ProvectoF Zaira

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Proyecto Final

Elaborado por: Zaira Valentina Avila Lazcano

- 1. Realizar las siguientes actividades usando la matriz de coactivación adjunta del conectoma del cerebro humano
 - Realizar en Jupyter Notebook donde realices de forma clara y ordenado cada una de las actividades.
 - · Entregar archivos el notebook y exportar a un archivo pdf.

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 Definir grafos con la matriz estableciendo umbrales de coactivación de 0.8, 0.9 y 1 y graficar cada grafo. Añadir las coordenadas tridimensionales (incluidas en el archivo .mat).

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- 60 - 60 - 40 - 20 - 0 - -20 - -40 - 75 - 50 - 25

40 40 20 25 25

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 Con uno de los grafos en el punto uno con umbral 0.9, generar una animación donde se haga girar 360° el grafo del cerebro para visualizar las conexiones establecido In [256]: import scipy.io import seaborn as sns import numpy as np import networkx as nx import matplotlib.pyplot as plt
from mpl_toolkits.mplot3d import Axes3D from matplotlib.animation import FuncAnimation, PillowWriter data = scipy.io.loadmat('/Users/ZvalEnes/Desktop/Neurociencias-2025-1/BCT/BCT/2019_03_03_BCT/data_ and_demos/Coactivation_matrix.mat') coactivation_matrix = data['Coactivation_matrix'] coordinates = data['Coord'] def create graph(matrix, threshold): binary_matrix = (matrix >= threshold).astype(int) graph = nx.from_numpy_array(binary_matrix) return graph thresholds = [0.08, 0.09, 0.1]graphs = [create_graph(coactivation_matrix, t) for t in thresholds] fig = plt.figure(figsize=(18, 6)) for i, (graph, threshold) in enumerate(zip(graphs, thresholds)): ax = fig.add_subplot(1, 3, i + 1, projection='3d')
ax.set_title(f'Gráfica con umbral {threshold}', fontsize=12) pos = {node: coordinates[node] for node in graph.nodes()} for edge in graph.edges(): x = [pos[edge[0]][0], pos[edge[1]][0]] y = [pos[edge[0]][1], pos[edge[1]][1]] z = [pos[edge[0]][2], pos[edge[1]][2]]ax.plot(x, y, z, color='gray', linewidth=0.5) for node in graph.nodes(): ax.scatter(pos[node][0], pos[node][1], pos[node][2], color='red', s=50) plt.tight_layout() plt.show()

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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In [241]: threshold = 0.09
          binary_matrix = (coactivation_matrix >= threshold).astype(int)
          graph = nx.from_numpy_array(binary_matrix)
          pos = {node: coordinates[node] for node in graph.nodes()}
          print(f'Grafo con umbral {threshold}, tiene coordenadas de conexiones:\n')
          for edge in graph.edges():
              node1, node2 = edge
              x_coords = [pos[node1][0], pos[node2][0]]
y_coords = [pos[node1][1], pos[node2][1]]
               z_coords = [pos[node1][2], pos[node2][2]]
               print(f'Conexion: x: {x_coords}, y: {y_coords}, z: {z_coords}')
          fig = plt.figure(figsize=(10, 10))
          ax = fig.add_subplot(111, projection='3d')
          def draw_graph():
               ax.cla()
               nodes = np.array(list(pos.values()))
               ax.scatter(nodes[:, 0], nodes[:, 1], nodes[:, 2], c='red', s=20)
               for edge in graph.edges():
                   start, end = pos[edge[0]], pos[edge[1]]
                   ax.plot([start[0], end[0]], [start[1], end[1]], [start[2], end[2]], c='gray')
          def update(num):
               draw_graph()
               ax.view_init(elev=10., azim=num)
          ani = FuncAnimation(fig, update, frames=np.arange(0, 360, 10), interval=100)
          cerebro_mov = "ganim.qif"
          ani.save(cerebro_mov, writer=PillowWriter(fps=20))
          from IPython.display import Image
          Image(cerebro_mov)
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Conexion: x: [np.float64(7.2436363636363), np.float64(7.986531986531986)], y: [np.float64(37.0109 0909090908), np.float64(46.2222222222223)], z: [np.float64(9.4254545454545454), np.float64(15.60942 Conexion: x: [np.float64(7.2436363636363), np.float64(7.55725190839695)], y: [np.float64(37.01090 909090908), np.float64(33.8320610687023)], z: [np.float64(9.425454545454545), np.float64(23.5114503 81679396)1 Conexion: x: [np.float64(7.243636363636369), np.float64(8.902439024390247)], y: [np.float64(37.0109 0909090908), np.float64(36.1869918699187)], z: [np.float64(9.42545454545454), np.float64(-0.317073 17073170316)] Conexion: x: [np.float64(7.2436363636369), np.float64(9.39776951672863)], y: [np.float64(37.01090 909090908), np.float64(52.98141263940519)], z: [np.float64(9.42545454545454), np.float64(3.1524163 568773247)] Conexion: x: [np.float64(7.2436363636363), np.float64(-3.418604651162795)], y: [np.float64(37.010 9090909090), np.float64(39.92248062015503)], z: [np.float64(9.425454545454542), np.float64(10.1705 42635658919)] Conexion: x: [np.float64(7.24363636363636369), np.float64(-4.538745387453872)], y: [np.float64(37.010 90909090908), np.float64(46.53874538745387)], z: [np.float64(9.42545454545454), np.float64(3.06273 Conexion: x: [np.float64(7.986531986531986), np.float64(-5.00946372239747)], y: [np.float64(46.2222 222222223), np.float64(50.466876971608826)], z: [np.float64(15.609427609427613), np.float64(19.671 924290220815)] Conexion: x: [np.float64(7.986531986531986), np.float64(9.39776951672863)], y: [np.float64(46.22222 22222223), np.float64(52.98141263940519)], z: [np.float64(15.609427609427613), np.float64(3.152416 3568773247)] Conexion: x: [np.float64(7.986531986531986), np.float64(7.117647058823536)], y: [np.float64(46.2222 222222223), np.float64(57.448529411764696)], z: [np.float64(15.609427609427613), np.float64(15.742 647058823536)] Conexion: x: [np.float64(7.986531986531986), np.float64(-3.418604651162795)], y: [np.float64(46.222 222222223), np.float64(39.92248062015503)], z: [np.float64(15.609427609427613), np.float64(10.170 542635658919)1 Conexion: x: [np.float64(7.55725190839695), np.float64(9.115879828326186)], y: [np.float64(33.83206 10687023), np.float64(22.454935622317606)], z: [np.float64(23.511450381679396), np.float64(24.20600 8583690988)] Conexion: x: [np.float64(7.55725190839695), np.float64(-4.040485829959508)], y: [np.float64(33.8320 610687023), np.float64(34.68825910931173)], z: [np.float64(23.511450381679396), np.float64(23.60323 8866396765)] Conexion: x: [np.float64(7.55725190839695), np.float64(-3.03000000000001)], y: [np.float64(33.8320 610687023), np.float64(27.49000000000001)], z: [np.float64(23.511450381679396), np.float64(19.79000 00000000006)1 Conexion: x: [np.float64(9.115879828326186), np.float64(8.1869918699187)], y: [np.float64(22.454935

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622317606), np.float64(19.86178861788619)], z: [np.float64(24.206008583690988), np.float64(33.11382

Conexion: x: [np.float64(-5.198237885462561), np.float64(8.421940928270047)], y: [np.float64(17.823 788546255514), np.float64(26.405063291139243)], z: [np.float64(36.889867841409696), np.float64(36.4 2194092827005)1

Conexion: x: [np.float64(-5.198237885462561), np.float64(-5.677419354838705)], y: [np.float64(17.82 3788546255514), np.float64(26.66129032258064)], z: [np.float64(36.889867841409696), np.float64(40.3 14516129032256)]

Conexion: x: [np.float64(-5.198237885462561), np.float64(-31.52380952380952)], y: [np.float64(17.82 3788546255514), np.float64(23.3113553113553)], z: [np.float64(36.889867841409696), np.float64(1.384 6153846153868)]

Conexion: x: [np.float64(-5.198237885462561), np.float64(-35.60942760942761)], y: [np.float64(17.82 3788546255514), np.float64(14.17508417508418)], z: [np.float64(36.889867841409696), np.float64(-6.3 50168350168346)]

Conexion: x: [np.float64(-5.198237885462561), np.float64(37.201581027667984)], y: [np.float64(17.82 3788546255514), np.float64(23.87351778656125)], z: [np.float64(36.889867841409696), np.float64(0.19 762845849803057)]

Conexion: x: [np.float64(-5.198237885462561), np.float64(40.333333333333333)], y: [np.float64(17.82 3788546255514), np.float64(13.20740740740740)], z: [np.float64(36.889867841409696), np.float64(0.2 814814814814781)]

Conexion: x: [np.float64(-5.198237885462561), np.float64(-4.55230125523012)], y: [np.float64(17.823 788546255514), np.float64(17.054393305439334)], z: [np.float64(36.889867841409696), np.float64(47.8 4937238493724)]

Conexion: x: [np.float64(-8.016597510373444), np.float64(-6.0297029702970235)], y: [np.float64(-38. 016597510373444), np.float64(-38.00990099009901)], z: [np.float64(48.73858921161826), np.float64(4 0.95049504950495)]

Conexion: x: [np.float64(-8.016597510373444), np.float64(-6.659003831417621)], y: [np.float64(-38.0 16597510373444), np.float64(-34.996168582375475)], z: [np.float64(48.73858921161826), np.float64(6 3,08045977011494)]

Conexion: x: [np.float64(-8.016597510373444), np.float64(-6.797153024911026)], y: [np.float64(-38.0 16597510373444), np.float64(-45.580071174377224)], z: [np.float64(48.73858921161826), np.float64(5

Conexion: x: [np.float64(-6.114942528735625), np.float64(-6.0297029702970235)], y: <math>[np.float64(-34.02970297029702970235)]67432950191571), np.float64(-38.00990099009901)], z: [np.float64(34.643678160919535), np.float64(4 0.95049504950495)1

432950191571), np.float64(-23.61417322834646)], z: [np.float64(34.643678160919535), np.float64(33.7 7952755905511)]

Conexion: x: [np.float64(-6.114942528735625), np.float64(-4.257142857142853)], y: [np.float64(-34.6 7432950191571), np.float64(-42.409523809523805)], z: [np.float64(34.643678160919535), np.float64(2 8,79999999999997)1

Conexion: x: [np.float64(-6.5928853754940775), np.float64(9.451737451737458)], y: [np.float64(-24.1 9762845849803), np.float64(-27.405405405405405)], z: [np.float64(44.26877470355731), np.float64(45. 44401544401545)1

Conexion: x: [np.float64(-6.5928853754940775), np.float64(6.343859649122805)], y: [np.float64(-24.1

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113821138)]
Conexion: x: [np.float64(9.115879828326186), np.float64(-4.923857868020306)], y: [np.float64(22.454
935622317606), np.float64(15.319796954314711)], z: [np.float64(24.206008583690988), np.float64(27.7
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Conexion: x: [np.float64(8.902439024390247), np.float64(7.964912280701753)], y: [np.float64(36.1869
918699187), np.float64(37.543859649122794)], z: [np.float64(-0.31707317073170316), np.float64(-9.55
7894736842101)]
Conexion: x: [np.float64(8.902439024390247), np.float64(-6.273127753303967)], y: [np.float64(36.186
9918699187), np.float64(34.70484581497797)], z: [np.float64(-0.31707317073170)], np.float64(-5.09
2511013215855)]
Conexion: x: [np.float64(-5.214035087719296), np.float64(-5.017094017094024)], y: [np.float64(-12.5
26315789473685), np.float64(-5.7521367521367495)], z: [np.float64(42.11929824561403), np.float64(3
7.6666666666667)]
Conexion: x: [np.float64(-5.214035087719296), np.float64(6.343859649122805)], y: [np.float64(-12.52
6315789473685), np.float64(-17.298245614035082)], z: [np.float64(42.11929824561403), np.float64(42.
891228070175444)]
Conexion: x: [np.float64(-5.214035087719296), np.float64(6.442105263157899)], y: [np.float64(-12.52
6315789473685), \; np. float 64 (-4.582456140350871)], \; z: \; [np. float 64 (42.11929824561403), \; np. float 64 (39.51211929824561403)], \; np. float 64 (19.51211929824561403), \; np. float 64 (19.51211929824561403
3684210526316)]
Conexion: x: [np.float64(-4.890756302521012), np.float64(-5.198237885462561)], y: [np.float64(6.848
739495798327), np.float64(17.823788546255514)], z: [np.float64(36.15126050420169), np.float64(36.88
9867841409696)]
Conexion: x: [np.float64(-4.890756302521012), np.float64(-5.017094017094024)], y: [np.float64(6.848
739495798327), np.float64(-5.7521367521367495)], z: [np.float64(36.15126050420169), np.float64(37.6
666666666667)1
Conexion: x: [np.float64(-4.890756302521012), np.float64(8.1869918699187)], y: [np.float64(6.848739
495798327), np.float64(19.86178861788619)], z: [np.float64(36.15126050420169), np.float64(33.113821
13821138)]
Conexion: x: [np.float64(-4.890756302521012), np.float64(6.442105263157899)], y: [np.float64(6.8487
39495798327), np.float64(-4.582456140350871)], z: [np.float64(36.15126050420169), np.float64(39.536
84210526316)1
Conexion: x: [np.float64(-4.890756302521012), np.float64(6.831275720164612)], y: [np.float64(6.8487
39495798327), np.float64(6.189300411522623)], z: [np.float64(36.15126050420169), np.float64(36.5349
7942386831)]
Conexion: x: [np.float64(-4.890756302521012), np.float64(-5.765957446808514)], y: [np.float64(6.848
739495798327), np.float64(-1.9716312056737593)], z: [np.float64(36.15126050420169), np.float64(50.9
9290780141844)]
Conexion: x: [np.float64(-4.890756302521012), np.float64(-4.923857868020306)], y: [np.float64(6.848
739495798327), np.float64(15.319796954314711)], z: [np.float64(36.15126050420169), np.float64(27.73
604060913705)]
Conexion: x: [np.float64(-5.198237885462561), np.float64(8.1869918699187)], y: [np.float64(17.82378
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9762845849803), np.float64(-17.298245614035082)], z: [np.float64(44.26877470355731), np.float64(42. 891228070175444)] Conexion: x: [np.float64(-6.5928853754940775), np.float64(-5.4444444444443)], y: [np.float64(-24. 19762845849803), np.float64(-15.230158730158735)], z: [np.float64(44.26877470355731), np.float64(5 6.0952380952381)]

Conexion: x: [np.float64(-6.0297029702970235), np.float64(8.666666666671)], y: [np.float64(-38.0 099009900901), np.float64(-37.90049751243781)], z: [np.float64(40.9504950495), np.float64(42.4 776119402985)]

