María Eugenia Ontiveros Bellés, A01197661
William Frank Monroy Mamani, A00829796

Pseudocódigo y Análisis de Complejidad

1	M = 1000	$O(1)$
2	calcular U(A)	$O(1)$
3	while M > 100	$O(n)$
4	C = [ ]	$O(n-1)$
5	for i to M	$O(\sum_{i=0}^{M} t_i)$
6	quitar punto i	$O(\sum_{i=0}^{M} (t_i - 1))$
7	C[i] = calcular U(A) - U(A\{i})	$O(\sum_{i=0}^{M} (t_i - 1))$
8	max_index = argmax(C)	$O(n-1)$
9	quitar punto en max index	$O(n-1)$
10	u = U(A) - C[max_index]	$O(n-1)$
11	M = M - 1	$O(n-1)$

$$T_{(n)} = c_1 + c_2 + c_3 n + c_4(n - 1) + c_5 \sum_{i=0}^{M} t_i + c_6 \sum_{i=0}^{M} (t_i - 1) + c_7 \sum_{i=0}^{M} (t_i - 1) + c_8(n - 1)$$
$$+ c_9(n - 1) + c_{10}(n - 1) + c_{11}(n - 1)$$

$$T_{(n)} = c_1 + c_2 + c_3 n + c_4(n - 1) + c_5(\tfrac{n(n+1)}{2} - 1) + c_6(\tfrac{n(n+1)}{2} - (n - 1)) + c_7(\tfrac{n(n+1)}{2} - (n - 1)) +$$
$$c_8(n - 1) + c_9(n - 1) + c_{10}(n - 1) + c_{11}(n - 1)$$

$$T_{(n)} = c_1 + c_2 + c_3 n + c_4 n - c_4 + c_5\tfrac{n^2}{2} + c_5\tfrac{n}{2} + c_6\tfrac{n^2}{2} + c_6\tfrac{n}{2} - c_6 n + c_6 + c_7\tfrac{n^2}{2} + c_7\tfrac{n}{2} - c_7 n + c_7 +$$
$$c_8 n - c_8 + c_9 n - c_9 + c_{10} n - c_{10} + c_{11} n - c_{11}$$
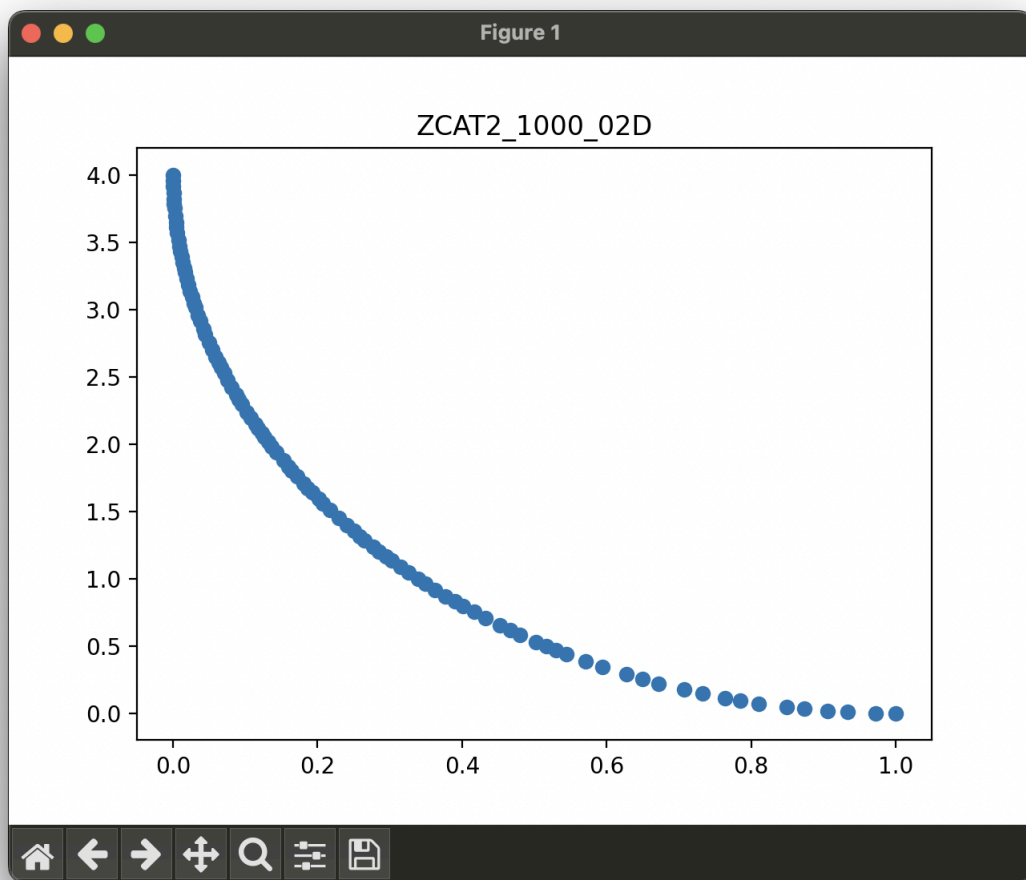
$$T_{(n)} = O(n^2)$$

