

سازه و میانگین

میانگین سعی اول هفتم معاشران

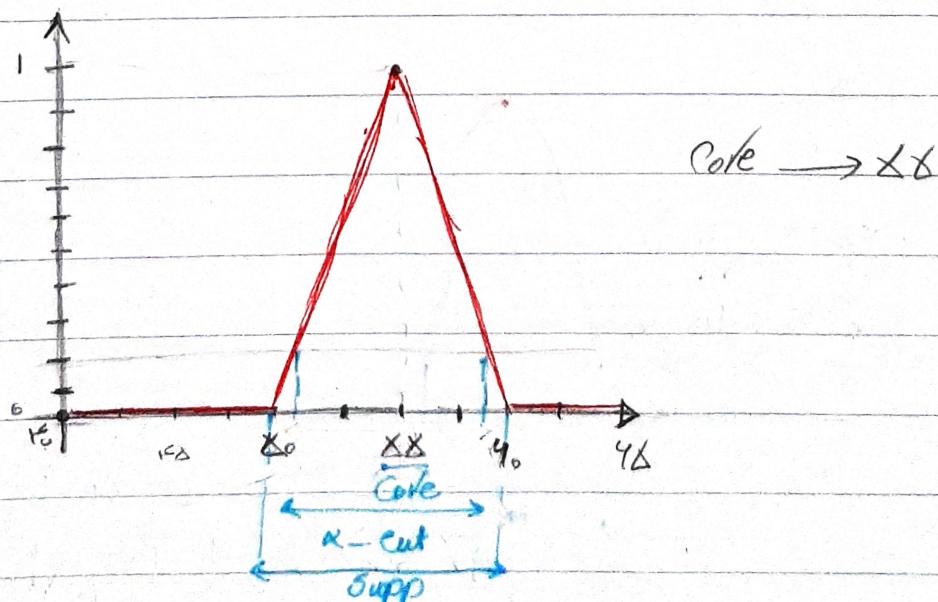
۱- میانگین بونین یعنی میانگین ابیان داشت باشد و مقدار نسبتی که میانگین را تغییر می‌کند

