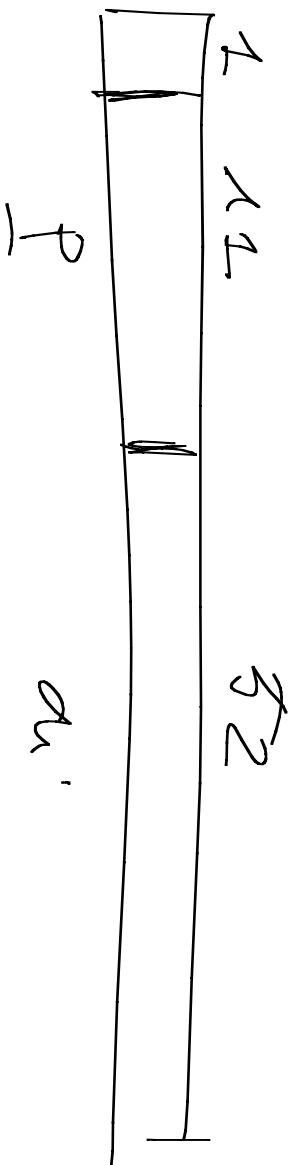


IEEE DOUBLE PRECISION FORMAT

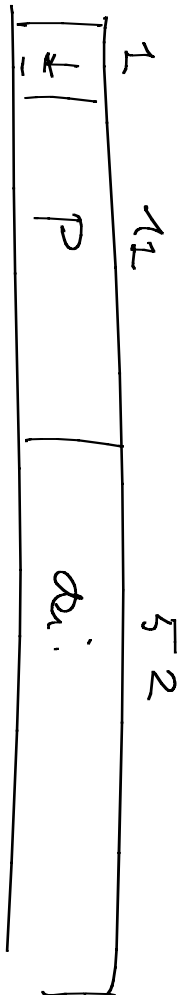
$$B = 2$$



$$\frac{64 \text{ bit}}{32 \text{ bit}}$$

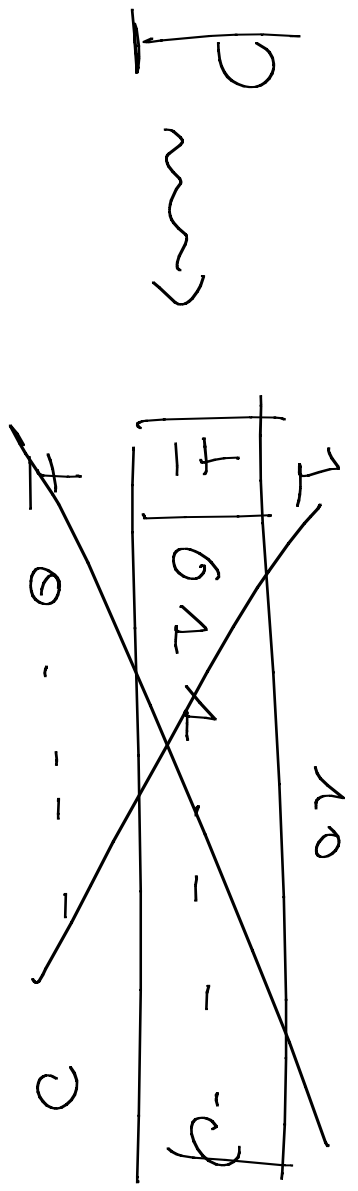
Sample process:

$$X = (-1)^s B^E \cdot \sum_{i=1}^{52} a_i B^{-i}$$



PEZ inter. abstr. (inter. an eqno)

p_2 0 1 1 2 3 ...



$P \rightsquigarrow$ volume information in disks & zones



$$0 \dots \dots \dots 0 \rightsquigarrow P$$

$$1 \dots \dots \dots 1 = 2 + 2 + \dots + 2 = 2^{10} - 1 = 2047$$

$$P = P^A - 1022 \quad [-1022, 1025]$$

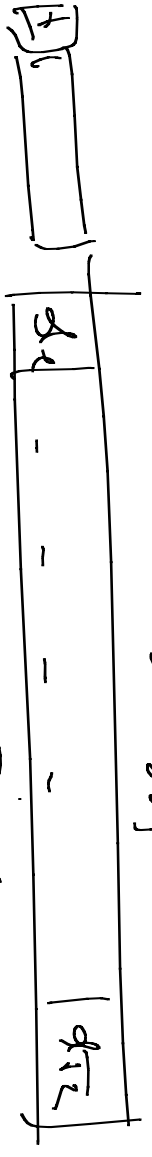
$$0 \dots \dots 0 \rightsquigarrow -1022 \quad \underbrace{1 \dots \dots 1}_{1025}$$

0 - - - 0 ~ - 1022 Heftnummer des Jahr

1 - - - 1 ~ - 1025

$$p \in [-1021, 1024]$$

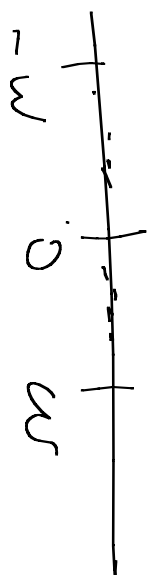
52 bit



$$X = F \cdot 2^p \cdot (0.1d_1 \dots d_{12})_2$$

$$X = \pm 2^p \cdot (0.1d_1 \dots d_{52})_2$$

$$pe[-1021, 1024]$$



$$P = -1022 \quad \hat{P} = [0 \dots 0] \quad [d_1 \dots d_{52}]$$

$$P = 1025 \quad P^u = [1 \dots 1]$$

$$X = \pm 2^{-1022} \cdot (0.1d_1 \dots d_{52})$$

Subnormal

$$X = 2^{-1023}$$

$$p_2 = 1025 \quad p_1 = [1 \dots 1]$$

$$T [d_1 \dots d_{52}]$$

$$d_{1c} d_{2c} \dots = d_{Tc} = 0$$

$$+ \infty$$

$$\frac{NaN}{1}$$

$$\frac{1}{0} = \frac{w_f}{0} = \frac{NaN}{0}$$

alswert

$$\left(\frac{0}{0} \right) \cdot 1 = \frac{NaN}{1}$$