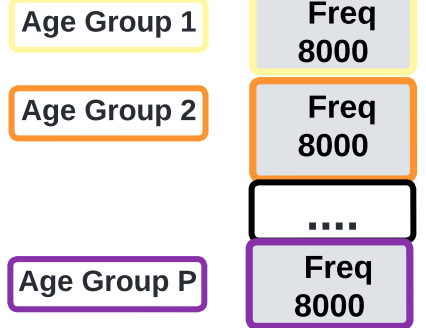


### Split by Age Group



Individuals exceeding:  $Q_f(0.2)$

$$M_{p,11}(d) = \sum_{n=1}^{N_p} \mathbf{1}\{X_{n,p,11} > Q_{11}(0.2)\}$$



Proportion for frequency 8000

$$\pi_{11} = \frac{M_{p,11}(0.2)}{N_p}$$

$$\pi_{11} = \begin{bmatrix} \pi_{1,11} \\ \pi_{2,11} \\ \vdots \\ \pi_{P,11} \end{bmatrix} = \begin{bmatrix} \frac{M_{1,11}(0.2)}{N_1} \\ \frac{M_{2,11}(0.2)}{N_2} \\ \vdots \\ \frac{M_{P,11}(0.2)}{N_P} \end{bmatrix}$$