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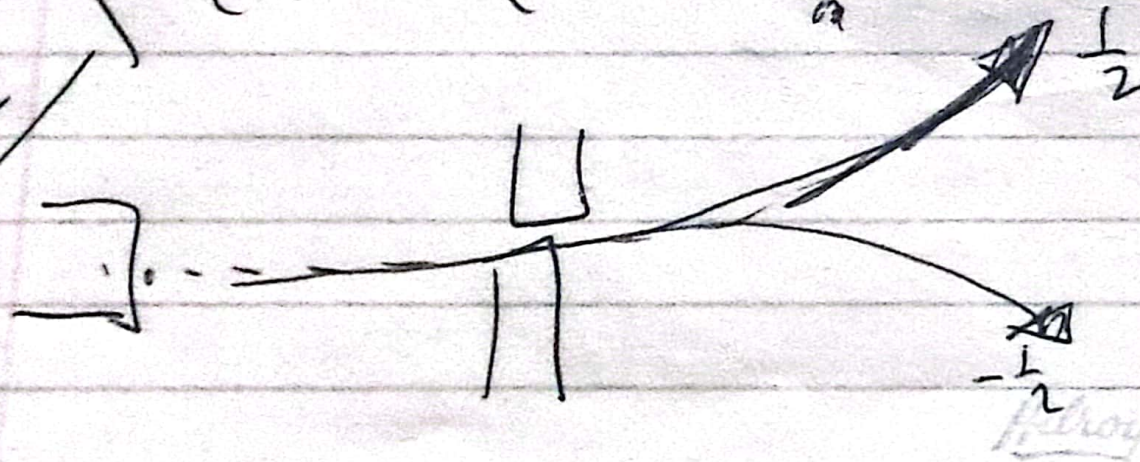
possible combinations

$$m = m_1 + m_2 \quad \left[\begin{array}{c} \uparrow \uparrow \end{array} \right] \quad \text{what } \mu_B \text{ meant?}$$

$$\left(\frac{1}{2} \right) \quad \left(\frac{1}{2} \right)$$

electron
 $m_1 \div$ positive $\left[\frac{1}{2} \right]$
 $m_2 \div$ positive $\left[\frac{1}{2} \right]$
proton

possible value
 1



$$m = \left(\frac{1}{2} \right) + \left(\frac{1}{2} \right)$$

$$= \frac{2}{2} = 1$$

[this is ignored]

4

$$m_1 = \begin{bmatrix} \frac{1}{2} \\ \frac{1}{2} \\ -\frac{1}{2} \\ -\frac{1}{2} \end{bmatrix}$$

$$m_2 = \begin{bmatrix} \frac{1}{2} \\ -\frac{1}{2} \\ \frac{1}{2} \\ -\frac{1}{2} \end{bmatrix} \quad \begin{matrix} m=1 \\ m=0 \\ m=0 \\ m=-1 \end{matrix}$$

problem?

$$l = 1$$

possible configuration values
 $2l+1$

if $l=1$

3 possible configuration values

$$S=1$$

$$2s+1$$

$$2(1)+1 = 3$$

original output = 4

expected output = 3

$$\begin{matrix} 3 & 4 \\ [0] & [00] \end{matrix}$$