Review:

(1) One-Sample t

μ = sweetness loss (on average) = before − after

① $H_0: \mu = 0$

$H_a: \mu > 0$

② test statistic $t = \dfrac{\bar{x} - 0}{s/\sqrt{n}}$ $\quad \left[t = \dfrac{\bar{x} - \mu_0}{s/\sqrt{n}} \right]$

$$\bar{x} = \frac{2.0 + 0.4 + \cdots + 2.3}{10} = 1.02$$

$$s = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n-1}}$$

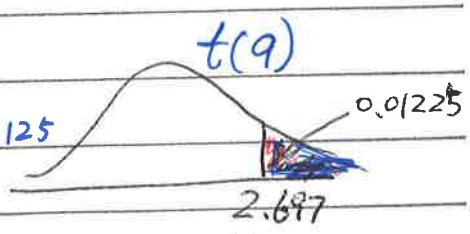
$$= \sqrt{\frac{(2.0-1.02)^2 + (0.4-1.02)^2 + \cdots + (2.3-1.02)^2}{10-1}}$$

$$= 1.196$$

$$\therefore t = \frac{1.02 - 0}{1.196/\sqrt{10}} = 2.697$$

③ $df = n - 1 = 9$ $\quad$ P-value = 0.0125

$0.01 < \text{P-value} < 0.025$ Using t-Table



④ Suppose $\alpha = 0.05$, P-value < 0.05, reject H_0.

Therefore there is strong evidence that there is a significant loss of sweetness, on average, following storage at significance level $\alpha = 0.05$. (H_a)

(OR: there is strong evidence that storage on average results in a loss of sweetness)