 ${\tt Conexion: x: [np.float64(-6.0297029702970235), np.float64(-7.268817204301072)], y: [np.float64(-38.268817204301072)], y: [np.float64(-38.2688172043001072)], y: [np.float64(-38.2688172043001072)], y: [np.float64(-38.2688172043001072)], y: [np.float64(-38.268817200400072)], y: [np.float64(-38.268817200072)], y:$ 0099009900901), np.float64(-50.200716845878134)], z: [np.float64(40.95049504950495), np.float64(4 1,096774193548384)1

1367521367495), np.float64(-4.582456140350871)], z: [np.float64(37.66666666666667), np.float64(39.5 3684210526316)]

Conexion: x: [np.float64(6.874015748031496), np.float64(8.666666666671)], y: [np.float64(-23.614 $17322834646), \; np. \; float64(-37.90049751243781)], \; z: \; [np. \; float64(33.77952755905511), \; np. \; float64(42.47711)], \; rp. \; float64(42.47111)], \; rp. \; float64(42$ 6119402985)1

Conexion: x: [np.float64(8.46632124352331), np.float64(8.66666666666671)], y: [np.float64(-42.2901 5544041451), np.float64(-37.90049751243781)], z: [np.float64(34.41450777202073), np.float64(42.4776 119402985)]

Conexion: x: [np.float64(8.46632124352331), np.float64(7.17611940298508)], y: [np.float64(-42.29015 544041451), np.float64(-43.0865671641791)], z: [np.float64(34.41450777202073), np.float64(20.471641 791044775)]

Conexion: x: [np.float64(9.451737451737458), np.float64(6.343859649122805)], y: [np.float64(-27.405 405405405403), np.float64(-17.298245614035082)], z: [np.float64(45.44401544401545), np.float64(42.8 91228070175444)]

Conexion: x: [np.float64(9.451737451737458), np.float64(8.666666666671)], y: [np.float64(-27.405 405405405403), np.float64(-37.90049751243781)], z: [np.float64(45.44401544401545), np.float64(42.47

76119402985)] Conexion: x: [np.float64(9.451737451737458), np.float64(8.65306122448979)], y: [np.float64(-27.4054

05405405403), np.float64(-21.4421768707483)], z: [np.float64(45.4440154401545), np.float64(54.8163 2653061226)] Conexion: x: [np.float64(8.1869918699187), np.float64(8.421940928270047)], y: [np.float64(19.861788

61788619), np.float64(26.405063291139243)], z: [np.float64(33.11382113821138), np.float64(36.421940 92827005)1

Conexion: x: [np.float64(8.1869918699187), np.float64(6.831275720164612)], y: [np.float64(19.861788 61788619), np.float64(6.189300411522623)], z: [np.float64(33.11382113821138), np.float64(36.5349794 2386831)]

Conexion: x: [np.float64(8.1869918699187), np.float64(41.559471365638764)], y: [np.float64(19.86178 861788619), np.float64(40.255506607929505)], z: [np.float64(33.11382113821138), np.float64(25.06607 9295154182)1

Conexion: x: [np.float64(8.1869918699187), np.float64(-31.52380952380952)], y: [np.float64(19.86178 861788619), np.float64(23.3113553113553)], z: [np.float64(33.11382113821138), np.float64(1.38461538

ProyectoF_Zaira 46153868)1 Conexion: x: [np.float64(8.1869918699187), np.float64(37.201581027667984)], y: [np.float64(19.86178 861788619), np.float64(23.87351778656125)], z: [np.float64(33.11382113821138), np.float64(0.1976284 5849803057)] Conexion: x: [np.float64(8.1869918699187), np.float64(40.333333333333333)], y: [np.float64(19.86178 861788619), np.float64(13.207407407407407)], z: [np.float64(33.11382113821138), np.float64(0.281481 Conexion: x: [np.float64(6.343859649122805), np.float64(6.442105263157899)], y: [np.float64(-17.298 245614035082), np.float64(-4.582456140350871)], z: [np.float64(42.891228070175444), np.float64(39.5 3684210526316)] Conexion: x: [np.float64(6.343859649122805), np.float64(8.65306122448979)], y: [np.float64(-17.2982 45614035082), np.float64(-21.4421768707483)], z: [np.float64(42.891228070175444), np.float64(54.816 32653061226)] Conexion: x: [np.float64(6.442105263157899), np.float64(6.831275720164612)], y: [np.float64(-4.5824 56140350871), np.float64(6.189300411522623)], z: [np.float64(39.53684210526316), np.float64(36.5349 7942386831)] Conexion: x: [np.float64(6.442105263157899), np.float64(8.006622516556291)], v: [np.float64(-4.5824 56140350871), np.float64(-2.4635761589403984)], z: [np.float64(39.53684210526316), np.float64(52.09 933774834437)1 Conexion: x: [np.float64(8.421940928270047), np.float64(-5.677419354838705)], y: [np.float64(26.405 063291139243), np.float64(26.66129032258064)], z: [np.float64(36.42194092827005), np.float64(40.314 516129032256) Conexion: x: [np.float64(8.421940928270047), np.float64(7.425925925925924)], y: [np.float64(26.4050 63291139243), np.float64(27.944444444444457)], z: [np.float64(36.42194092827005), np.float64(48.518 51851851852)] Conexion: x: [np.float64(8.421940928270047), np.float64(-31.52380952380952)], y: [np.float64(26.405 063291139243), np.float64(23.3113553113553)], z: [np.float64(36.42194092827005), np.float64(1.38461 53846153868)] Conexion: x: [np.float64(8.421940928270047), np.float64(37.201581027667984)], y: [np.float64(26.405 063291139243), np.float64(23.87351778656125)], z: [np.float64(36.42194092827005), np.float64(0.1976 2845849803057)] Conexion: x: [np.float64(8.421940928270047), np.float64(40.33333333333333)], y: [np.float64(26.405 063291139243), np.float64(13.20740740740740)], z: [np.float64(36.42194092827005), np.float64(0.281 4814814814781)] Conexion: x: [np.float64(8.421940928270047), np.float64(-2.606837606837601)], y: [np.float64(26.405 063291139243), np.float64(12.0)], z: [np.float64(36.42194092827005), np.float64(55.27350427350427)] Conexion: x: [np.float64(8.421940928270047), np.float64(-4.55230125523012)], y: [np.float64(26.4050 63291139243), np.float64(17.054393305439334)], z: [np.float64(36.42194092827005), np.float64(47.849 Conexion: x: [np.float64(8.421940928270047), np.float64(7.942446043165461)], y: [np.float64(26.4050 63291139243), np.float64(14.050359712230204)], z: [np.float64(36.42194092827005), np.float64(49.992 80575539568)1 Conexion: x: [np.float64(8.66666666666671), np.float64(9.263157894736835)], y: [np.float64(-37.900 46753246753244)1

Conexion: x: [np.float64(-3.8660714285714306), np.float64(-11.8429003021148)], y: [np.float64(-79.0 2678571428572), np.float64(-77.31117824773415)], z: [np.float64(20.99107142857143), np.float64(11.2 99093655589118)]

Conexion: x: [np.float64(-8.21052631578948), np.float64(-6.538745387453872)], y: [np.float64(-90.77 732793522267), np.float64(-81.33579335793358)], z: [np.float64(29.141700404858298), np.float64(35.3

Conexion: x: [np.float64(-8.21052631578948), np.float64(-1.794117647058826)], y: [np.float64(-90.77 732793522267), np.float64(-87.08823529411765)], z: [np.float64(29.141700404858298), np.float64(24.1 47058823529406)]

Conexion: x: [np.float64(-8.21052631578948), np.float64(14.50892857142857)], y: [np.float64(-90.777 32793522267), np.float64(-83.57142857142857)], z: [np.float64(29.141700404858298), np.float64(30.40 1785714285708)]

Conexion: x: [np.float64(-8.21052631578948), np.float64(-14.915254237288138)], y: [np.float64(-90.7 7732793522267), np.float64(-87.28135593220338)], z: [np.float64(29.141700404858298), np.float64(20. 88813559322034)]

Conexion: x: [np.float64(-8.21052631578948), np.float64(-16.328358208955223)], y: [np.float64(-90.7 7732793522267), np.float64(-83.3507462686567)], z: [np.float64(29.141700404858298), np.float64(31.1 3432835820896)1

Conexion: x: [np.float64(-8.21052631578948), np.float64(18.692307692307693)], y: [np.float64(-90.77 732793522267), np.float64(-84.91346153846155)], z: [np.float64(29.141700404858298), np.float64(28.5 57692307692307)]

Conexion: x: [np.float64(-7.262711864406782), np.float64(-1.794117647058826)], y: [np.float64(-87.5 2542372881356), np.float64(-87.08823529411765)], z: [np.float64(17.16101694915254), np.float64(24.1 47058823529406)1

Conexion: x: [np.float64(-7.262711864406782), np.float64(-14.915254237288138)], y: [np.float64(-87. 52542372881356), np.float64(-87.28135593220338)], z: [np.float64(17.16101694915254), np.float64(20.

88813559322034)] Conexion: x: [np.float64(-7.262711864406782), np.float64(1.05263157894737)], y: [np.float64(-87.525

42372881356), np.float64(-86.70676691729324)], z: [np.float64(17.16101694915254), np.float64(9.4887 21804511272)]

Conexion: x: [np.float64(-7.262711864406782), np.float64(-11.8429003021148)], y: [np.float64(-87.52 542372881356), np.float64(-77.31117824773415)], z: [np.float64(17.16101694915254), np.float64(11.29 9093655589118)]

 ${\tt Conexion: x: [np.float64(-6.538745387453872), np.float64(-16.328358208955223)], y: [np.float64(-81.818872), np.float64(-81.818872)]}, pp.float64(-81.818872), np.float64(-81.818872), np.float64($ 33579335793358), np.float64(-83.3507462686567)], z: [np.float64(35.380073800738), np.float64(31.134 32835820896)]

Conexion: x: [np.float64(-6.538745387453872), np.float64(23.73553719008264)], y: [np.float64(-81.33 579335793358), np.float64(-82.31404958677686)], z: [np.float64(35.380073800738), np.float64(35.7190 08264462815)]

Conexion: x: [np.float64(-6.538745387453872), np.float64(-7.233480176211458)], y: [np.float64(-81.3 3579335793358), np.float64(-75.13656387665199)], z: [np.float64(35.380073800738), np.float64(44.255 50660792952)1

49751243781), np.float64(-45.705263157894734)], z: [np.float64(42.4776119402985), np.float64(45.929 82456140351)]

Conexion: x: [np.float64(-5.992094861660078), np.float64(-4.257142857142853)], y: [np.float64(-45.6 36363636364), np.float64(-42.409523809523805)], z: [np.float64(18.695652173913047), np.float64(2 8,79999999999997)1

Conexion: x: [np.float64(-5.992094861660078), np.float64(7.17611940298508)], y: [np.float64(-45.636 36363636364), np.float64(-43.0865671641791)], z: [np.float64(18.695652173913047), np.float64(20.471 641791044775)]

Conexion: x: [np.float64(-5.992094861660078), np.float64(-47.54751131221718)], y: [np.float64(-45.6 36363636364), np.float64(-61.809954751131215)], z: [np.float64(18.695652173913047), np.float64(2 5,366515837104075)1

Conexion: x: [np.float64(-5.992094861660078), np.float64(-5.976095617529879)], y: [np.float64(-45.6 36363636364), np.float64(-57.69721115537848)], z: [np.float64(18.695652173913047), np.float64(31. 434262948207177)]

Conexion: x: [np.float64(-5.992094861660078), np.float64(-10.733668341708537)], y: [np.float64(-45. 63636363636364), np.float64(-51.1608040201005)], z: [np.float64(18.695652173913047), np.float64(11.695652173913047), np.float64(11.695652173913047), np.float64(11.695652173913047)32663316582915)]

Conexion: x: [np.float64(-4.257142857142853), np.float64(7.17611940298508)], y: [np.float64(-42.409 523809523805), np.float64(-43.0865671641791)], z: [np.float64(28.799999999997), np.float64(20.47 1641791044775)]

Conexion: x: [np.float64(7.17611940298508), np.float64(9.978339350180505)], y: [np.float64(-43.0865 671641791), np.float64(-55.277978339350184)], z: [np.float64(20.471641791044775), np.float64(27.530 68592057761)1

Conexion: x: [np.float64(7.17611940298508), np.float64(13.460396039603964)], y: [np.float64(-43.086 5671641791), np.float64(-48.069306930693074)], z: [np.float64(20.471641791044775), np.float64(11.13 3663366336634)]

33038348082596), np.float64(-79.02678571428572)], z: [np.float64(26.359882005899706), np.float64(2 0.99107142857143)]

Conexion: x: [np.float64(-8.206489675516224), np.float64(-6.538745387453872)], y: [np.float64(-68.3 3038348082596), np.float64(-81.33579335793358)], z: [np.float64(26.359882005899706), np.float64(35. 380073800738)]

Conexion: x: [np.float64(-8.206489675516224), np.float64(9.5645756463)], y: [np.float64(-68.33 038348082596), np.float64(-72.96678966789668)], z: [np.float64(26.359882005899706), np.float64(28.0 88560885608857)1

Conexion: x: [np.float64(-8.206489675516224), np.float64(-6.972111553784856)], y: [np.float64(-68.3 3038348082596), np.float64(-63.31474103585657)], z: [np.float64(26.359882005899706), np.float64(27. 856573705179287)]

Conexion: x: [np.float64(-3.8660714285714306), np.float64(-1.794117647058826)], y: [np.float64(-79. 02678571428572), np.float64(-87.08823529411765)], z: [np.float64(20.99107142857143), np.float64(24. 147058823529406)1

Conexion: x: [np.float64(-3.8660714285714306), np.float64(11.41125541125541)], y: [np.float64(-79.0 2678571428572), np.float64(-76.47619047619048)], z: [np.float64(20.99107142857143), np.float64(25.2

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Conexion: x: [np.float64(-1.794117647058826), np.float64(12.579365079365076)], y: [np.float64(-87.0 $8823529411765), \; np.float 64 (-83.18253968253968)], \; z: \; [np.float 64 (24.147058823529406), \; np.float 64 (19.16464)], \; description of the state of the sta$ 698412698412696)1

Conexion: x: [np.float64(-1.794117647058826), np.float64(11.41125541125541)], y: [np.float64(-87.08 823529411765), np.float64(-76.47619047619048)], z: [np.float64(24.147058823529406), np.float64(25.2 46753246753244)]

Conexion: x: [np.float64(14.50892857142857), np.float64(9.564575645756463)], y: [np.float64(-83.571 42857142857), np.float64(-72.96678966789668)], z: [np.float64(30.401785714285708), np.float64(28.08 8560885608857)1

Conexion: x: [np.float64(14.50892857142857), np.float64(11.41125541125541)], y: [np.float64(-83.571 42857142857), np.float64(-76.47619047619048)], z: [np.float64(30.401785714285708), np.float64(25.24 6753246753244)]

Conexion: x: [np.float64(14.50892857142857), np.float64(15.74647887323944)], y: [np.float64(-83.571 42857142857), np.float64(-78.06338028169014)], z: [np.float64(30.401785714285708), np.float64(39.76 7605633802816)]

