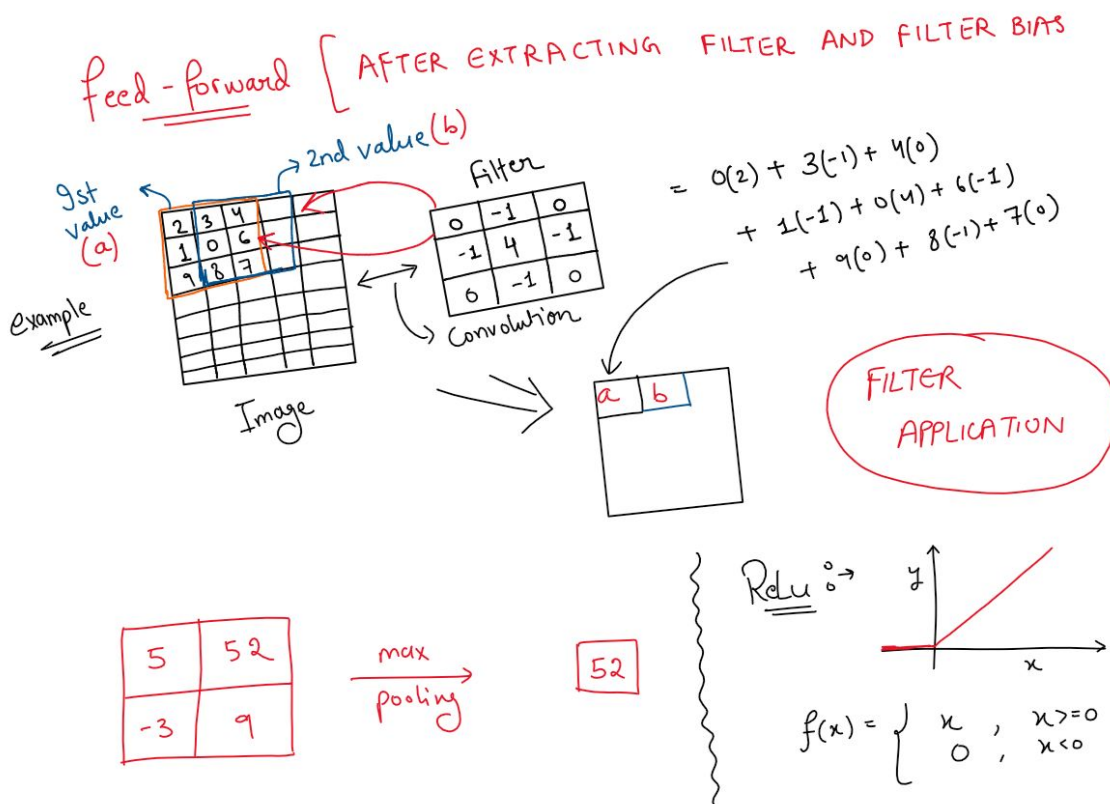


## 2.) Our Model's Matrices Dimensions →

★ OUR ARCH. DIMENSIONS :->

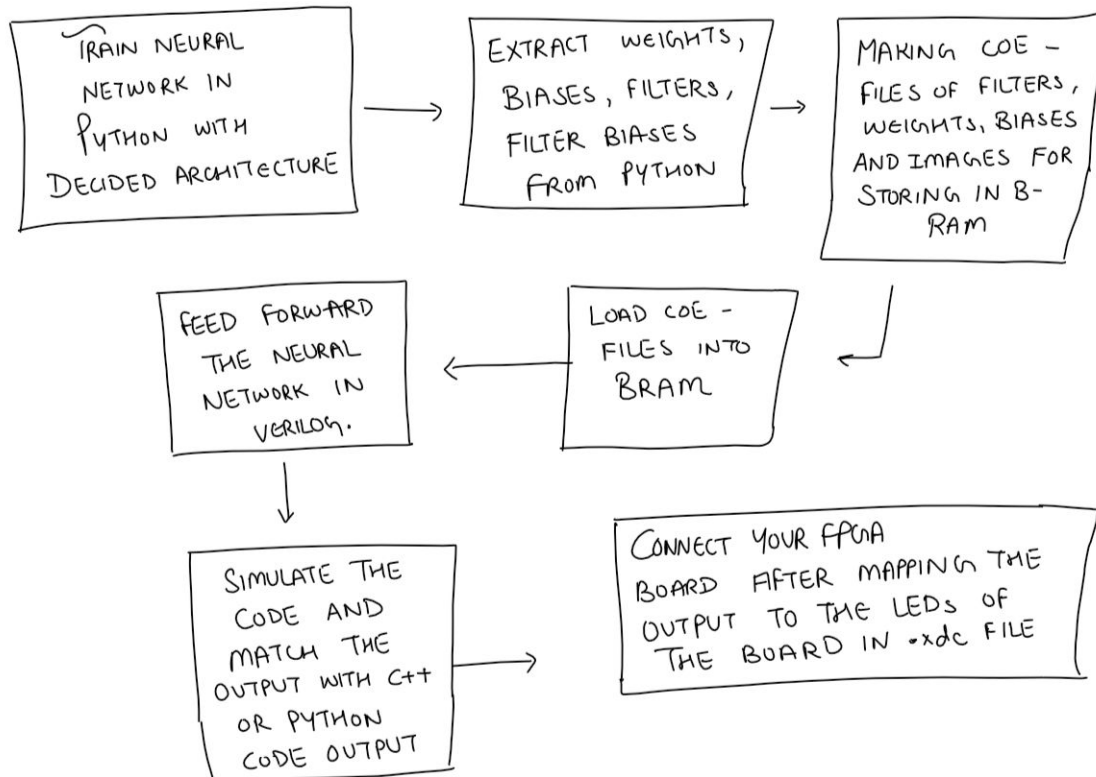


3.) Feed Forward Process (After Successfully Extracting Weights, Biases, Filters, Filter Biases, and Images) →



4.) Finally, Implementation Overview on FPGA →

## FLOWCHART of CNN IMPLEMENTATION ON FPGA →



5.) Important Points To Keep in Mind before Implementing on FPGAs →

Note :- This is the implementation of CNN architecture  
① only if you want to add any layer or filters then please make sure the - optimized usage of LUTs.

② Also, By using IEEE-754 Single Precision we can boost the accuracy of our model. But here we have used integers only.

as  $(F \times 100) (F\_B \times 100) (W \times 1000) (B \times 10^5)$   
we have multiplied Python extracted filters F, filters  
Biases F\_B, Weights W, Biases B as indicated above.

③ Please use Python code to extract your weights & Biases according to your CNN-architecture.