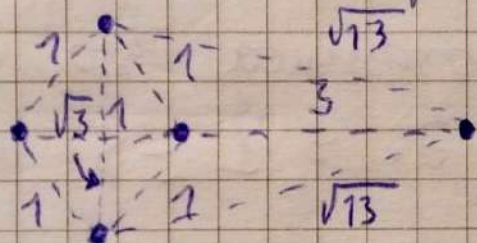


1. Обчислити для різних ϵ комплекси Чеха і Вісториса-Рінса наступної підпростору $\mathbb{R}^2$ з елем.
 2. оточуючої кластеризацію

можливо потрібно реалізувати /
 m -кери:

X

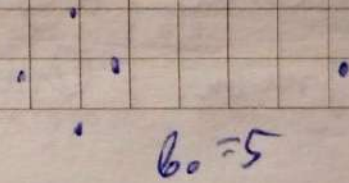
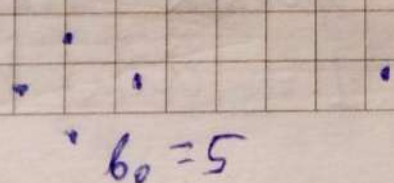


Спробувати визн. числа Бенні

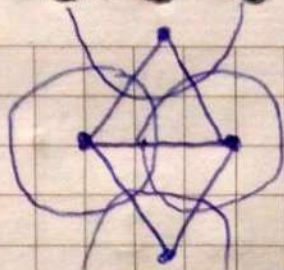
$\check{C}(X, \epsilon)$

$VR(X, \epsilon)$

$$\epsilon \leq \frac{1}{2}$$



$$\frac{1}{2} < \varepsilon \leq \frac{\sqrt{3}}{3}$$

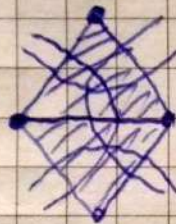


$$b_0 = 2, b_1 = 2$$

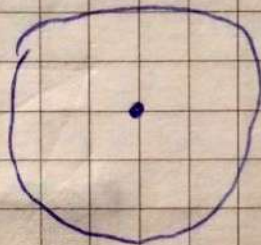


$$b_0 = 5$$

$$\frac{\sqrt{3}}{3} < \varepsilon \leq \frac{\sqrt{3}}{2}$$

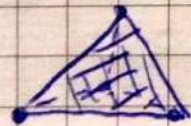
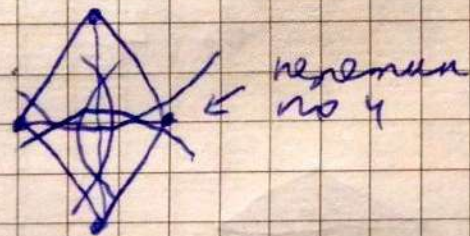