Conexion: x: [np.float64(14.50892857142857), np.float64(18.692307692307693)], y: [np.float64(-83.57 142857142857), np.float64(-84,91346153846155)], z: [np.float64(30,401785714285708), np.float64(28,5 57692307692307)]

Conexion: x: [np.float64(9.564575645756463), np.float64(11.41125541125541)], y: [np.float64(-72.966 78966789668), np.float64(-76.47619047619048)], z: [np.float64(28.088560885608857), np.float64(25.24 6753246753244)]

Conexion: x: [np.float64(9.564575645756463), np.float64(15.74647887323944)], y: [np.float64(-72.966 78966789668), np.float64(-78.06338028169014)], z: [np.float64(28.088560885608857), np.float64(39.76 7605633802816)]

Conexion: x: [np.float64(9.564575645756463), np.float64(10.775510204081627)], y: [np.float64(-72.96 678966789668), np.float64(-69.04489795918367)], z: [np.float64(28.088560885608857), np.float64(37.3

1428571428572)] Conexion: x: [np.float64(9.564575645756463), np.float64(14.45818181818181)], y: [np.float64(-72.96

678966789668), np.float64(-61.18545454545455)], z: [np.float64(28.088560885608857), np.float64(24.3 5636363636364)]

Conexion: x: [np.float64(12.579365079365076), np.float64(11.41125541125541)], y: [np.float64(-83.18 253968253968), np.float64(-76.47619047619048)], z: [np.float64(19.698412698412696), np.float64(25.2

46753246753244)1 Conexion: x: [np.float64(12.579365079365076), np.float64(11.1958041958042)], y: [np.float64(-83.182 53968253968), np.float64(-85.1048951048951)], z: [np.float64(19.698412698412696), np.float64(10.272

727272727266)] Conexion: x: [np.float64(11.41125541125541), np.float64(13.447204968944106)], y: [np.float64(-76.47 619047619048), np.float64(-72.24844720496895)], z: [np.float64(25.246753246753244), np.float64(11.4

Conexion: x: [np.float64(16.4320987654321), np.float64(-24.0)], y: [np.float64(-95.48148148148148)] np.float64(-94.2342342342342)], z: [np.float64(10.654320987654316), np.float64(8.10810810810812)] Conexion: x: [np.float64(16.4320987654321), np.float64(-12.970464135021103)], y: [np.float64(-95.48 148148148148), np.float64(-95.39240506329114)], z: [np.float64(10.654320987654316), np.float64(9.23

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ProyectoF_Zaira

Conexion: x: [np.float64(16.4320987654321), np.float64(23.755319148936167)], y: [np.float64(-95.481 481481481, np.float64(-90.56382978723404)], z: [np.float64(10.654320987654316), np.float64(12.03

Conexion: x: [np.float64(16.4320987654321), np.float64(-7.82222222222222)], y: [np.float64(-95.481

481481481, np.float64(-100.4111111111111)], z: [np.float64(10.654320987654316), np.float64(-1.3

Conexion: x: [np.float64(16.4320987654321), np.float64(17.75)], y: [np.float64(-95.4814814814814814), np.float64(-96.546875)], z: [np.float64(10.654320987654316), np.float64(-0.75)] Conexion: x: [np.float64(16.4320987654321), np.float64(11.1958041958042)], y: [np.float64(-95.48148 148148148), np.float64(-85.1048951048951)], z: [np.float64(10.654320987654316), np.float64(10.27272 7272727266)] Conexion: x: [np.float64(15.74647887323944), np.float64(-17.156549520766774)], y: [np.float64(-78.0 6338028169014), np.float64(-79.09265175718849)], z: [np.float64(39.767605633802816), np.float64(40. 626198083067095)] Conexion: x: [np.float64(15.74647887323944), np.float64(23.73553719008264)], y: [np.float64(-78.063 38028169014), np.float64(-82.31404958677686)], z: [np.float64(39.767605633802816), np.float64(35.71 9008264462815)] Conexion: x: [np.float64(15.74647887323944), np.float64(10.775510204081627)], y: [np.float64(-78.06 338028169014), np.float64(-69.04489795918367)], z: [np.float64(39.767605633802816), np.float64(37.3 1428571428572)] Conexion: x: [np.float64(-46.29787234042553), np.float64(-47.70506912442397)], y: [np.float64(12. 0), np.float64(7.7880184331797295)], z: [np.float64(7.425531914893611), np.float64(14.8755760368663 63)] Conexion: x: [np.float64(-46.29787234042553), np.float64(-47.655462184873954)], y: [np.float64(12. 0), np.float64(13.411764705882348)], z: [np.float64(7.425531914893611), np.float64(16.7226890756302 57)1 Conexion: x: [np.float64(-46.29787234042553), np.float64(51.43726235741445)], y: [np.float64(12.0), np.float64(14.646387832699617)], z: [np.float64(7.425531914893611), np.float64(4.365019011406844)] Conexion: x: [np.float64(-46.29787234042553), np.float64(-46.77735849056603)], y: [np.float64(12. 0), np.float64(19.871698113207543)], z: [np.float64(7.425531914893611), np.float64(7.162264150943 Conexion: x: [np.float64(-46.29787234042553), np.float64(-31.948717948717942)], y: [np.float64(12. 0), np.float64(14.88644688644689)], z: [np.float64(7.425531914893611), np.float64(9.31868131868131 4)1 Conexion: x: [np.float64(-46.29787234042553), np.float64(40.3333333333333)], y: [np.float64(12. 0), np.float64(13.207407407407402)], z: [np.float64(7.425531914893611), np.float64(0.28148148148147 Conexion: x: [np.float64(-46.29787234042553), np.float64(-47.27516778523491)], y: [np.float64(12. 0), np.float64(-0.6577181208053702)], z: [np.float64(7.425531914893611), np.float64(8.0536912751677 Conexion: x: [np.float64(-46.29787234042553), np.float64(-51.652830188679246)], y: [np.float64(12. 0), np.float64(7.992452830188682)], z: [np.float64(7.425531914893611), np.float64(-12.6716981132075 Conexion: x: [np.float64(-51.27088607594936), np.float64(-30.687074829931973)], y: [np.float64(12.1 $2658227848101), \; np. float 64 (-61.74829931972789)], \; z: \; [np. float 64 (24.99746835443038), \; np. float 64 (53.21848101), \; np. float 64 (-61.74829931972789)], \; z: \; [np. float 64 (24.99746835443038), \; np. float 64 (53.21848101), \; np. fl$ 5170068027211)] 58227848101), np.float64(7.0888030888030755)], z: [np.float64(24.99746835443038), np.float64(32.308 880308880305)] Conexion: x: [np.float64(-51.27088607594936), np.float64(-53.05882352941177)], y: [np.float64(12.12 658227848101), np.float64(2.622837370242223)], z: [np.float64(24.99746835443038), np.float64(22.955 01730103807)1 Conexion: x: [np.float64(-51.27088607594936), np.float64(-41.230158730158735)], y: [np.float64(12.1 2658227848101), np.float64(0.1428571428571388)], z: [np.float64(24.99746835443038), np.float64(48.5 8730158730158)] Conexion: x: [np.float64(-51.27088607594936), np.float64(-2.606837606837601)], y: [np.float64(12.12 658227848101), np.float64(12.0)], z: [np.float64(24.99746835443038), np.float64(55.27350427350427)] Conexion: x: [np.float64(-51.27088607594936), np.float64(-4.55230125523012)], y: [np.float64(12.126 58227848101), np.float64(17.054393305439334)], z: [np.float64(24.99746835443038), np.float64(47.849 37238493724)1 58227848101), np.float64(14.050359712230204)], z: [np.float64(24.99746835443038), np.float64(49.992 80575539568)] Conexion: x: [np.float64(-47.70506912442397), np.float64(-47.655462184873954)], y: [np.float64(7.78 80184331797295), np.float64(13.411764705882348)], z: [np.float64(14.875576036866363), np.float64(1 6,722689075630257)1 Conexion: x: [np.float64(-47.70506912442397), np.float64(-48.571428571428584)], y: [np.float64(7.78 80184331797295), np.float64(0.673469387755091)], z: [np.float64(14.875576036866363), np.float64(13. 132653061224488)] Conexion: x: [np.float64(-47.655462184873954), np.float64(-49.666666666666)], y: [np.float64(13.4 11764705882348), np.float64(21.7249999999999)], z: [np.float64(16.722689075630257), np.float64(1 7.9500000000000003)] Conexion: x: [np.float64(-47.655462184873954), np.float64(-46.77735849056603)], y: [np.float64(13.4 11764705882348), np.float64(19.871698113207543)], z: [np.float64(16.722689075630257), np.float64(7. 1622641509434)] Conexion: x: [np.float64(51.43726235741445), np.float64(55.407766990291265)], y: [np.float64(14.646 387832699617), np.float64(14.0)], z: [np.float64(4.365019011406844), np.float64(11.5631067961165)] Conexion: x: [np.float64(51.43726235741445), np.float64(54.24545454545454)], y: [np.float64(14.6463 87832699617), np.float64(22.681818181818187)], z: [np.float64(4.365019011406844), np.float64(3.6545 45454545456)] Conexion: x: [np.float64(51.43726235741445), np.float64(-35.60942760942761)], y: [np.float64(14.646 387832699617), np.float64(14.17508417508418)], z: [np.float64(4.365019011406844), np.float64(-6.350 168350168346) Conexion: x: [np.float64(51.43726235741445), np.float64(40.33333333333333)], y: [np.float64(14.646 387832699617), np.float64(13.207407407407402)], z: [np.float64(4.365019011406844), np.float64(0.281 4814814814781)]

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ProyectoF_Zaira
               47)1
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-47.655462184873954)], y: [np.float64(12.1
               2658227848101), np.float64(13.411764705882348)], z: [np.float64(24.99746835443038), np.float64(16.7
               22689075630257)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(52.421487603305785)], y: [np.float64(12.12
               658227848101), np.float64(13.487603305785115)], z: [np.float64(24.99746835443038), np.float64(17.30
               5785123966942)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(51.693023255813955)], y: [np.float64(12.12
               658227848101), np.float64(11.283720930232562)], z: [np.float64(24.99746835443038), np.float64(25.20
               000000000000003)1
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-44.743494423791816)], y: [np.float64(12.1
               2658227848101), np.float64(32.37918215613382)], z: [np.float64(24.99746835443038), np.float64(18.84
               014869888476)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-46.27755102040817)], y: [np.float64(12.12
               658227848101), np.float64(25.387755102040813)], z: [np.float64(24.99746835443038), np.float64(1.787
               755102040819)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-45.769230769230774)], y: [np.float64(12.1
               2658227848101), np.float64(27.01538461538462)], z: [np.float64(24.99746835443038), np.float64(24.83
               0769230769235)1
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-48.376811594202906)], y: [np.float64(12.1
               2658227848101), np.float64(17.775362318840592)], z: [np.float64(24.99746835443038), np.float64(26.7
               6086956521739)1
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-44.77902621722848)], y: [np.float64(12.12
               658227848101), np.float64(17.303370786516865)], z: [np.float64(24.99746835443038), np.float64(37.14
               606741573034)1
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-5.677419354838705)], y: [np.float64(12.12
               658227848101), np.float64(26.66129032258064)], z: [np.float64(24.99746835443038), np.float64(40.314
               516129032256)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-31.52380952380952)], y: [np.float64(12.12
               658227848101), np.float64(23.3113553113553)], z: [np.float64(24.99746835443038), np.float64(1.38461
               53846153868)1
               Conexion: x: [np.float64(-51.27088607594936), np.float64(37.201581027667984)], y: [np.float64(12.12
               658227848101), np.float64(23.87351778656125)], z: [np.float64(24.99746835443038), np.float64(0.1976
               2845849803057)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-37.10914454277287)], y: [np.float64(12.12
               658227848101), np.float64(-55.687315634218294)], z: [np.float64(24.99746835443038), np.float64(52.6
               07669616519175)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-41.091445427728615)], y: [np.float64(12.1
               2658227848101), np.float64(-44.525073746312685)], z: [np.float64(24.99746835443038), np.float64(52.
               14749262536873)]
               Conexion: x: [np.float64(-51.27088607594936), np.float64(-30.609970674486803)], y: [np.float64(12.1
               2658227848101), np.float64(-64.96774193548387)], z: [np.float64(24.99746835443038), np.float64(43.3
               13782991202345)]
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               Conexion: x: [np.float64(51.43726235741445), np.float64(51.52873563218391)], y: [np.float64(14.6463
               87832699617), np.float64(4.22988505747125)], z: [np.float64(4.365019011406844), np.float64(5.436781
               Conexion: x: [np.float64(51.43726235741445), np.float64(6.018018018018012)], y: [np.float64(14.6463
               87832699617), np.float64(9.360360360360360374)], z: [np.float64(4.365019011406844), np.float64(59.2972
               Conexion: x: [np.float64(45.06837606837607), np.float64(51.693023255813955)], y: [np.float64(11.418
               803418803407), np.float64(11.283720930232562)], z: [np.float64(32.5042735042735), np.float64(25.200
               Conexion: x: [np.float64(45.06837606837607), np.float64(44.18410041841004)], y: [np.float64(11.4188
               03418803407), np.float64(16.878661087866107)], z: [np.float64(32.5042735042735), np.float64(31.4309
               Conexion: x: [np.float64(45.06837606837607), np.float64(47.55905511811024)], y: [np.float64(11.4188
               03418803407), np.float64(31.38582677165354)], z: [np.float64(32.5042735042735), np.float64(22.46456
```

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               609195407)]
               9729729729)]
               0000000000003)1
               6234309624)]
               6929133852)1
               Conexion: x: [np.float64(45.06837606837607), np.float64(43.714285714285715)], y: [np.float64(11.418
               803418803407), np.float64(7.755102040816325)], z: [np.float64(32.5042735042735), np.float64(47.0367
               3469387755)]
               Conexion: x: [np.float64(45.06837606837607), np.float64(44.006472491909385)], y: [np.float64(11.418
               803418803407), np.float64(20.433656957928804)], z: [np.float64(32.5042735042735), np.float64(40.686
               08414239482)]
               Conexion: x: [np.float64(45.06837606837607), np.float64(-48.1930501930502)], y: [np.float64(11.4188
               03418803407), np.float64(7.0888030888030755)], z: [np.float64(32.5042735042735), np.float64(32.3088
               80308880305)]
               Conexion: x: [np.float64(45.06837606837607), np.float64(50.06896551724138)], y: [np.float64(11.4188
               03418803407), np.float64(7.4000000000000000)], z: [np.float64(32.5042735042735), np.float64(40.28965
```

Conexion: x: [np.float64(45.06837606837607), np.float64(52.66013071895425)], y: [np.float64(11.4188

03418803407), np.float64(4.405228758169926)], z: [np.float64(32.5042735042735), np.float64(31.60130

Conexion: x: [np.float64(52.421487603305785), np.float64(51.693023255813955)], y: [np.float64(13.48

7603305785115), np.float64(11.283720930232562)], z: [np.float64(17.305785123966942), np.float64(25.