ناعادیت باشد

دایلک برتری میانگین میانگین نسبت به میانگین معمولی این میانگین در مدل میانگین

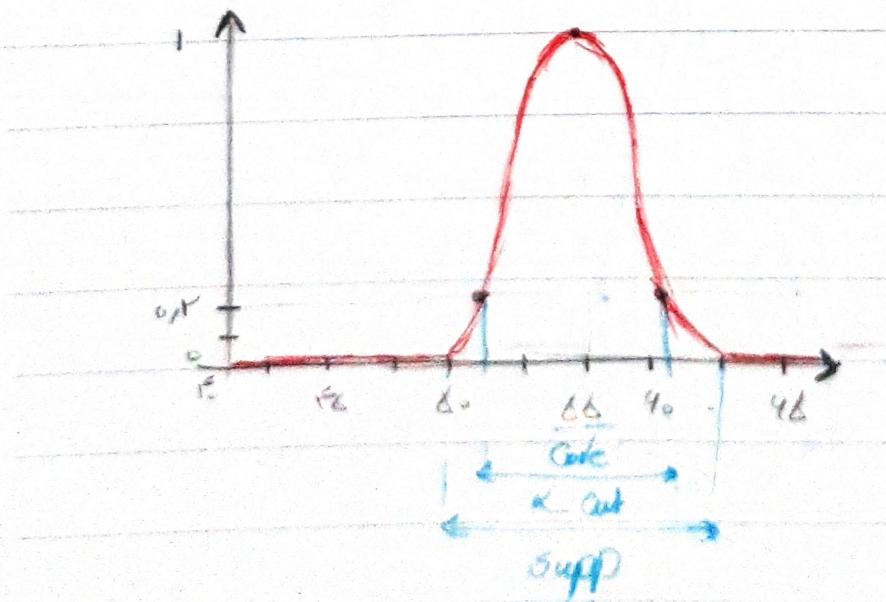
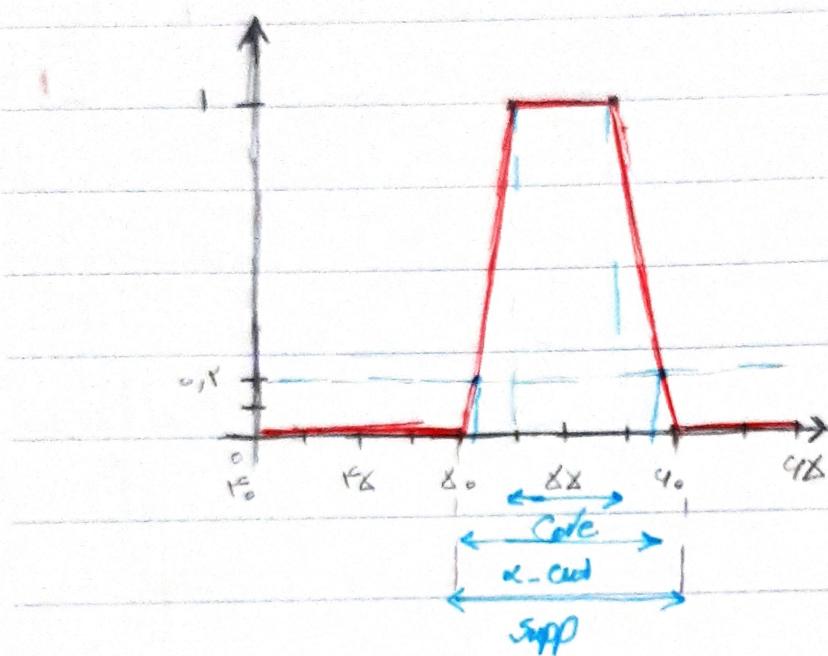
استفاده از ابتدا و استفاده از زبان (سابق انسان) در مدل میانگین است