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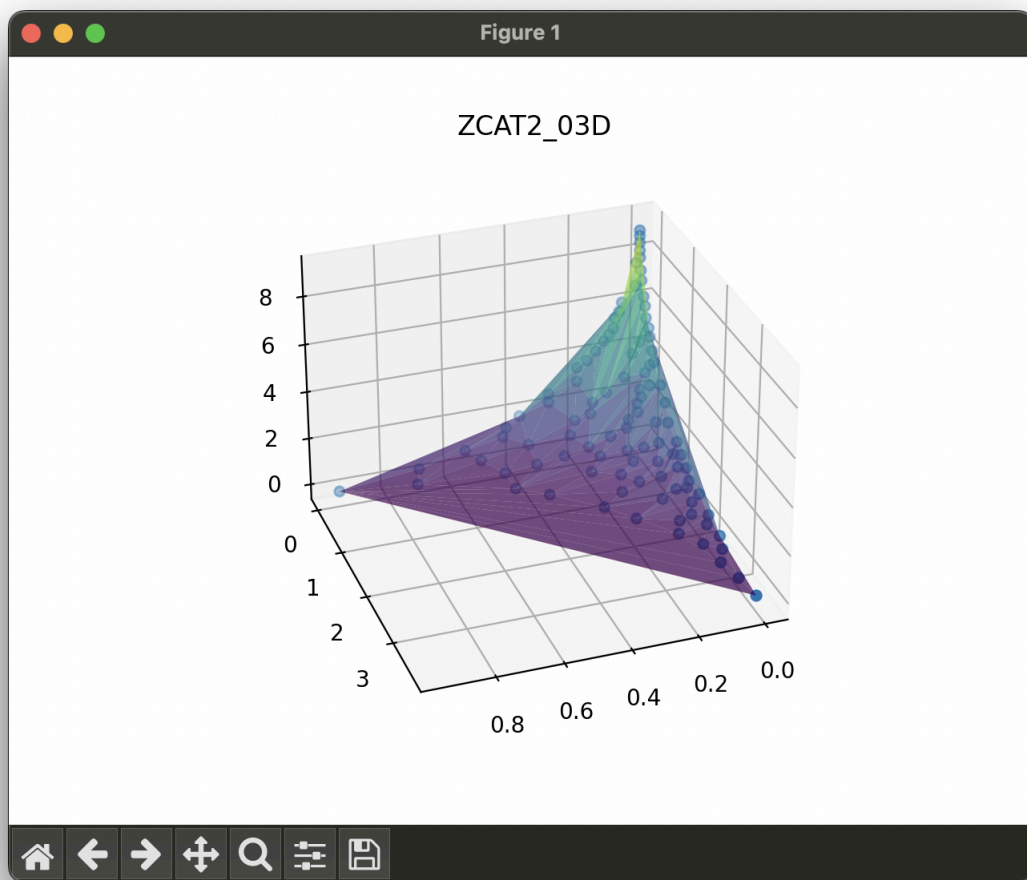[1.927743e-01 1.639028e+00]
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ZCAT2_03D

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