Conexion: x: [np.float64(52.421487603305785), np.float64(55.407766990291265)], y: [np.float64(13.48

Conexion: x: [np.float64(52.421487603305785), np.float64(50.44615384615385)], y: [np.float64(13.487

603305785115), np.float64(18.946153846153834)], z: [np.float64(17.305785123966942), np.float64(21.3

Conexion: x: [np.float64(52.421487603305785), np.float64(59.523809523809526)], y: [np.float64(13.48

7603305785115), np.float64(4.4365079365079225)], z: [np.float64(17.305785123966942), np.float64(22.

Conexion: x: [np.float64(51.693023255813955), np.float64(44.18410041841004)], y: [np.float64(11.283

7603305785115), np.float64(14.0)], z: [np.float64(17.305785123966942), np.float64(11.563106796116

517241379)]

718954248)]

2000000000000003)1

007936507936506) 1

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ProyectoF_Zaira 720930232562), np.float64(16.878661087866107)], z: [np.float64(25.20000000000003), np.float64(31.4 3096234309624)] Conexion: x: [np.float64(51.693023255813955), np.float64(50.44615384615385)], y: [np.float64(11.283 720930232562), np.float64(18.946153846153834)], z: [np.float64(25.20000000000003), np.float64(21.3 4615384615384)] Conexion: x: [np.float64(51.693023255813955), np.float64(-48.1930501930502)], y: [np.float64(11.283 720930232562), np.float64(7.0888030888030755)], z: [np.float64(25.2000000000003), np.float64(32.3 08880308880305)] Conexion: x: [np.float64(51.693023255813955), np.float64(50.06896551724138)], y: [np.float64(11.283 720930232562), np.float64(7.400000000000000)], z: [np.float64(25.20000000000000), np.float64(40.28 965517241379)1 Conexion: x: [np.float64(51.693023255813955), np.float64(52.66013071895425)], y: [np.float64(11.283 720930232562), np.float64(4.405228758169926)], z: [np.float64(25.20000000000003), np.float64(31.60 130718954248) Conexion: x: [np.float64(44.18410041841004), np.float64(50.44615384615385)], y: [np.float64(16.8786 61087866107), np.float64(18.946153846153834)], z: [np.float64(31.43096234309624), np.float64(21.346 15384615384)1 Conexion: x: [np.float64(44.18410041841004), np.float64(46.693548387096776)], y: [np.float64(16.878 661087866107), np.float64(24.64516129032259)], z: [np.float64(31.43096234309624), np.float64(26.540 322580645167)] Conexion: x: [np.float64(44.18410041841004), np.float64(44.69285714285714)], y: [np.float64(16.8786 61087866107), np.float64(29.19285714285715)], z: [np.float64(31.43096234309624), np.float64(33.7785 608414239482)] Conexion: x: [np.float64(-37.7844827586207), np.float64(-35.256281407035175)], y: [np.float64(39.50 8620689655174), np.float64(37.6281407035176)], z: [np.float64(-10.094827586206897), np.float64(-12. Conexion: x: [np.float64(-37.7844827586207), np.float64(-45.695431472081225)], y: [np.float64(39.50 8620689655174), np.float64(36.96446700507613)], z: [np.float64(-10.094827586206897), np.float64(-6. 385786802030452)] Conexion: x: [np.float64(-37.7844827586207), np.float64(-40.7913043478261)], y: [np.float64(39.5086 20689655174), np.float64(50.24347826086955)], z: [np.float64(-10.094827586206897), np.float64(-5.30 4347826086953)] Conexion: x: [np.float64(-42.86098654708519), np.float64(-35.256281407035175)], y: [np.float64(28.0 35874439461878), np.float64(37.6281407035176)], z: [np.float64(-12.860986547085204), np.float64(-1 2.974874371859293)] Conexion: x: [np.float64(-42.86098654708519), np.float64(-46.669683257918564)], y: [np.float64(28.0

7.303167420814475)]

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ProyectoF_Za

35874439461878), np.float64(22.95927601809956)], z: [np.float64(-12.860986547085204), np.float64(-

94545454545454545, np.float64(-14.981132075471692)], z: [np.float64(-18.454545454545454545), np.float64(-16.596226415094343)]

Conexion: x: [np.float64(-23.509090909090915), np.float64(26.6111111111111111)], y: [np.float64(-1.9
4545454545454524), np.float64(-11.992063492063494)], z: [np.float64(-18.454545454545454545), np.float64
(-18.96825396825397)]

Conexion: x: [np.float64(-23.509090900009015), np.float64(-20.04132231404958)], y: [np.float64(-1.9
454545454545454), np.float64(-2.04132231404958)], z: [np.float64(-18.4545454545454545), np.float64(26.33057851239669)]

Conexion: x: [np.float64(45.689655172413794), np.float64(38.41025641025641)], y: [np.float64(33.974 13793103448), np.float64(25.333333333333333)], z: [np.float64(-14.051724137931032), np.float64(-16.726495727)]

Conexion: x: [np.float64(45.689655172413794), np.float64(52.08764940239044)], y: [np.float64(33.974 13793103448), np.float64(38.0)], z: [np.float64(-14.051724137931032), np.float64(-6.74900398406374 8)]

Conexion: x: [np.float64(45.689655172413794), np.float64(51.266129032258064)], y: [np.float64(33.97
413793103448), np.float64(25.33870967741936)], z: [np.float64(-14.051724137931032), np.float64(-8.1
93548387096769)]

Conexion: x: [np.float64(45.689655172413794), np.float64(42.02469135802469)], y: [np.float64(33.974
13793103448), np.float64(41.30864197530863)], z: [np.float64(-14.051724137931032), np.float64(-10.5
97597597597595)]

Conexion: x: [np.float64(31.083969465648856), np.float64(38.41025641025641)], y: [np.float64(31.770
9923664122), np.float64(25.333333333333333)], z: [np.float64(-17.458015267175576), np.float64(-16.7
26495726495727)]

Conexion: x: [np.float64(31.083969465648856), np.float64(25.74683544303798)], y: [np.float64(31.770 9923664122), np.float64(20.734177215189874)], z: [np.float64(-17.458015267175576), np.float64(-19.3 4177215189873)]

Conexion: x: [np.float64(38.41025641025641), np.float64(25.74683544303798)], y: [np.float64(25.3333
3333333333, np.float64(20.734177215189874)], z: [np.float64(-16.726495726495727), np.float64(-19.
34177215189873)]

Conexion: x: [np.float64(38.41025641025641), np.float64(37.201581027667984)], y: [np.float64(25.333 333333333), np.float64(23.87351778656125)], z: [np.float64(-16.726495726495727), np.float64(0.19 762845849803057)]

Conexion: x: [np.float64(38.41025641025641), np.float64(33.4863813229572)], y: [np.float64(25.3333
333333343), np.float64(16.871595330739297)], z: [np.float64(-16.726495726495727), np.float64(-13.9
8443579766537)]

Conexion: x: [np.float64(25.74683544303798), np.float64(33.4863813229572)], y: [np.float64(20.73417
7215189874), np.float64(16.871595330739297)], z: [np.float64(-19.34177215189873), np.float64(-13.98
443579766537)]

Conexion: x: [np.float64(52.08764940239044), np.float64(42.02469135802469)], y: [np.float64(38.0), np.float64(41.30864197530863)], z: [np.float64(-6.749003984063748), np.float64(-10.59259259259259

Conexion: x: [np.float64(-42.86098654708519), np.float64(-45.695431472081225)], y: [np.float64(28.0
35874439461878), np.float64(36.96446700507613)], z: [np.float64(-12.860986547085204), np.float64(6.385786802030452)]

Conexion: x: [np.float64(-42.86098654708519), np.float64(-31.714285714285708)], y: [np.float64(28.0 35874439461878), np.float64(28.73260073260073)], z: [np.float64(-12.860986547085204), np.float64(-1 6.468864468864467)]

Conexion: x: [np.float64(-35.256281407035175), np.float64(-31.714285714285708)], y: [np.float64(37.6281407035176), np.float64(28.73260073260073)], z: [np.float64(-12.974874371859293), np.float64(-16.468864468864467)]

Conexion: x: [np.float64(-35.256281407035175), np.float64(-24.421052631578945)], y: [np.float64(37.6281407035176), np.float64(38.67543859649123)], z: [np.float64(-12.974874371859293), np.float64(-16.675438596491226)]

Conexion: x: [np.float64(-46.669683257918564), np.float64(-46.27755102040817)], y: [np.float64(22.9 5927601809956), np.float64(25.387755102040813)], z: [np.float64(-7.303167420814475), np.float64(1.7 87755102040819)]

Conexion: x: [np.float64(-46.669683257918564), np.float64(-35.60942760942761)], y: [np.float64(22.9
5927601809956), np.float64(14.17508417508418)], z: [np.float64(-7.303167420814475), np.float64(-6.3
50168350168346)]

Conexion: x: [np.float64(-46.669683257918564), np.float64(-47.699999999999)], y: [np.float64(22.9
5927601809956), np.float64(13.0)], z: [np.float64(-7.303167420814475), np.float64(-15.1692307692307

Conexion: x: [np.float64(-45.695431472081225), np.float64(-43.36603773584906)], y: [np.float64(36.9 6446700507613), np.float64(39.418867924528314)], z: [np.float64(-6.385786802030452), np.float64(1.0 339622641509436)]

Conexion: x: [np.float64(-22.991304347826087), np.float64(-14.754448398576514)], y: [np.float64(19.
52463768115942), np.float64(25.964412811387888)], z: [np.float64(-21.98840579710145), np.float64(-2
1.110320284697508)]

Conexion: x: [np.float64(-22.991304347826087), np.float64(-6.772455089820355)], y: [np.float64(19.5 2463768115942), np.float64(22.101796407185617)], z: [np.float64(-21.98840579710145), np.float64(-1 9.203592814371255)]

Conexion: x: [np.float64(-22.991304347826087), np.float64(-33.699604743083)], y: [np.float64(19.524 63768115942), np.float64(18.189723320158095)], z: [np.float64(-21.98840579710145), np.float64(-27.7 3913043478261)]

Conexion: x: [np.float64(-31.714285714285708), np.float64(-24.421052631578945)], y: [np.float64(28.7326073260073), np.float64(38.67543859649123)], z: [np.float64(-16.468864468864467), np.float64(-16.675438596491226)]

Conexion: x: [np.float64(-23.50909090000915), np.float64(27.05645161290323)], y: [np.float64(-1.94
5454545454545454), np.float64(-0.5725806451612954)], z: [np.float64(-18.45454545454545453), np.float64
(-18.806451612903224)]

Conexion: x: [np.float64(-23.509090909090915), np.float64(-20.6666666666667)], y: [np.float64(-1.9
4545454545454524), np.float64(-11.02057613168725)], z: [np.float64(-18.4545454545454545453), np.float64
(-18.995884773662553)]

Conexion: x: [np.float64(-23.5090909090915), np.float64(-30.347169811320754)], y: [np.float64(-1.

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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ProyectoF_2

5)]
Conexion: x: [np.float64(52.08764940239044), np.float64(53.268085106382976)], y: [np.float64(38.0), np.float64(31.268085106382983)], z: [np.float64(-6.749003984063748), np.float64(1.812765957446814)]
Conexion: x: [np.float64(52.08764940239044), np.float64(47.45019920318725)], y: [np.float64(38.0), np.float64(39.394422310756966)], z: [np.float64(-6.749003984063748), np.float64(1.003984063745022

Conexion: x: [np.float64(51.266129032258064), np.float64(53.268085106382976)], y: [np.float64(25.33 870967741936), np.float64(31.268085106382983)], z: [np.float64(-8.193548387096769), np.float64(1.81 2765957446814)]

Conexion: x: [np.float64(51.266129032258064), np.float64(53.11372549019608)], y: [np.float64(25.338 70967741936), np.float64(13.858823529411751)], z: [np.float64(-8.193548387096769), np.float64(-11.7 88235294117648)]

Conexion: x: [np.float64(42.02469135802469), np.float64(40.4545454545454545)], y: [np.float64(41.3086
4197530863), np.float64(50.09090909090909)], z: [np.float64(-10.592592592592595), np.float64(-11.78
0303030303031)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(-48.49557522123894)], y: [np.float64(32.3 7918215613382), np.float64(29.274336283185846)], z: [np.float64(18.84014869888476), np.float64(7.31 8584070796462)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(-45.47619047619048)], y: [np.float64(32.3 7918215613382), np.float64(34.12380952380951)], z: [np.float64(18.84014869888476), np.float64(7.580 952380952382)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(-45.769230769230774)], y: [np.float64(32.37918215613382), np.float64(27.01538461538462)], z: [np.float64(18.84014869888476), np.float64(24.830769230769235)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(-48.376811594202906)], y: [np.float64(32.
37918215613382), np.float64(17.775362318840592)], z: [np.float64(18.84014869888476), np.float64(26.
76086956521739)]

798215613382), np.float64(-44.743494423791816), np.float64(-42.03076923076924)], y: [np.float64(32.3 7918215613382), np.float64(33.9897435897436)], z: [np.float64(18.84014869888476), np.float64(26.266

666666666666)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(41.559471365638764)], y: [np.float64(32.3791816), np.float64(41.559471365638764)], y: [np.float64(32.3791816), np.float64(41.559471365638764)], y: [np.float64(32.3791816), np.float64(41.559471365638764)], y: [np.float64(32.3791816), np.float64(41.559471365638764)], y: [np.float64(41.559471365638764)], y: [np.float64(41.55947136638764)], y: [np.float64(41.5594713664]], y: [np.float64(41.55947136638764)], y: [np.float64(41.5594713668]], y: [np.float64(41.559471368]], y: [np.float64(41.5594768]], y: [np.float64(41.5594768]], y: [np.float64(41.5594768]], y: [np.float64(41.5594768]], y: [np.float64(41.55947

7918215613382), np.float64(40.255506607929505)], z: [np.float64(18.84014869888476), np.float64(25.0 66079295154182)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(-48.1930591930502)], y: [np.float64(32.37
918215613382), np.float64(7.0888030888030755)], z: [np.float64(18.8401486988476), np.float64(32.30
8880308880305)]

Conexion: x: [np.float64(-44.743494423791816), np.float64(-4.55230125523012)], y: [np.float64(32.37 918215613382), np.float64(17.054393305439334)], z: [np.float64(18.84014869888476), np.float64(47.84 02232842374)]

Conexion: x: [np.float64(-49.66666666666666), np.float64(-48.49557522123894)], y: [np.float64(21.72
49999999994), np.float64(29.274336283185846)], z: [np.float64(17.950000000000003), np.float64(7.3
18584070796462)]

Conexion: x: [np.float64(-49.66666666666666), np.float64(-46.77735849056603)], y: [np.float64(21.72

50218340611353)]

380952380951), np.float64(39.418867924528314)], z: [np.float64(7.580952380952382), np.float64(1.033