-۲



$$\text{Core}(A) = \{x \mid \mu_A(x) = 1 \text{ and } x \in X\}$$

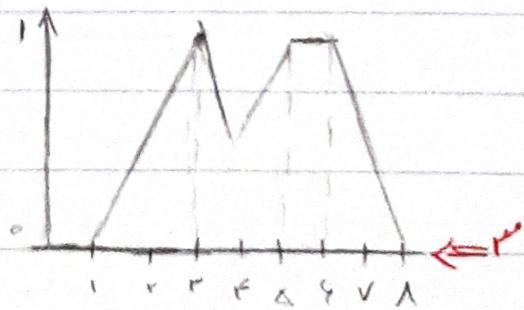
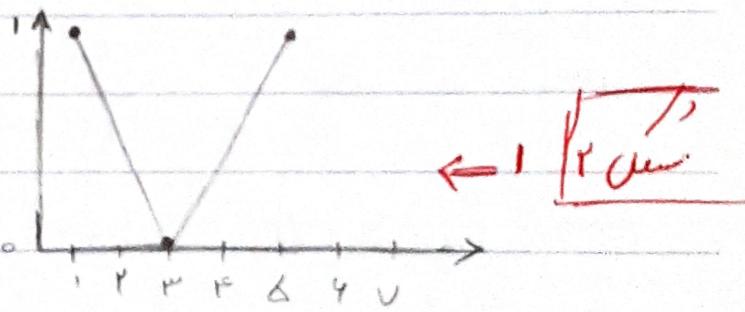
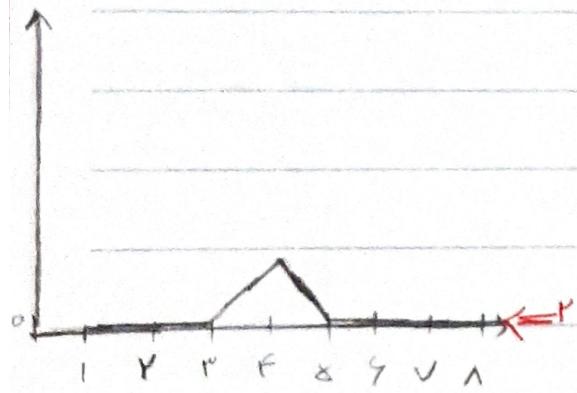
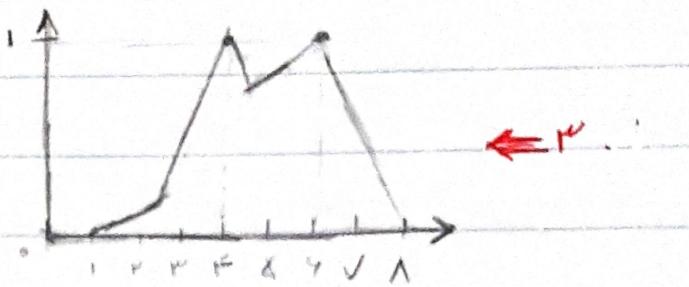
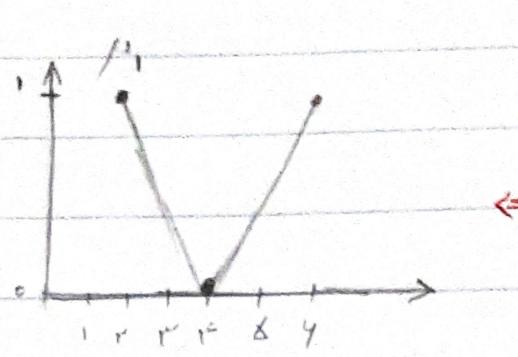
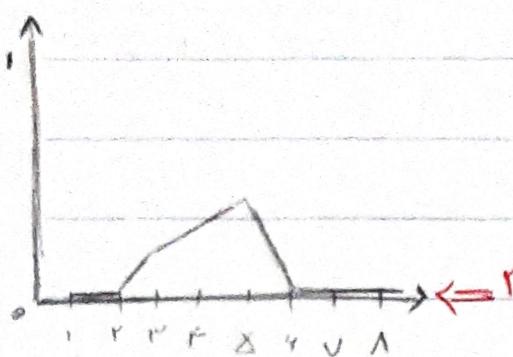
$$\text{Supp}(A) = \{x \mid \mu_A(x) > 0 \text{ and } x \in X\}$$



NOTE BOOK

Subject:

Date: / /



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Subject: _____

Date: / /

← $\mu_{\text{staff-behavior}} \sim \text{G}(1 - F)$

Staff behavior: $\omega_{\text{staff-behavior}}$, hospital-cleanliness: $\omega_{\text{hospital-cleanliness}}$

Request-time: $\omega_{\text{request-time}}$

ω_{request-time} = ω_{request-time}

Patient-satisfaction: $\omega_{\text{patient-satisfaction}}$

← $\omega_{\text{patient-satisfaction}} \sim \text{G}(1 - F)$

: $\omega_{\text{Glossy paper}} \sim \text{G}(1 - F)$

staff-behavior \Rightarrow bad not bad good

hospital-cleanliness \Rightarrow dirty almost clean clean

Request-time \Rightarrow long bearable short

Patient-satisfaction \Rightarrow poor satisfied really satisfied

$$\mu_{\text{staff-behavior}}(x) = \begin{cases} \text{bad} & 0 \leq x < 1 \\ \text{not bad} & 1.8 \leq x < 2.8 \\ \text{good} & 2.8 \leq x \leq 10 \end{cases}$$

- F

NOTE BOOK

Subject:

Date: / /

$$\mu_{\text{hospital-cleantiness}}(x) = \begin{cases} \text{dirty} & 0 \leq x < 5 \\ \text{almost clean} & 5.8 \leq x \leq 7 \\ \text{clean} & 9.8 \leq x \leq 10 \end{cases}$$

$$\mu_{\text{request-time}}(x) = \begin{cases} \text{long} & 0 \leq x < 4 \\ \text{bearable} & 5.8 \leq x \leq 7 \\ \text{short} & 7.8 \leq x \leq 10 \end{cases}$$

$$\mu_{\text{patient-satisfaction}} = \begin{cases} \text{poor} & 0 \leq x < 5 \\ \text{satisfied} & 5.8 \leq x \leq 7 \\ \text{really satisfied} & 7.8 \leq x \leq 10 \end{cases}$$