$$b_0 = 2, b_1 = 0, b_2 = 0$$



$$b_0 = 5$$

$$\frac{\sqrt{3}}{2} < \varepsilon < 1$$

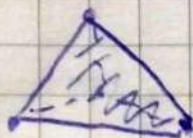


Треугольник не распадается и точка

$$b_0 = 2, b_1 = b_2 = 0$$

$$b_0 = 5$$

$$1 \leq \varepsilon \leq \frac{3}{2}$$



$$b_0 = 2$$

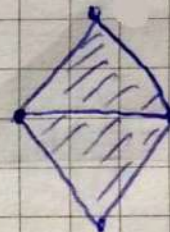


$$b_0 = 2$$

$$\frac{3}{2} < \varepsilon < \sqrt{3}$$



$$b_0 = 1$$



$$b_0 = 2$$

$$\sqrt{3} \leq \varepsilon \leq \frac{\sqrt{13}}{2}$$



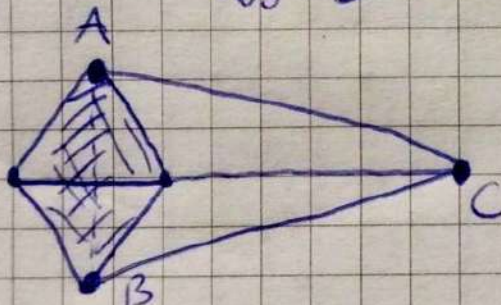
$$b_0 = 1$$



$$b_0 = 2$$

$$\frac{\sqrt{13}}{2} < \varepsilon \leq \frac{13}{4}$$

написано
контра ABC

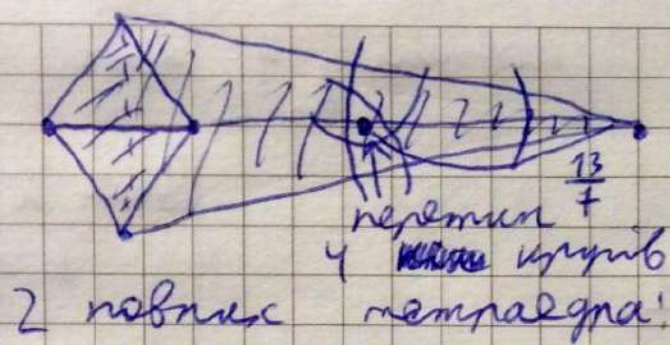


$$b_0 = 1, b_1 = 2$$

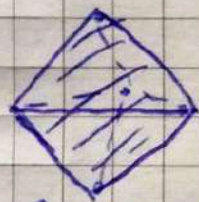


$$b_0 = 2$$

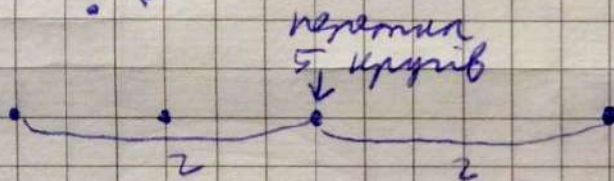
$$\frac{13}{7} < \varepsilon \leq 2$$



—||—



$$2 < \varepsilon < 3$$

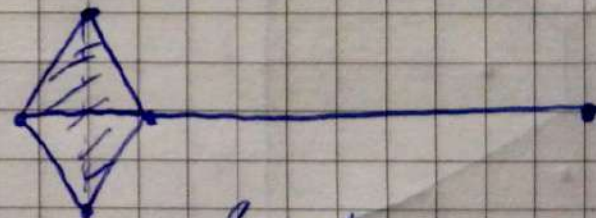


—||—

$$b_0 = 1, b_1 = 0$$

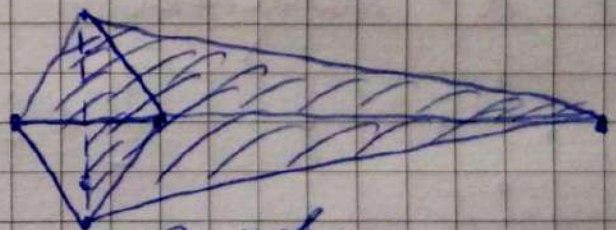
$$3 \leq \varepsilon < \sqrt{13}$$

—||—



$$\sqrt{13} \leq \varepsilon < 4$$

—||—



$$b_0 = 1$$

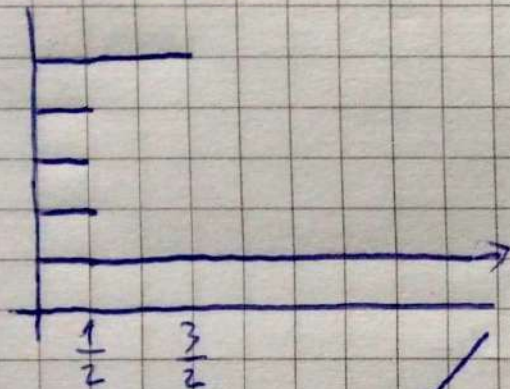
$\epsilon \gg \gamma$

-11-

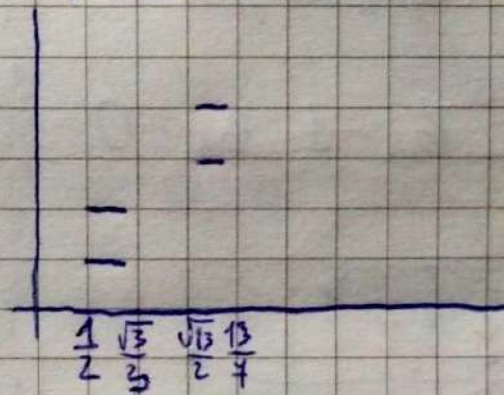
повний γ -вип. комплекс
 $b_0 = 1$.