ProyectoF_Zaira 622641509434)] Conexion: x: [np.float64(-49.6666666666666), np.float64(-45.769230769230774)], y: [np.float64(21.7 249999999994), np.float64(27.01538461538462)], z: [np.float64(17.95000000000003), np.float64(24. 830769230769235)] Conexion: x: [np.float64(-49.66666666666666), np.float64(-48.376811594202906)], y: [np.float64(21.7 249999999994), np.float64(17.775362318840592)], z: [np.float64(17.95000000000003), np.float64(2 6.76086956521739)] Conexion: x: [np.float64(-48.49557522123894), np.float64(-46.27755102040817)], y: [np.float64(29.27 4336283185846), np.float64(25.387755102040813)], z: [np.float64(7.318584070796462), np.float64(1.78 7755102040819)] Conexion: x: [np.float64(-48.49557522123894), np.float64(-45.47619047619048)], y: [np.float64(29.27 4336283185846), np.float64(34.12380952380951)], z: [np.float64(7.318584070796462), np.float64(7.580 Conexion: x: [np.float64(-48.49557522123894), np.float64(-46.77735849056603)], y: [np.float64(29.27 4336283185846), np.float64(19.871698113207543)], z: [np.float64(7.318584070796462), np.float64(7.16 22641509434)1 Conexion: x: [np.float64(-48.49557522123894), np.float64(-48.376811594202906)], y: [np.float64(29.2 74336283185846), np.float64(17.775362318840592)], z: [np.float64(7.318584070796462), np.float64(26. 76086956521739)] Conexion: x: [np.float64(-46.27755102040817), np.float64(-45.47619047619048)], y: [np.float64(25.38 7755102040813), np.float64(34.12380952380951)], z: [np.float64(1.787755102040819), np.float64(7.580 Conexion: x: [np.float64(-46.27755102040817), np.float64(-46.77735849056603)], y: [np.float64(25.38 7755102040813), np.float64(19.871698113207543)], z: [np.float64(1.787755102040819), np.float64(7.16 22641509434)] Conexion: x: [np.float64(-46.27755102040817), np.float64(-31.52380952380952)], y: [np.float64(25.38 7755102040813), np.float64(23.3113553113553)], z: [np.float64(1.787755102040819), np.float64(1.3846 153846153868)] Conexion: x: [np.float64(-46.27755102040817), np.float64(37.201581027667984)], y: [np.float64(25.38 7755102040813), np.float64(23.87351778656125)], z: [np.float64(1.787755102040819), np.float64(0.197 62845849803057)] Conexion: x: [np.float64(-40.7032967032967), np.float64(-45.47619047619048)], y: [np.float64(40.036 630036630044), np.float64(34.12380952380951)], z: [np.float64(10.065934065934073), np.float64(7.580 952380952382)] Conexion: x: [np.float64(-40.7032967032967), np.float64(-43.36603773584906)], y: [np.float64(40.036 630036630044), np.float64(39.418867924528314)], z: [np.float64(10.065934065934073), np.float64(1.03 39622641509436)] Conexion: x: [np.float64(-40.7032967032967), np.float64(-39.73134328358208)], y: [np.float64(40.036 630036630044), np.float64(49.79850746268656)], z: [np.float64(10.065934065934073), np.float64(4.291 044776119406)] Conexion: x: [np.float64(-40.7032967032967), np.float64(-39.764192139737986)], y: [np.float64(40.03

2.607669616519175)]

3,313782991202345)]

Conexion: x: [np.float64(-48.376811594202906), np.float64(-30.687074829931973)], y: [np.float64(17. $775362318840592), \; \mathsf{np.float64}(-61.74829931972789)], \; \mathsf{z:} \; [\mathsf{np.float64}(26.76086956521739), \; \mathsf{np.float64}(5.76086956521739)], \; \mathsf{np.float64}(-61.74829931972789)], \; \mathsf{np.float64}(-61.748299931972789)], \; \mathsf{np.float64}(-61.74829931972789)], \; \mathsf{np$ 3,25170068027211)]

6630036630044), np.float64(42.681222707423586)], z: [np.float64(10.065934065934073), np.float64(19.

Conexion: x: [np.float64(-48.376811594202906), np.float64(-48.1930501930502)], y: [np.float64(17.77 5362318840592), np.float64(7.0888030888030755)], z: [np.float64(26.76086956521739), np.float64(32.3

Conexion: x: [np.float64(-48.376811594202906), np.float64(-41.230158730158735)], y: [np.float64(17. 775362318840592), np.float64(0.1428571428571388)], z: [np.float64(26.76086956521739), np.float64(4 8,58730158730158)]

Conexion: x: [np.float64(-48.376811594202906), np.float64(-4.55230125523012)], y: [np.float64(17.77 5362318840592), np.float64(17.054393305439334)], z: [np.float64(26.76086956521739), np.float64(47.8 4937238493724)]

Conexion: x: [np.float64(-43.36603773584906), np.float64(-39.73134328358208)], y: [np.float64(39.41 8867924528314), np.float64(49.79850746268656)], z: [np.float64(1.0339622641509436), np.float64(4.29 1044776119406)]

Conexion: x: [np.float64(53.268085106382976), np.float64(53.03414634146341)], y: [np.float64(31.268 085106382983), np.float64(28.663414634146335)], z: [np.float64(1.812765957446814), np.float64(9.756 097560975604)]

Conexion: x: [np.float64(53.268085106382976), np.float64(47.45019920318725)], y: [np.float64(31.268 085106382983), np.float64(39.394422310756966)], z: [np.float64(1.812765957446814), np.float64(1.003 9840637450226)]

Conexion: x: [np.float64(53.268085106382976), np.float64(54.24545454545454)], y: [np.float64(31.268 085106382983), np.float64(22.68181818181818187)], z: [np.float64(1.812765957446814), np.float64(3.654 545454545456)]

Conexion: x: [np.float64(47.55905511811024), np.float64(50.4)], y: [np.float64(31.38582677165354), np.float64(25.982222222222)], z: [np.float64(22.464566929133852), np.float64(15.46666666666669)] Conexion: x: [np.float64(47.55905511811024), np.float64(46.693548387096776)], y: [np.float64(31.385 82677165354), np.float64(24.64516129032259)], z: [np.float64(22.464566929133852), np.float64(26.540

322580645167)] Conexion: x: [np.float64(47.55905511811024), np.float64(41.559471365638764)], y: [np.float64(31.385 82677165354), np.float64(40.255506607929505)], z: [np.float64(22.464566929133852), np.float64(25.06 6079295154182)]

Conexion: x: [np.float64(47.55905511811024), np.float64(43.905138339920946)], y: [np.float64(31.385 82677165354), np.float64(37.49407114624506)], z: [np.float64(22.464566929133852), np.float64(19.501 976284584984)1

Conexion: x: [np.float64(47.55905511811024), np.float64(44.69285714285714)], y: [np.float64(31.3858 2677165354), np.float64(29.19285714285715)], z: [np.float64(22.464566929133852), np.float64(33.7785 71428571425)]

Conexion: x: [np.float64(53.03414634146341), np.float64(48.74308300395257)], y: [np.float64(28.6634 14634146335), np.float64(36.40316205533597)], z: [np.float64(9.756097560975604), np.float64(10.9486 16600790515)1

Conexion: x: [np.float64(53.03414634146341), np.float64(54.24545454545454)], y: [np.float64(28.6634 14634146335), np.float64(22.681818181818187)], z: [np.float64(9.756097560975604), np.float64(3.6545 9622641509436)] Conexion: x: [np.float64(-46.77735849056603), np.float64(-31.52380952380952)], y: [np.float64(19.87 1698113207543), np.float64(23.3113553113553)], z: [np.float64(7.1622641509434), np.float64(1.384615 Conexion: x: [np.float64(-45.769230769230774), np.float64(-48.376811594202906)], y: [np.float64(27. 01538461538462), np.float64(17.775362318840592)], z: [np.float64(24.830769230769235), np.float64(2 6.76086956521739)] Conexion: x: [np.float64(-45.769230769230774), np.float64(47.55905511811024)], y: [np.float64(27.01 538461538462), np.float64(31.38582677165354)], z: [np.float64(24.830769230769235), np.float64(22.46 4566929133852)] Conexion: x: [np.float64(-45.769230769230774), np.float64(-42.03076923076924)], y: [np.float64(27.0 1538461538462), np.float64(33.9897435897436)], z: [np.float64(24.830769230769235), np.float64(26.26 ${\tt Conexion: x: [np.float64(-45.769230769230774), np.float64(-31.52380952380952)], y: [np.float64(27.001380952380952)], y: [np.float64(27.001380952)], y: [np.float64(2$ 1538461538462), np.float64(23.3113553113553)], z: [np.float64(24.830769230769235), np.float64(1.384 6153846153868)] Conexion: x: [np.float64(-45.769230769230774), np.float64(-37.10914454277287)], y: [np.float64(27.0 1538461538462), np.float64(-55.687315634218294)], z: [np.float64(24.830769230769235), np.float64(5 2.607669616519175)] Conexion: x: [np.float64(-45.769230769230774), np.float64(-30.609970674486803)], y: [np.float64(27. 01538461538462), np.float64(-64.96774193548387)], z: [np.float64(24.830769230769235), np.float64(4 3,313782991202345)1 Conexion: x: [np.float64(-45.769230769230774), np.float64(-30.687074829931973)], y: [np.float64(27. 01538461538462), np.float64(-61.74829931972789)], z: [np.float64(24.830769230769235), np.float64(5 3.25170068027211)] Conexion: x: [np.float64(-45.769230769230774), np.float64(-42.82527881040892)], y: [np.float64(27.0 1538461538462), np.float64(6.118959107806688)], z: [np.float64(24.830769230769235), np.float64(42.4 0148698884758)1 Conexion: x: [np.float64(-45.769230769230774), np.float64(-4.55230125523012)], y: [np.float64(27.01 538461538462), np.float64(17.054393305439334)], z: [np.float64(24.830769230769235), np.float64(47.8 4937238493724)] ${\tt Conexion: x: [np.float64(-48.376811594202906), np.float64(-5.677419354838705)], y: [np.float64(17.78811594202906), np.float64(-5.677419354838705)], y: [np.float64(-5.677419354838705)], y: [np.float64(-5.67741935488705)], y: [np.float64(-5.67741935488705)], y: [np.float64(-5.6774998705)], y: [np.float64(-5.6774998705)], y: [np.float64(-5.6774998705)], y: [np.float64(-5.677498705)], y: [np.float64(-5.677498705)], y: [np.float64(-5.677498705)], y: [np.float64(-5.677498705)], y: [np.float64(-5.677498705)], y: [np.float64(-5.677498705)], y: [np.float64(-5.6774$ 75362318840592), np.float64(26.66129032258064)], z: [np.float64(26.76086956521739), np.float64(40.3 14516129032256)] Conexion: x: [np.float64(-48.376811594202906), np.float64(-37.10914454277287)], y: [np.float64(17.7

45454545456)1 Conexion: x: [np.float64(53.03414634146341), np.float64(50.4)], y: [np.float64(28.663414634146331), np.float64(25.982222222222)], z: [np.float64(9.75609756097, np.float64(15.46666666666666)] Conexion: x: [np.float64(48.74308300395257), np.float64(47.45019920318725)], y: [np.float64(36.4031 6205533597), np.float64(39.394422310756966)], z: [np.float64(10.948616600790515), np.float64(1.0039 840637450226)] Conexion: x: [np.float64(48.74308300395257), np.float64(43.905138339920946)], y: [np.float64(36.403

75362318840592), np.float64(-55.687315634218294)], z: [np.float64(26.76086956521739), np.float64(5

Conexion: x: [np.float64(-48.376811594202906), np.float64(-30.609970674486803)], y: [np.float64(17. 775362318840592), np.float64(-64.96774193548387)], z: [np.float64(26.76086956521739), np.float64(4

16205533597), np.float64(37.49407114624506)], z: [np.float64(10.948616600790515), np.float64(19.501 976284584984)1 Conexion: x: [np.float64(50.44615384615385), np.float64(46.693548387096776)], y: [np.float64(18.946

153846153834), np.float64(24.64516129032259)], z: [np.float64(21.34615384615384), np.float64(26.540 322580645167)] Conexion: x: [np.float64(47.45019920318725), np.float64(44.63598326359833)], y: [np.float64(39.3944

22310756966), np.float64(48.184100418410054)], z: [np.float64(1.0039840637450226), np.float64(4.075 313807531387)]

Conexion: x: [np.float64(46.693548387096776), np.float64(44.69285714285714)], y: [np.float64(24.645 16129032259), np.float64(29.19285714285715)], z: [np.float64(26.540322580645167), np.float64(33.778 571428571425)]

Conexion: x: [np.float64(-5.710743801652896), np.float64(-4.067510548523202)], y: [np.float64(39.33 88429752066), np.float64(54.751054852320664)], z: [np.float64(-10.45454545454545453), np.float64(-10. 270042194092824)]

Conexion: x: [np.float64(-5.710743801652896), np.float64(7.964912280701753)], y: [np.float64(39.338 8429752066), np.float64(37.543859649122794)], z: [np.float64(-10.45454545454545453), np.float64(-9.55 7894736842101)]

Conexion: x: [np.float64(-5.710743801652896), np.float64(6.428070175438592)], y: [np.float64(39.338

71929824559)1 Conexion: x: [np.float64(-5.710743801652896), np.float64(-4.392452830188674)], y: [np.float64(39.33

88429752066), np.float64(49.16981132075472)], z: [np.float64(-10.45454545454545453), np.float64(-17.9

Conexion: x: [np.float64(-5.710743801652896), np.float64(-6.273127753303967)], y: [np.float64(39.33 88429752066), np.float64(34.70484581497797)], z: [np.float64(-10.45454545454545453), np.float64(-5.09 2511013215855)]

Conexion: x: [np.float64(-5.710743801652896), np.float64(-4.538745387453872)], y: [np.float64(39.33 88429752066), np.float64(46.53874538745387)], z: [np.float64(-10.4545454545454545), np.float64(3.062 73062730628)]

Conexion: x: [np.float64(-6.51666666666666), np.float64(-4.067510548523202)], y: [np.float64(63.59 99999999994), np.float64(54.751054852320664)], z: [np.float64(-5.849999999999), np.float64(-1

Conexion: x: [np.float64(-6.51666666666666), np.float64(9.104895104895107)], y: [np.float64(63.599 99999999994), np.float64(62.86013986013987)], z: [np.float64(-5.8499999999999), np.float64(-7.68 531468531468)

Conexion: x: [np.float64(-6.51666666666666), np.float64(-8.62135922330097)], y: [np.float64(63.599

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

22/167

9.50218340611353)]