• IF staff behavior is bad And request time is long - F.F
Then patient satisfaction is poor

• IF hospital cleantiness is almost clean And staff behavior is good

Then patient satisfaction is really satisfied

• IF request time is bearable And hospital cleantiness is almost clean
Then patient satisfaction is satisfied.

If staff behavior is bad And request time is long

Then patient satisfaction is poor

$$f(u_1, u_2) = (\alpha_1 \lambda_{u_1})/1 + (\alpha_2 \lambda_{u_2})/V + (\alpha_3 \lambda_{u_1})/V^2 + (\alpha_4 \lambda_{u_2})/8 - \Delta$$

$$+ (\alpha_5 \lambda_{u_1})/1 + (\alpha_6 \lambda_{u_2})/V^2 + (\alpha_7 \lambda_{u_1})/V + (\alpha_8 \lambda_{u_2})/9$$

$$+ (\alpha_9 \lambda_{u_1})/1 + (\alpha_{10} \lambda_{u_2})/V + (\alpha_{11} \lambda_{u_1})/9 + (\alpha_{12} \lambda_{u_2})/V^2$$

$$= (\underline{\alpha_1})/1 + (\alpha_2)/V + (\alpha_3)^2 + (\alpha_4)/8 + (\underline{\alpha_5})/1 + (\alpha_6)/V^2 + (\underline{\alpha_7})/V$$

$$+ (\alpha_8)/9 + \underbrace{(\alpha_9)/1}_{V} + \underbrace{(\alpha_{10})/V}_{V} + (\alpha_{11})/9 + (\alpha_{12})/V^2 =$$

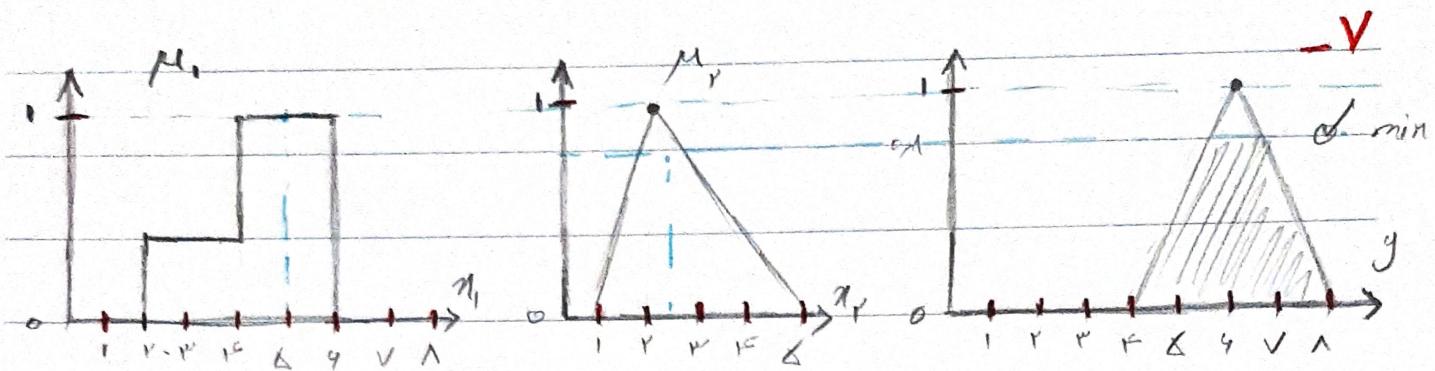
$$\Rightarrow (\alpha_1)/1 + (\alpha_2)/V + (\alpha_3)^2 + (\alpha_4)/8 + (\alpha_6)/V^2 + (\alpha_7)/V + (\alpha_8)/9 + (\alpha_{11})/9$$