Матрицю для комплексу γ ка:

$k=0$

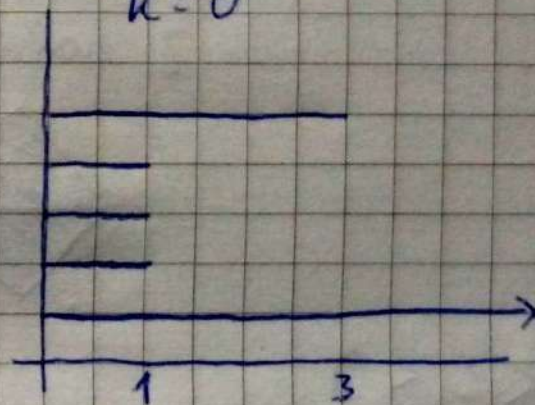


$k=1$

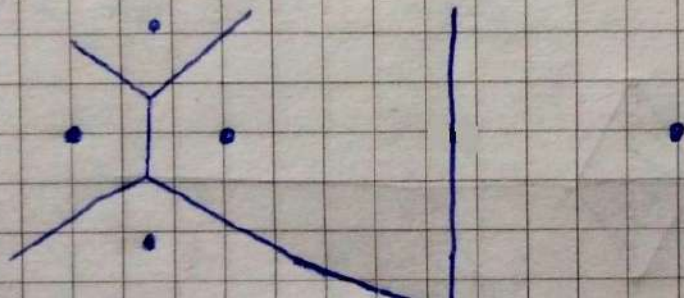


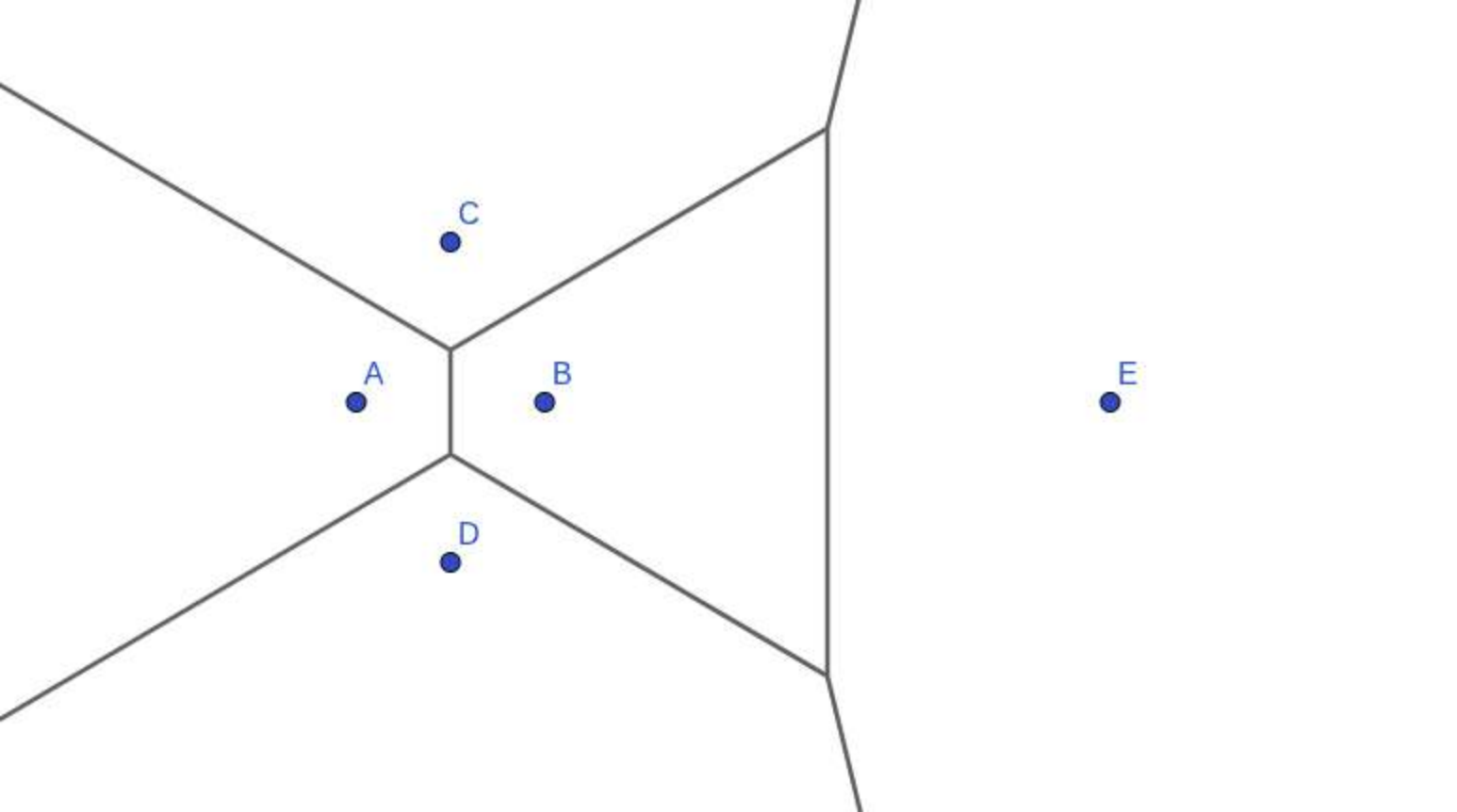
Для к. В.-Д.:

