

$$19 \Rightarrow i) (-12)^3 + (7)^3 + (5)^3 (a+b+c) ($$

$$= (-12 + 7 + 5) 12 + 7 + 15$$

$$\Rightarrow \boxed{0} = 3abc$$

if

$$\underline{a+b+c = 0}$$

then

$$a^3 + b^3 + c^3 = 3abc$$

$$\underline{a^3 + b^3 + c^3 = 0^3}$$

$$a^3 + b^3 + c^3 - 3abc = (a+b+c)(a^2+b^2+c^2-ab-bc-ca)$$

if  $a+b+c=0$

$= 0$  ( )

$$a^3 + b^3 + c^3 - 3abc \geq 0$$

$$a^3 + b^3 + c^3 = \underline{\underline{3abc}}$$

$$(-12)^3 + (5)^3 + (7)^3 = 3 \times (-12) \times 5 \times 7$$

$$= \underline{\underline{\hspace{2cm}}}$$

(3) 4)

$$\left(u - \frac{2}{3}y\right)^3$$

$$\begin{aligned} a &= u \\ b &= -\frac{2}{3}y \end{aligned}$$

$$\begin{aligned} (b \rightarrow x \times 2) &= b + b = (b - u) \\ 9a^2 - 2a + 1b &= \\ (9 \rightarrow 10) + 1(9 \rightarrow 10) &= 1(9 + 10) \\ 9a^2 + 2a + 1b &= (9 + 10) \end{aligned}$$

$$\begin{aligned} &\therefore (a - b)^3 \\ &\Rightarrow a^3 - b^3 - 3ab(a - b) \\ &u^3 - \left(\frac{2}{3}y\right)^3 - 3 \times u \times \frac{2}{3}y \left(u - \frac{2}{3}y\right) \\ &u^3 - \left(\frac{8}{27}y^3\right) + 2uy \left(u - \frac{2}{3}y\right) \\ &\boxed{u^3 - \frac{8}{27}y^3 + 2u^2y - \frac{4uy^2}{3}} \end{aligned}$$

$$\begin{aligned} &\left(x + \frac{2}{3}y\right)^3 - \frac{1000000}{30000} \\ &(x)^3 + \left(\frac{2}{3}y\right)^3 - 3 \times x \times \frac{2}{3}y \left(x - \frac{2}{3}y\right) \\ &- 2x^2y + \frac{4xy^2}{3} \end{aligned}$$

$$\begin{aligned} &(99)^3 \\ &(100 - 1)^3 \\ &100^3 - 1^3 - 3 \times 100 \times 1(100 - 1) \\ &100^3 - 1^3 - 300(100 - 1) \\ &1000000 - 1 - 30000 + 300 \end{aligned}$$

# NPMexplorer

Founder:-Sonu Ramashish

"explore everything"

website:- [npmexplorer.netlify.app](https://npmexplorer.netlify.app)

Respected Brajesh Maheshwari sir,

We want to inform you with delightful experience that we successfully created this "NPMexplorer" platform where world can explore everything, this happen becuase of your kindness that you gave me the opportunity to explore currently we are developing A.I also and trying to reduce the complexity of matrix calcualtions for CPU so that we can develope our own model sir i as a student of ALLEN,DDPS and son of you got this opportunity again i am so thankful to all of you that you helped me.

Thanks.