

possible combinations

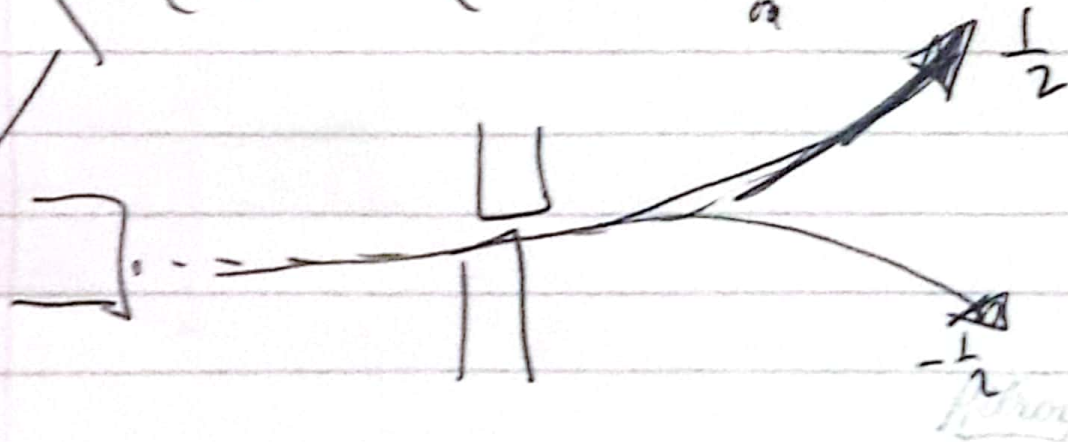
$$m = m_1 + m_2$$

$\left(\frac{1}{2}\right)$ $\left(\frac{1}{2}\right)$ $\left[\uparrow\uparrow\right]$

what does meant?

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

$$\begin{matrix} \nearrow \\ 3 : 4 \\ \left[\begin{smallmatrix} 1 \\ 0 \end{smallmatrix} \right] \quad \left[\begin{smallmatrix} 0 \\ 0 \end{smallmatrix} \right] \end{matrix}$$