ProyectoF_Zaira 9999999994), np.float64(64.95145631067962)], z: [np.float64(-5.8499999999994), np.float64(5.313 915857605181) Conexion: x: [np.float64(-4.067510548523202), np.float64(6.428070175438592)], y: [np.float64(54.751 054852320664), np.float64(50.7719298245614)], z: [np.float64(-10.270042194092824), np.float64(-8.30 8771929824559)] Conexion: x: [np.float64(-4.067510548523202), np.float64(-4.392452830188674)], y: [np.float64(54.75 1054852320664), np.float64(49.16981132075472)], z: [np.float64(-10.270042194092824), np.float64(-1 7.932075471698113)] Conexion: x: [np.float64(7.964912280701753), np.float64(6.428070175438592)], y: [np.float64(37.5438 59649122794), np.float64(50.7719298245614)], z: [np.float64(-9.557894736842101), np.float64(-8.3087 71929824559)1 Conexion: x: [np.float64(7.964912280701753), np.float64(7.361216730038024)], y: [np.float64(37.5438 59649122794), np.float64(31.787072243346017)], z: [np.float64(-9.557894736842101), np.float64(-18.2 35741444866918)] Conexion: x: [np.float64(7.964912280701753), np.float64(-6.273127753303967)], y: [np.float64(37.543 859649122794), np.float64(34.70484581497797)], z: [np.float64(-9.557894736842101), np.float64(-5.09 2511013215855)1 Conexion: x: [np.float64(9.104895104895107), np.float64(6.428070175438592)], y: [np.float64(62.8601 3986013987), np.float64(50.7719298245614)], z: [np.float64(-7.68531468531468), np.float64(-8.308771 929824559)1 Conexion: x: [np.float64(9.104895104895107), np.float64(9.935483870967744)], y: [np.float64(62.8601 3986013987), np.float64(66.14746543778801)], z: [np.float64(-7.68531468531468), np.float64(6.516129 Conexion: x: [np.float64(9.104895104895107), np.float64(14.86440677966101)], y: [np.float64(62.8601 3986013987), np.float64(57.26271186440678)], z: [np.float64(-7.68531468531468), np.float64(-15.5762 71186440678)1 Conexion: x: [np.float64(6.428070175438592), np.float64(9.39776951672863)], y: [np.float64(50.77192 98245614), np.float64(52.98141263940519)], z: [np.float64(-8.308771929824559), np.float64(3.1524163 568773247)] Conexion: x: [np.float64(6.428070175438592), np.float64(6.67619047619047)], y: [np.float64(50.77192 98245614), np.float64(50.9047619047619)], z: [np.float64(-8.308771929824559), np.float64(-18.742857 14285714)] Conexion: x: [np.float64(-36.04958677685951). np.float64(-30.368852459016395)]. v: [np.float64(51.1 98347107438025), np.float64(49.81147540983608)], z: [np.float64(14.305785123966942), np.float64(20. 05737704918033)1 Conexion: x: [np.float64(-36.04958677685951), np.float64(-39.73134328358208)], y: [np.float64(51.19 8347107438025), np.float64(49.79850746268656)], z: [np.float64(14.305785123966942), np.float64(4.29 1044776119406)] Conexion: x: [np.float64(-36.04958677685951), np.float64(-30.290540540540547)], y: [np.float64(51.1 98347107438025), np.float64(55.81756756756756758)], z: [np.float64(14.305785123966942), np.float64(8.1 55405405405403)1 98347107438025), np.float64(42.681222707423586)], z: [np.float64(14.305785123966942), np.float64(1

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9196787148588), np.float64(17.260377358490558)], z: [np.float64(54.85140562248995), np.float64(51.1 3962264150943)] Conexion: x: [np.float64(-25.42168674698796), np.float64(-18.87285223367698)], y: [np.float64(15.79 9196787148588), np.float64(17.573883161512015)], z: [np.float64(54.85140562248995), np.float64(57.7 1821305841925)]

Conexion: x: [np.float64(-35.574297188755025), np.float64(-28.157706093189958)], y: [np.float64(7.4 53815261044184), np.float64(3.5268817204301115)], z: [np.float64(51.31726907630522), np.float64(57. 082437275985654)]

Conexion: x: [np.float64(-35.574297188755025), np.float64(-31.78867924528302)], y: [np.float64(7.45 3815261044184), np.float64(17.260377358490558)], z: [np.float64(51.31726907630522), np.float64(51.1 3962264150943)1

Conexion: x: [np.float64(-35.574297188755025), np.float64(-42.82527881040892)], y: [np.float64(7.45 3815261044184), np.float64(6.118959107806688)], z: [np.float64(51.31726907630522), np.float64(42.40

Conexion: x: [np.float64(-35.574297188755025), np.float64(-34.39269406392694)], y: [np.float64(7.45 3815261044184), np.float64(-3.050228310502277)], z: [np.float64(51.31726907630522), np.float64(53.8 5388127853881)1

Conexion: x: [np.float64(-35.574297188755025), np.float64(-41.230158730158735)], y: [np.float64(7.4 53815261044184), np.float64(0.1428571428571388)], z: [np.float64(51.31726907630522), np.float64(48. 58730158730158)]

Conexion: x: [np.float64(-44.77902621722848), np.float64(-42.82527881040892)], y: [np.float64(17.30 3370786516865), np.float64(6.118959107806688)], z: [np.float64(37.14606741573034), np.float64(42.40

Conexion: x: [np.float64(-44.77902621722848), np.float64(-48.1930501930502)], y: [np.float64(17.303 370786516865), np.float64(7.0888030888030755)], z: [np.float64(37.14606741573034), np.float64(32.30 8880308880305)1

Conexion: x: [np.float64(-36.453531598513024), np.float64(-39.547008547008545)], y: [np.float64(34. 052044609665415), np.float64(24.24786324786325)], z: [np.float64(34.43866171003718), np.float64(40.

32478632478633)] Conexion: x: [np.float64(-36.453531598513024), np.float64(-42.03076923076924)], y: [np.float64(34.0 52044609665415), np.float64(33.9897435897436)], z: [np.float64(34.43866171003718), np.float64(26.26

Conexion: x: [np.float64(-36.453531598513024). np.float64(-29.179487179487182)]. v: [np.float64(34.

052044609665415), np.float64(39.863247863247864)], z: [np.float64(34.43866171003718), np.float64(3 4.7094017094017)] Conexion: x: [np.float64(-36.453531598513024), np.float64(37.34615384615385)], y: [np.float64(34.05

2044609665415), np.float64(36.400000000000000)], z: [np.float64(34.43866171003718), np.float64(35.4 7692307692307)] Conexion: x: [np.float64(-42.03076923076924), np.float64(-39.764192139737986)], y: [np.float64(33.9

897435897436), np.float64(42.681222707423586)], z: [np.float64(26.2666666666666), np.float64(19.5 0218340611353)]

Conexion: x: [np.float64(-42.03076923076924), np.float64(43.905138339920946)], y: [np.float64(33.98 97435897436), np.float64(37.49407114624506)], z: [np.float64(26.2666666666666), np.float64(19.501

```
Conexion: x: [np.float64(-36.04958677685951), np.float64(37.922413793103445)], y: [np.float64(51.19
8347107438025), np.float64(51.896551724137936)], z: [np.float64(14.305785123966942), np.float64(13.
491379310344826)]
```

Conexion: x: [np.float64(-33.28286852589642), np.float64(-36.453531598513024)], y: [np.float64(40.0 8764940239044), np.float64(34.052044609665415)], z: [np.float64(26.916334661354583), np.float64(34.

Conexion: x: [np.float64(-33.28286852589642), np.float64(-29.179487179487182)], y: [np.float64(40.0 8764940239044), np.float64(39.863247863247864)], z: [np.float64(26.916334661354583), np.float64(34. 7094017094017)1

Conexion: x: [np.float64(-33.28286852589642), np.float64(-39.764192139737986)], y: [np.float64(40.0 8764940239044), np.float64(42.681222707423586)], z: [np.float64(26.916334661354583), np.float64(19. 50218340611353)]

Conexion: x: [np.float64(-39.78867924528302), np.float64(-44.77902621722848)], y: [np.float64(15.93 962264150943), np.float64(17.303370786516865)], z: [np.float64(42.93584905660377), np.float64(37.14 606741573034)]

Conexion: x: [np.float64(-39.78867924528302), np.float64(-39.547008547008545)], y: [np.float64(15.9 3962264150943), np.float64(24.24786324786325)], z: [np.float64(42.93584905660377), np.float64(40.32 478632478633)1

Conexion: x: [np.float64(-39.78867924528302), np.float64(-42.82527881040892)], y: [np.float64(15.93 962264150943), np.float64(6.118959107806688)], z: [np.float64(42.93584905660377), np.float64(42.401 48698884758)]

Conexion: x: [np.float64(-33.24187725631769), np.float64(-39.547008547008545)], y: [np.float64(26.6 7148014440434), np.float64(24.24786324786325)], z: [np.float64(43.96389891696751), np.float64(40.32 478632478633)1

Conexion: x: [np.float64(-33.24187725631769), np.float64(-25.664429530201346)], y: [np.float64(26.6 7148014440434), np.float64(28.731543624161077)], z: [np.float64(43.96389891696751), np.float64(47.9 5302013422818)]

Conexion: x: [np.float64(-33.24187725631769), np.float64(-31.78867924528302)], y: [np.float64(26.67 148014440434), np.float64(17.260377358490558)], z: [np.float64(43.96389891696751), np.float64(51.13 962264150943)

Conexion: x: [np.float64(-30.368852459016395), np.float64(-30.290540540540547)], y: [np.float64(49. 81147540983608), np.float64(55.81756756756758)], z: [np.float64(20.05737704918033), np.float64(8.15 5405405405403)]

Conexion: x: [np.float64(-30.368852459016395), np.float64(-39.764192139737986)], y: [np.float64(49. 81147540983608), np.float64(42.681222707423586)], z: [np.float64(20.05737704918033), np.float64(19. 50218340611353)]

Conexion: x: [np.float64(-30.368852459016395), np.float64(-20.75)], y: [np.float64(49.8114754098360 8), np.float64(55.4375)], z: [np.float64(20.05737704918033), np.float64(24.546875)] Conexion: x: [np.float64(-25.42168674698796), np.float64(-25.664429530201346)], y: [np.float64(15.7

99196787148588), np.float64(28.731543624161077)], z: [np.float64(54.85140562248995), np.float64(47. 95302013422818)1

Conexion: x: [np.float64(-25.42168674698796), np.float64(-31.78867924528302)], y: [np.float64(15.79

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Conexion: x: [np.float64(-39.73134328358208), np.float64(-30.290540540540547)], y: [np.float64(49.7 9850746268656), np.float64(55.81756756756758)], z: [np.float64(4.291044776119406), np.float64(8.155 405405405403)1

Conexion: x: [np.float64(-39.73134328358208), np.float64(-40.7913043478261)], y: [np.float64(49.798 50746268656), np.float64(50.24347826086955)], z: [np.float64(4.291044776119406), np.float64(-5.3043

Conexion: x: [np.float64(-25.664429530201346), np.float64(-31.78867924528302)], y: [np.float64(28.7 31543624161077), np.float64(17.260377358490558)], z: [np.float64(47.95302013422818), np.float64(51. 13962264150943)]

Conexion: x: [np.float64(-25.664429530201346), np.float64(29.935275080906152)], y: [np.float64(28.7 31543624161077), np.float64(28.03236245954693)], z: [np.float64(47.95302013422818), np.float64(43.9 4822006472492)]

Conexion: x: [np.float64(-25.664429530201346), np.float64(-17.694704049844233)], y: [np.float64(28. 731543624161077), np.float64(33.98753894080997)], z: [np.float64(47.95302013422818), np.float64(47. 88161993769471)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(31.37179487179487)], y: [np.float64(3.526 8817204301115), np.float64(14.53205128205127)], z: [np.float64(57.082437275985654), np.float64(54.4 1025641025641)1

Conexion: x: [np.float64(-28.157706093189958), np.float64(38.969162995594715)], y: [np.float64(3.52 68817204301115), np.float64(0.4581497797356917)], z: [np.float64(57.082437275985654), np.float64(5 1.048458149779734)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(-24.69291338582677)], y: [np.float64(3.52 68817204301115), np.float64(-6.2755905511810965)], z: [np.float64(57.082437275985654), np.float64(6

4,43307086614172)1 Conexion: x: [np.float64(-28.157706093189958), np.float64(-21.5859649122807)], y: [np.float64(3.526

8817204301115), np.float64(2.89122807017543)], z: [np.float64(57.082437275985654), np.float64(62.71 57894736842)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(26.25992779783394)], y: [np.float64(3.526 8817204301115), np.float64(4.490974729241884)], z: [np.float64(57.082437275985654), np.float64(60.3 61010830324915)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(-37.10914454277287)], y: [np.float64(3.52 68817204301115), np.float64(-55.687315634218294)], z: [np.float64(57.082437275985654), np.float64(5 2.607669616519175)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(-41.091445427728615)], y: [np.float64(3.5 268817204301115), np.float64(-44.525073746312685)], z: [np.float64(57.082437275985654), np.float64 (52.14749262536873)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(-30.687074829931973)], y: [np.float64(3.5 268817204301115), np.float64(-61.74829931972789)], z: [np.float64(57.082437275985654), np.float64(5 3.25170068027211)]

Conexion: x: [np.float64(-28.157706093189958), np.float64(-34.39269406392694)], y: [np.float64(3.52 68817204301115), np.float64(-3.050228310502277)], z: [np.float64(57.082437275985654), np.float64(5 3,85388127853881)]

0.63070539419087)1

Conexion: x: [np.float64(-28.157706093189958), np.float64(-30.414937759336098)], y: [np.float64(3.5

