

# Quiz 2

## 1. Problems

- Total Number of Clients: 8
- Number of communication rounds: 10
- Active Clients in each communication round: 4
- Number of data samples stored at each client: 2048
- Local mini-batch size per client: 16
- Number of local steps(updates) per client: 5

Assuming there are no duplicate samples across clients and each sample is picked only once for training, how many samples are used after the training process?

## 2. Solution

**Step 1:** mini-batch size  $\times$  local steps =  $16 \times 5 = 80$  samples per client per round

**Step 2:**  $4 \times 80 = 320$  samples per round

**Step 3:**  $10 \times 320 = 3200$  samples in total

## 3. Final Answer:

**3200 samples used after the training process**