$k=0$



Діаграма Воротного:

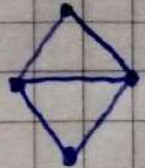




Плану α - комплекс:

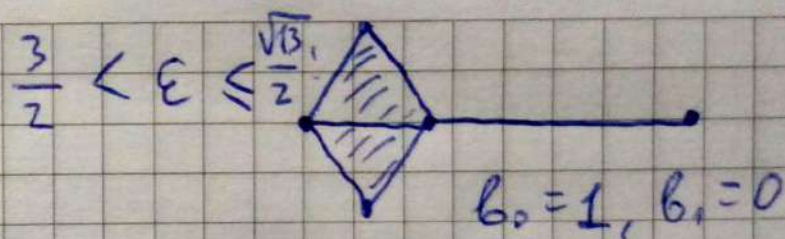
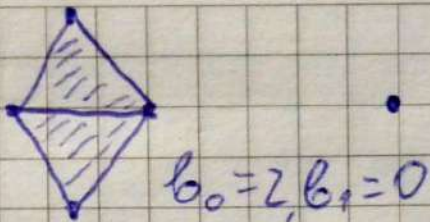
$$\varepsilon \leq \frac{1}{2} : \quad \begin{array}{c} \bullet \\ \bullet \quad \bullet \\ \bullet \end{array} \quad \frac{1}{2} < \varepsilon \leq \frac{\sqrt{3}}{3} :$$

$$b_0 = 5, b_1 = 0$$

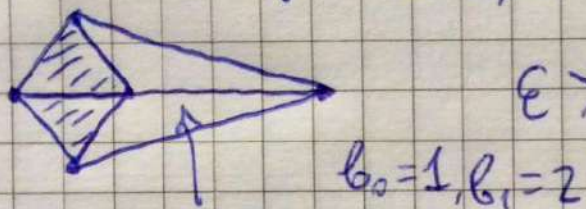


$$b_0 = 2, b_1 = 2$$

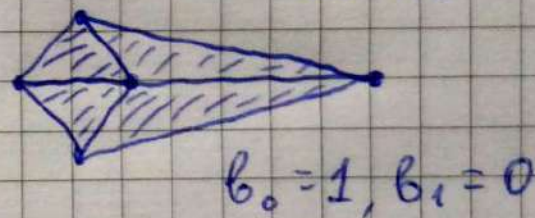
$$\frac{\sqrt{3}}{3} < \epsilon \leq \frac{3}{2} :$$



$$\frac{\sqrt{13}}{2} < \epsilon \leq \frac{\sqrt{13}}{\sqrt{3}} :$$



$$\epsilon > \frac{\sqrt{13}}{\sqrt{3}} :$$

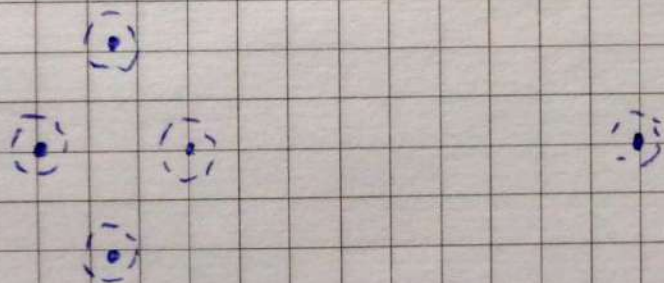


↑
разнос отн. кода

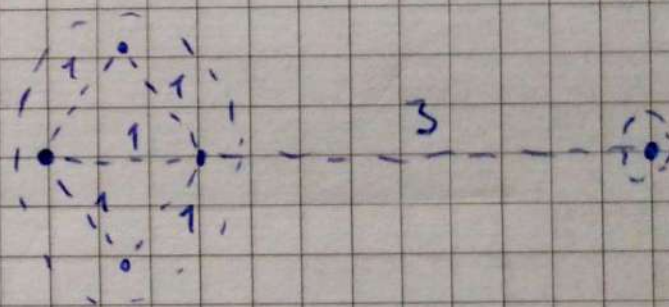
Ного итерационно възлагането так само, як у комплекса
чеса, але і "побачити", і обчислювати наблизно реше.

Класифікація:

$$\epsilon < 1 :$$



$$1 \leq \epsilon < 3 :$$



$\epsilon > 3 :$ все в одному кластері.

Дендрограма:

$$\epsilon=1$$

$$\epsilon=3$$