50406504071)1

Conexion: x: [np.float64(-28.157706093189958), np.float64(-2.606837606837601)], y: [np.float64(3.52 68817204301115), np.float64(12.0)], z: [np.float64(57.082437275985654), np.float64(55.2735042735042 Conexion: x: [np.float64(-28.157706093189958), np.float64(-4.55230125523012)], y: [np.float64(3.526 8817204301115), np.float64(17.054393305439334)], z: [np.float64(57.082437275985654), np.float64(47. 84937238493724)1 Conexion: x: [np.float64(-24.02380952380952), np.float64(-29.179487179487182)], y: [np.float64(47.4 28571428571416), np.float64(39.863247863247864)], z: [np.float64(28.626984126984127), np.float64(3 4.7094017094017)] Conexion: x: [np.float64(-24.02380952380952), np.float64(-20.75)], y: [np.float64(47.42857142857141 6), np.float64(55.4375)], z: [np.float64(28.626984126984127), np.float64(24.546875)] Conexion: x: [np.float64(-24.02380952380952), np.float64(-22.328859060402678)], y: [np.float64(47.4 28571428571416), np.float64(40.05369127516778)], z: [np.float64(28.626984126984127), np.float64(37. 50335570469798)1 Conexion: x: [np.float64(-29.179487179487182), np.float64(-22.328859060402678)], y: [np.float64(39. 863247863247864), np.float64(40.05369127516778)], z: [np.float64(34.7094017094017), np.float64(37.5 0335570469798)] Conexion: x: [np.float64(-30.290540540540547), np.float64(34.25675675675676)], y: [np.float64(55.81 756756756758), np.float64(55.69594594594594)], z: [np.float64(8.155405405405403), np.float64(3.2027 Conexion: x: [np.float64(-30.290540540540547), np.float64(-23.109489051094897)], y: [np.float64(55. 81756756756758), np.float64(60.277372262773724)], z: [np.float64(8.155405405403), np.float64(2.9 562043795620383)1 Conexion: x: [np.float64(-25.12663755458516), np.float64(-33.442786069651746)], y: [np.float64(54.1 3100436681222), np.float64(54.06965174129354)], z: [np.float64(-11.493449781659386), np.float64(-1 0.45771144278607)1 Conexion: x: [np.float64(-25.12663755458516), np.float64(24.466666666667)], y: [np.float64(54.131 00436681222), np.float64(57.0749999999999)], z: [np.float64(-11.493449781659386), np.float64(-13.5 49999999999997)] Conexion: x: [np.float64(-25.12663755458516), np.float64(-17.58119658119658)], y: [np.float64(54.13 100436681222), np.float64(45.4957264957265)], z: [np.float64(-11.493449781659386), np.float64(-15.8 71794871794869)1 Conexion: x: [np.float64(-25.12663755458516), np.float64(-21.028571428571425)], y: [np.float64(54.1 3100436681222), np.float64(61.428571428571416)], z: [np.float64(-11.493449781659386), np.float64(-6.383673469387759)] Conexion: x: [np.float64(-40.7913043478261), np.float64(-33.442786069651746)], y: [np.float64(50.24 347826086955), np.float64(54.06965174129354)], z: [np.float64(-5.304347826086953), np.float64(-10.4 5771144278607)] Conexion: x: [np.float64(-40.7913043478261), np.float64(38.65853658536585)], y: [np.float64(50.2434 7826086955), np.float64(55.20325203252034)], z: [np.float64(-5.304347826086953), np.float64(-6.0406 29/11/24, 11:38 p.m Conexion: x: [np.float64(37.65986394557823), np.float64(29.935275080906152)], y: [np.float64(20.768 707482993193), np.float64(28.03236245954693)], z: [np.float64(46.455782312925166), np.float64(43.94 822006472492)1 Conexion: x: [np.float64(37.65986394557823), np.float64(31.37179487179487)], y: [np.float64(20.7687 07482993193), np.float64(14.53205128205127)], z: [np.float64(46.455782312925166), np.float64(54.410 25641025641)] Conexion: x: [np.float64(37.65986394557823), np.float64(44.006472491909385)], y: [np.float64(20.768 707482993193), np.float64(20.433656957928804)], z: [np.float64(46.455782312925166), np.float64(40.6 8608414239482)] Conexion: x: [np.float64(28.19298245614035), np.float64(37.922413793103445)], y: [np.float64(53.991 22807017545), np.float64(51.896551724137936)], z: [np.float64(20.94736842105263), np.float64(13.491 379310344826)] Conexion: x: [np.float64(28.19298245614035), np.float64(35.62595419847328)], y: [np.float64(53.9912 2807017545), np.float64(47.969465648854964)], z: [np.float64(20.94736842105263), np.float64(24.9618 32061068705)] Conexion: x: [np.float64(28.19298245614035), np.float64(28.60683760683761)], y: [np.float64(53.9912 2807017545), np.float64(56.90598290598291)], z: [np.float64(20.94736842105263), np.float64(12.39316 2393162399)] ${\tt Conexion: x: [np.float64(37.34615384615385), np.float64(41.559471365638764)], y: [np.float64(36.400, np.float64(37.34615384615385), np.float64(37.34615384615385)], np.float64(37.34615384615385), np.float64(37.34615384615385), np.float64(37.34615384615385), np.float64(37.34615384615385), np.float64(37.34615384615385), np.float64(37.34615385), np.float64(37.34615385$ 00000000000), np.float64(40.255506607929505)], z: [np.float64(35.47692307692307), np.float64(25.06 6079295154182)] Conexion: x: [np.float64(37.34615384615385), np.float64(35.62595419847328)], y: [np.float64(36.4000 00000000006), np.float64(47.969465648854964)], z: [np.float64(35.47692307692307), np.float64(24.961 832061068705)] Conexion: x: [np.float64(37.34615384615385), np.float64(44.69285714285714)], y: [np.float64(36.4000 00000000006), np.float64(29.19285714285715)], z: [np.float64(35.47692307692307), np.float64(33.7785 71428571425)1 Conexion: x: [np.float64(37.34615384615385), np.float64(29.41935483870968)], y: [np.float64(36.4000 00000000006), np.float64(37.51971326164875)], z: [np.float64(35.47692307692307), np.float64(37.1397 8494623656)] Conexion: x: [np.float64(29.935275080906152), np.float64(29.41935483870968)], y: [np.float64(28.032 36245954693), np.float64(37.51971326164875)], z: [np.float64(43.94822006472492), np.float64(37.1397 8494623656)1 Conexion: x: [np.float64(29.935275080906152), np.float64(23.755932203389833)], y: [np.float64(28.03 236245954693), np.float64(25.349152542372877)], z: [np.float64(43.94822006472492), np.float64(51.01

Conexion: x: [np.float64(43.714285714285715), np.float64(38.040983606557376)], y: [np.float64(7.755

102040816325), np.float64(8.663934426229503)], z: [np.float64(47.03673469387755), np.float64(52.704

Conexion: x: [np.float64(43.714285714285715), np.float64(38.86842105263158)], y: [np.float64(7.7551

02040816325), np.float64(-1.4868421052631646)], z: [np.float64(47.03673469387755), np.float64(58.26

Conexion: x: [np.float64(43.714285714285715), np.float64(44.006472491909385)], y: [np.float64(7.755

Conexion: x: [np.float64(-24.421052631578945), np.float64(27.64528301886793)], y: [np.float64(38.67 543859649123), np.float64(43.55471698113209)], z: [np.float64(-16.675438596491226), np.float64(-16. 89056603773585)] Conexion: x: [np.float64(-24.421052631578945), np.float64(-14.754448398576514)], y: [np.float64(38. 67543859649123), np.float64(25.964412811387888)], z: [np.float64(-16.675438596491226), np.float64(-Conexion: x: [np.float64(-24.421052631578945), np.float64(-17.58119658119658)], y: [np.float64(38.6 7543859649123), np.float64(45.4957264957265)], z: [np.float64(-16.675438596491226), np.float64(-15. 871794871794869)] Conexion: x: [np.float64(-33.442786069651746), np.float64(-21.028571428571425)], y: [np.float64(54. $06965174129354), \; np. float64 (61.428571428571416)], \; z: \; [np. float64 (-10.45771144278607), \; np. float64 (-10.45771442874607), \; np. float64 (-10.4577144278607), \; np. float64 (-10.4577144274607), \; np. float64 (-10.45771442874607), \; np. float64 (-10.457714442874607), \; np. float64 (-10.457714442874607), \; np. float64 (-10.457714442874607), \; n$ 6.383673469387759)] Conexion: x: [np.float64(24.4666666666667), np.float64(40.45454545454545)], y: [np.float64(57.0749 999999999), np.float64(50.090909090909090)], z: [np.float64(-13.549999999997), np.float64(-11.78 0303030303031)] Conexion: x: [np.float64(24.466666666667), np.float64(27.64528301886793)], y: [np.float64(57.0749 999999999), np.float64(43.55471698113209)], z: [np.float64(-13.5499999999997), np.float64(-16.89)] 056603773585)1 Conexion: x: [np.float64(24.4666666666667), np.float64(38.65853658536585)], y: [np.float64(57.0749 999999999), np.float64(55.20325203252034)], z: [np.float64(-13.549999999997), np.float64(-6.040 650406504071)1 Conexion: x: [np.float64(24.466666666667), np.float64(23.098814229249015)], y: [np.float64(57.074 9999999999), np.float64(62.02371541501975)], z: [np.float64(-13.5499999999997), np.float64(-5.00 3952569169954)1 Conexion: x: [np.float64(24.4666666666667), np.float64(14.86440677966101)], y: [np.float64(57.0749 999999999), np.float64(57.26271186440678)], z: [np.float64(-13.549999999997), np.float64(-15.57 6271186440678)] Conexion: x: [np.float64(40.45454545454545), np.float64(27.64528301886793)], y: [np.float64(50.0909 090909090), np.float64(43.55471698113209)], z: [np.float64(-11.7803030303031), np.float64(-16.89 Conexion: x: [np.float64(40.45454545454545), np.float64(38.65853658536585)], y: [np.float64(50.0909 090909090), np.float64(55.20325203252034)], z: [np.float64(-11.7803030303031), np.float64(-6.040 650406504071)] Conexion: x: [np.float64(27.64528301886793), np.float64(16.851405622489963)], y: [np.float64(43.554 71698113209), np.float64(42.361445783132524)], z: [np.float64(-16.89056603773585), np.float64(-20.0 08032128514053)] Conexion: x: [np.float64(38.65853658536585), np.float64(34.25675675675676)], y: [np.float64(55.2032 5203252034), np.float64(55.69594594594594)], z: [np.float64(-6.0406504065040671), np.float64(3.20270 2702702709)] Conexion: x: [np.float64(38.65853658536585), np.float64(23.098814229249015)], y: [np.float64(55.203 25203252034), np.float64(62.02371541501975)], z: [np.float64(-6.040650406504071), np.float64(-5.003 952569169954)1 102040816325), np.float64(20.433656957928804)], z: [np.float64(47.03673469387755), np.float64(40.68 608414239482)] Conexion: x: [np.float64(43.714285714285715), np.float64(50.06896551724138)], y: [np.float64(7.7551 02040816325), np.float64(7.4000000000000000)], z: [np.float64(47.03673469387755), np.float64(40.2896 5517241379)] Conexion: x: [np.float64(44.73529411764706), np.float64(37.922413793103445)], y: [np.float64(45.254 90196078431), np.float64(51.896551724137936)], z: [np.float64(11.607843137254903), np.float64(13.49 1379310344826)] Conexion: x: [np.float64(44.73529411764706), np.float64(43.905138339920946)], y: [np.float64(45.254 90196078431), np.float64(37.49407114624506)], z: [np.float64(11.607843137254903), np.float64(19.501 976284584984)1 Conexion: x: [np.float64(44.73529411764706), np.float64(44.63598326359833)], y: [np.float64(45.2549 0196078431), np.float64(48.184100418410054)], z: [np.float64(11.607843137254903), np.float64(4.0753 13807531387)] Conexion: x: [np.float64(37.922413793103445), np.float64(34.2567567567567)], y: [np.float64(51.896 551724137936), np.float64(55.69594594594594)], z: [np.float64(13.491379310344826), np.float64(3.202 702702702709)1 Conexion: x: [np.float64(37.922413793103445), np.float64(44.63598326359833)], y: [np.float64(51.896 551724137936), np.float64(48.184100418410054)], z: [np.float64(13.491379310344826), np.float64(4.07 5313807531387)] Conexion: x: [np.float64(37.922413793103445), np.float64(35.62595419847328)], y: [np.float64(51.896 551724137936), np.float64(47.969465648854964)], z: [np.float64(13.491379310344826), np.float64(24.9 61832061068705)] Conexion: x: [np.float64(37.922413793103445), np.float64(28.60683760683761)], y: [np.float64(51.896 551724137936), np.float64(56.90598290598291)], z: [np.float64(13.491379310344826), np.float64(12.39 3162393162399)] Conexion: x: [np.float64(41.559471365638764), np.float64(43.905138339920946)], y: [np.float64(40.25 5506607929505), np.float64(37.49407114624506)], z: [np.float64(25.066079295154182), np.float64(19.5

694915254237)]

315789473685)]

01976284584984)]

ProyectoF_Zaira 6.70722433460077)1 Conexion: x: [np.float64(41.559471365638764), np.float64(49.51931330472103)], y: [np.float64(40.255 506607929505), np.float64(-41.01287553648069)], z: [np.float64(25.066079295154182), np.float64(47.4 5922746781116)1 Conexion: x: [np.float64(34.2567567567567567), np.float64(44.63598326359833)], y: [np.float64(55.6959 4594594594), np.float64(48.184100418410054)], z: [np.float64(3.202702702709), np.float64(4.07531 Conexion: x: [np.float64(34.2567567567567), np.float64(22.66666666666)], y: [np.float64(55.6959) 4594594594), np.float64(62.300366300366306)], z: [np.float64(3.202702702702709), np.float64(2.76923 07692307736)1 Conexion: x: [np.float64(34.2567567567567567), np.float64(28.60683760683761)], y: [np.float64(55.6959 4594594594), np.float64(56.90598290598291)], z: [np.float64(3.202702702702709), np.float64(12.39316 2393162399)1 Conexion: x: [np.float64(27.484126984126988), np.float64(35.62595419847328)], y: [np.float64(46.293 650793650784), np.float64(47.969465648854964)], z: [np.float64(29.626984126984127), np.float64(24.9 61832061068705)] Conexion: x: [np.float64(27.484126984126988). np.float64(29.41935483870968)]. v: [np.float64(46.293 650793650784), np.float64(37.51971326164875)], z: [np.float64(29.626984126984127), np.float64(37.13 978494623656)1 Conexion: x: [np.float64(27.484126984126988), np.float64(18.0)], y: [np.float64(46.29365079365078 4), np.float64(50.37894736842105)], z: [np.float64(29.626984126984127), np.float64(32.4842105263157 Conexion: x: [np.float64(31.37179487179487), np.float64(38.969162995594715)], y: [np.float64(14.532 05128205127), np.float64(0.4581497797356917)], z: [np.float64(54.41025641025641), np.float64(51.048 458149779734)1 Conexion: x: [np.float64(31.37179487179487), np.float64(38.040983606557376)], y: [np.float64(14.532 05128205127), np.float64(8.663934426229503)], z: [np.float64(54.41025641025641), np.float64(52.7049 1803278688)1 Conexion: x: [np.float64(31.37179487179487), np.float64(20.455089820359277)], y: [np.float64(14.532 05128205127), np.float64(15.940119760479035)], z: [np.float64(54.41025641025641), np.float64(56.221 556886227546)] Conexion: x: [np.float64(31.37179487179487), np.float64(26.25992779783394)], y: [np.float64(14.5320 5128205127), np.float64(4.490974729241884)], z: [np.float64(54.41025641025641), np.float64(60.36101 0830324915)] Conexion: x: [np.float64(38.969162995594715), np.float64(38.86842105263158)], y: [np.float64(0.4581 497797356917), np.float64(-1.4868421052631646)], z: [np.float64(51.048458149779734), np.float64(58. 26315789473685)] Conexion: x: [np.float64(38.969162995594715), np.float64(-24.69291338582677)], y: [np.float64(0.458 1497797356917), np.float64(-6.2755905511810965)], z: [np.float64(51.048458149779734), np.float64(6 4.43307086614172)] Conexion: x: [np.float64(38.969162995594715), np.float64(26.25992779783394)], y: [np.float64(0.4581 497797356917), np.float64(4.490974729241884)], z: [np.float64(51.048458149779734), np.float64(60.36 1010830324915)] 33/167

8753894080997), np.float64(33.162561576354676)], z: [np.float64(47.88161993769471), np.float64(55.0 54187192118235)]

Conexion: x: [np.float64(-17.694704049844233), np.float64(-47.54751131221718)], y: [np.float64(33.9 8753894080997), np.float64(-61.809954751131215)], z: [np.float64(47.88161993769471), np.float64(25. 366515837104075)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(-21.5859649122807)], y: [np.float64(-6.275 5905511810965), np.float64(2.89122807017543)], z: [np.float64(64.43307086614172), np.float64(62.715 7894736842)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(26.25992779783394)], y: [np.float64(-6.275 5905511810965), np.float64(4.490974729241884)], z: [np.float64(64.43307086614172), np.float64(60.36 1010830324915)1

Conexion: x: [np.float64(-24.69291338582677), np.float64(29.247648902821318)], y: [np.float64(-6.27 55905511810965), np.float64(-6.125391849529777)], z: [np.float64(64.43307086614172), np.float64(65. 04075235109718)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(-41.091445427728615)], y: [np.float64(-6.2 755905511810965), np.float64(-44.525073746312685)], z: [np.float64(64.43307086614172), np.float64(5 2,14749262536873)1

Conexion: x: [np.float64(-24.69291338582677), np.float64(45.80434782608695)], y: [np.float64(-6.275 5905511810965), np.float64(-39.413043478260875)], z: [np.float64(64.43307086614172), np.float64(52. 89130434782609)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(-24.7870036101083)], y: [np.float64(-6.275 5905511810965), np.float64(-64.05776173285199)], z: [np.float64(64.43307086614172), np.float64(56.7 7256317689532)1

Conexion: x: [np.float64(-24.69291338582677), np.float64(-19.24242424242425)], y: [np.float64(-6.27 55905511810965), np.float64(-59.4469696969697)], z: [np.float64(64.43307086614172), np.float64(61.7 651515151515)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(23.81967213114754)], y: [np.float64(-6.275 5905511810965), np.float64(-58.040983606557376)], z: [np.float64(64.43307086614172), np.float64(67.