$$+ (\alpha_{12})/V^2$$

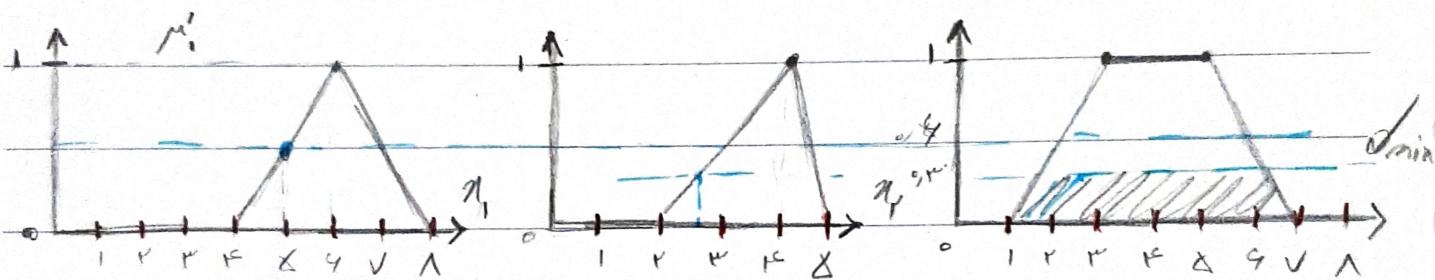
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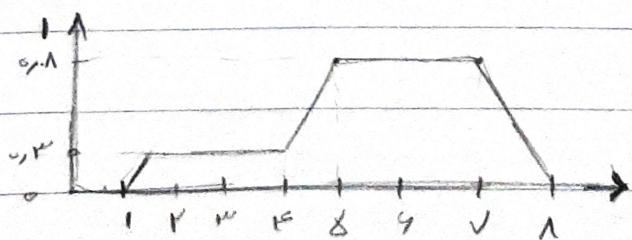
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μ_1 and μ_2 , then V



μ'_1 and μ'_2 the V'



$$COG = \frac{(1+2+3)x_0\Delta + (5+6+7)x_0\Delta}{(1x_0\Delta) + (7x_0\Delta)} = x_{COG}$$

```
bootStrap.html t8.py X
C: > Users > ASUS > Desktop > t8.py
1 import numpy as np
2 import skfuzzy as fuzz
3 from skfuzzy import control as ctrl
4
5 food = ctrl.Antecedent(np.arange(0, 11, 1), 'food')
6 service = ctrl.Antecedent(np.arange(0, 11, 1), 'service')
7 tip = ctrl.Consequent(np.arange(4, 26, 1), 'tip')
8 food['rancid'] = fuzz.trimf(food.universe, [0,0,3])
9 food['good'] = fuzz.trimf(food.universe, [2,5,8])
10 food['delecionous'] = fuzz.trimf(food.universe, [7,10,10])
11 service['poor'] = fuzz.trimf(service.universe, [0,0,4])
12 service['average'] = fuzz.trimf(service.universe, [3,6,9])
13 service['good'] = fuzz.trimf(service.universe, [8,10,10])
14 tip['cheap'] = fuzz.trimf(tip.universe, [5,5,13])
15 tip['average'] = fuzz.trimf(tip.universe, [12,18,23])
16 tip['generous'] = fuzz.trimf(tip.universe, [16,25,25])
17 rule1 = ctrl.Rule(food['delicious'] | service['good'], tip['generous'])
18 rule2 = ctrl.Rule(food['rancid'] | service['poor'], tip['cheap'])
19 rule3 = ctrl.Rule(food['good'] | service['average'], tip['average'])
20 rule4 = ctrl.Rule(food['rancid'], tip['cheap'])
21 tip_ctrl = ctrl.ControlSystem([rule1, rule2, rule3, rule4])
22 tipping.input['quality'] = 4
23 tipping.input['service'] = 7.2
24 tipping.compute()
25 print tipping.output['tip']
26
27
28
29
```