172131147541)] Conexion: x: [np.float64(-24.69291338582677), np.float64(15.43529411764706)], y: [np.float64(-6.275 5905511810965), np.float64(-59.521568627450975)], z: [np.float64(64.43307086614172), np.float64(68. 03137254901961)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(-21.0390625)], y: [np.float64(-6.275590551 1810965), np.float64(-14.4375)], z: [np.float64(64.43307086614172), np.float64(71.53125)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(-30.414937759336098)], y: [np.float64(-6.2 755905511810965), np.float64(-9.684647302904565)], z: [np.float64(64.43307086614172), np.float64(6 0.63070539419087)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(36.86466165413534)], y: [np.float64(-6.275 5905511810965), np.float64(-11.353383458646618)], z: [np.float64(64.43307086614172), np.float64(57. 87969924812029)]

Conexion: x: [np.float64(-24.69291338582677), np.float64(-5.765957446808514)], y: [np.float64(-6.27 55905511810965), np.float64(-1.9716312056737593)], z: [np.float64(64.43307086614172), np.float64(5 0.99290780141844)1

Conexion: x: [np.float64(38.969162995594715), np.float64(-34.39269406392694)], y: [np.float64(0.458 85388127853881)]

Conexion: x: [np.float64(38.969162995594715), np.float64(-41.230158730158735)], y: [np.float64(0.45 81497797356917), np.float64(0.1428571428571388)], z: [np.float64(51.048458149779734), np.float64(4 8.58730158730158)]

Conexion: x: [np.float64(38.969162995594715), np.float64(36.86466165413534)], y: [np.float64(0.4581 497797356917), np.float64(-11.353383458646618)], z: [np.float64(51.048458149779734), np.float64(57. 87969924812029)1

Conexion: x: [np.float64(38.969162995594715), np.float64(48.9025974025974)], y: [np.float64(0.45814 97797356917), np.float64(0.006493506493512768)], z: [np.float64(51.048458149779734), np.float64(44. 461038961038966)]

Conexion: x: [np.float64(38.040983606557376), np.float64(38.86842105263158)], y: [np.float64(8.6639 34426229503), np.float64(-1.4868421052631646)], z: [np.float64(52.70491803278688), np.float64(58.26 315789473685)1

Conexion: x: [np.float64(38.86842105263158), np.float64(-24.69291338582677)], y: [np.float64(-1.486 8421052631646), np.float64(-6.2755905511810965)], z: [np.float64(58.26315789473685), np.float64(64. 43307086614172)]

Conexion: x: [np.float64(38.86842105263158), np.float64(29.247648902821318)], y: [np.float64(-1.486 8421052631646), np.float64(-6.125391849529777)], z: [np.float64(58.26315789473685), np.float64(65.0 4075235109718)]

Conexion: x: [np.float64(38.86842105263158), np.float64(-34.39269406392694)], y: [np.float64(-1.486 8421052631646), np.float64(-3.050228310502277)], z: [np.float64(58.26315789473685), np.float64(53.8 5388127853881)]

Conexion: x: [np.float64(38.86842105263158), np.float64(-30.414937759336098)], y: [np.float64(-1.48 $68421052631646), \; np.float64(-9.684647302904565)], \; z: \; [np.float64(58.26315789473685), \; np.float64(60.684210526316789473685)], \; np.float64(60.68421052616789473685)], \; np.float64(60.68421052616789473685)], \; np.float64(60.6842167869473685)]$ 63070539419087)1

Conexion: x: [np.float64(44.69285714285714), np.float64(44.006472491909385)], y: [np.float64(29.192 85714285715), np.float64(20.433656957928804)], z: [np.float64(33.778571428571425), np.float64(40.68 608414239482)]

Conexion: x: [np.float64(29.41935483870968), np.float64(22.98795180722891)], y: [np.float64(37.5197 1326164875), np.float64(37.95180722891567)], z: [np.float64(37.13978494623656), np.float64(37.43775 1004016064)1

Conexion: x: [np.float64(-17.694704049844233), np.float64(-22.328859060402678)], y: [np.float64(33. 98753894080997), np.float64(40.05369127516778)], z: [np.float64(47.88161993769471), np.float64(37.5 0335570469798)]

Conexion: x: [np.float64(-17.694704049844233), np.float64(-14.53333333333333)], y: [np.float64(33. 98753894080997), np.float64(25.15087719298245)], z: [np.float64(47.88161993769471), np.float64(52.8

Conexion: x: [np.float64(-17.694704049844233), np.float64(-14.63309352517986)], y: [np.float64(33.9 8753894080997), np.float64(42.66187050359713)], z: [np.float64(47.88161993769471), np.float64(41.53 237410071942)1

Conexion: x: [np.float64(-17.694704049844233), np.float64(-6.384236453201964)], y: [np.float64(33.9

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Conexion: x: [np.float64(-20.75), np.float64(-14.28358208955224)], y: [np.float64(55.4375), np.floa t64(51.05223880597015)], z: [np.float64(24.546875), np.float64(31.858208955223887)]

Conexion: x: [np.float64(-20.75), np.float64(-16.784482758620683)], y: [np.float64(55.4375), np.flo at64(60.90517241379311)], z: [np.float64(24.546875), np.float64(18.534482758620683)]

Conexion: x: [np.float64(-23.109489051094897), np.float64(-19.833333333333)], y: [np.float64(60.2 77372262773724), np.float64(61.9333333333333)], z: [np.float64(2.9562043795620383), np.float64(10.

Conexion: x: [np.float64(-23.109489051094897), np.float64(-21.028571428571425)], y: [np.float64(60. 277372262773724), np.float64(61.428571428571416)], z: [np.float64(2.9562043795620383), np.float64(-6.383673469387759)]

Conexion: x: [np.float64(-22.328859060402678), np.float64(-14.63309352517986)], y: [np.float64(40.0 5369127516778), np.float64(42.66187050359713)], z: [np.float64(37.50335570469798), np.float64(41.53 237410071942)]

Conexion: x: [np.float64(-21.5859649122807), np.float64(-15.42857142857143)], y: [np.float64(2.8912 2807017543), np.float64(5.462184873949582)], z: [np.float64(62.7157894736842), np.float64(63.142857

Conexion: x: [np.float64(-14.533333333333333), np.float64(-18.87285223367698)], y: [np.float64(25.1 5087719298245), np.float64(17.573883161512015)], z: [np.float64(52.8561403508772), np.float64(57.71 821305841925)]

Conexion: x: [np.float64(-14.28358208955224), np.float64(-14.63309352517986)], y: [np.float64(51.05 223880597015), np.float64(42.66187050359713)], z: [np.float64(31.858208955223887), np.float64(41.53 237410071942)]

Conexion: x: [np.float64(-14.28358208955224), np.float64(-4.168000000000000)], y: [np.float64(51.05 223880597015), np.float64(52.75200000000001)], z: [np.float64(31.858208955223887), np.float64(38.27 20000000000000011

Conexion: x: [np.float64(-15.42857142857143), np.float64(-6.9795918367346985)], y: [np.float64(5.46 2184873949582), np.float64(12.375510204081621)], z: [np.float64(63.14285714285714), np.float64(66.6

4489795918368)] Conexion: x: [np.float64(-14.63309352517986), np.float64(-5.514893617021272)], y: [np.float64(42.66

187050359713), np.float64(44.23829787234044)], z: [np.float64(41.53237410071942), np.float64(48.017 02127659574)1 Conexion: x: [np.float64(-18.87285223367698), np.float64(-5.666666666671)], y: [np.float64(17.57

3883161512015), np.float64(20.91397849462365)], z: [np.float64(57.71821305841925), np.float64(62.03 225806451613)]

Conexion: x: [np.float64(-19.833333333333333), np.float64(-16.784482758620683)], y: [np.float64(61.9 33333333334), np.float64(60.90517241379311)], z: [np.float64(10.58333333333333), np.float64(18.5 34482758620683)]

Conexion: x: [np.float64(-19.8333333333333), np.float64(-8.62135922330097)], y: [np.float64(61.933 3333333334), np.float64(64.95145631067962)], z: [np.float64(10.583333333333329), np.float64(5.3139 15857605181)]

Conexion: x: [np.float64(27.05645161290323), np.float64(-20.6666666666666)], y: [np.float64(-0.572 $5806451612954), \; np.float64(-11.02057613168725)], \; z: \; [np.float64(-18.806451612903224), \; np.float64(-11.02057613168725)], \; z: \; [np.float64(-10.806451612903224), \; np.float64(-10.806451612903224)], \; np.float64(-10.806451612903224), \; np.float64(-10.80645161290324), \; np.float64($ 8,995884773662553)1

49541284403665)]

682274247492)1

505836575875)]

2647058823536)1

0542635658919)]

1803278688525)]

851851851852)]

62845849803057)1

937238493724)]

2274247492)]

3568773247)1

647058823536)]

Conexion: x: [np.float64(27.05645161290323), np.float64(-30.347169811320754)], y: [np.float64(-0.57 $25806451612954), \; np. float 64 (-14.981132075471692)], \; z: \; [np. float 64 (-18.806451612903224), \; np. float 64 (-18.80645161290324), \; np. float 64 (-18.80645161290$ (-16.596226415094343)] Conexion: x: [np.float64(27.05645161290323), np.float64(33.298507462686565)], y: [np.float64(-0.572 5806451612954), np.float64(-13.082089552238813)], z: [np.float64(-18.806451612903224), np.float64(-16.253731343283583)] Conexion: x: [np.float64(27.05645161290323), np.float64(26.61111111111111)], y: [np.float64(-0.572 5806451612954), np.float64(-11.992063492063494)], z: [np.float64(-18.806451612903224), np.float64(-18,96825396825397)1 Conexion: x: [np.float64(27.05645161290323), np.float64(20.10434782608695)], y: [np.float64(-0.5725 806451612954), np.float64(-2.486956521739131)], z: [np.float64(-18.806451612903224), np.float64(-2 3.930434782608693)] Conexion: x: [np.float64(-4.168000000000000), np.float64(-5.514893617021272)], y: [np.float64(52.75 20000000001), np.float64(44.23829787234044)], z: [np.float64(38.27200000000006), np.float64(48.01 702127659574)] Conexion: x: [np.float64(-4.168000000000000), np.float64(-6.871559633027516)], y: [np.float64(52.75 200000000001), np.float64(60.871559633027516)], z: [np.float64(38.27200000000006), np.float64(27.4 49541284403665)] Conexion: x: [np.float64(-4.168000000000000), np.float64(-1.898832684824896)], y: [np.float64(52.75 200000000001), np.float64(46.70817120622567)], z: [np.float64(38.27200000000000), np.float64(31.10 505836575875)] Conexion: x: [np.float64(-4.168000000000000), np.float64(7.17647058823529)], y: [np.float64(52.7520 0000000001), np.float64(48.14117647058825)], z: [np.float64(38.27200000000006), np.float64(38.6274 50980392155)] Conexion: x: [np.float64(-5.697560975609761), np.float64(-5.00946372239747)], y: [np.float64(61.053 658536585374), np.float64(50.466876971608826)], z: [np.float64(18.643902439024387), np.float64(19.6 71924290220815)] Conexion: x: [np.float64(-5.697560975609761), np.float64(-6.871559633027516)], y: [np.float64(61.05 3658536585374), np.float64(60.871559633027516)], z: [np.float64(18.643902439024387), np.float64(27. Conexion: x: [np.float64(-5.697560975609761), np.float64(-5.096989966555185)], y: [np.float64(61.05 3658536585374), np.float64(57.39130434782609)], z: [np.float64(18.643902439024387), np.float64(7.40 4682274247492)1 Conexion: x: [np.float64(-5.697560975609761), np.float64(7.117647058823536)], y: [np.float64(61.053 658536585374), np.float64(57.448529411764696)], z: [np.float64(18.643902439024387), np.float64(15.7 42647058823536)] Conexion: x: [np.float64(-6.384236453201964), np.float64(-2.5479452054794507)], y: [np.float64(33.1

Conexion: x: [np.float64(-5.00946372239747), np.float64(-6.871559633027516)], y: [np.float64(50.466

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

6.383673469387759)]

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Conexion: x: [np.float64(-3.7245901639344225), np.float64(7.347457627118644)], y: [np.float64(36.61 639344262295), np.float64(38.525423728813564)], z: [np.float64(36.11803278688525), np.float64(40.66 949152542372)]

62561576354676), np.float64(28.520547945205493)], z: [np.float64(55.054187192118235), np.float64(5

Conexion: x: [np.float64(-6.384236453201964), np.float64(-5.514893617021272)], y: [np.float64(33.16

2561576354676), np.float64(44.23829787234044)], z: [np.float64(55.054187192118235), np.float64(48.0

Conexion: x: [np.float64(-3.7245901639344225), np.float64(-4.040485829959508)], y: [np.float64(36.6 1639344262295), np.float64(34.68825910931173)], z: [np.float64(36.11803278688525), np.float64(23.60 333866306765)]

Conexion: x: [np.float64(9.935483870967744), np.float64(9.39776951672863)], y: [np.float64(66.14746 543778801), np.float64(52.98141263940519)], z: [np.float64(6.516129032258064), np.float64(3.1524163 568773247)]

Conexion: x: [np.float64(9.935483870967744), np.float64(7.117647058823536)], y: [np.float64(66.1474 6543778801), np.float64(57.448529411764696)], z: [np.float64(6.516129032258064), np.float64(15.7426 47058823536)]

Conexion: x: [np.float64(9.935483870967744), np.float64(10.426086956521743)], y: [np.float64(66.147 46543778801), np.float64(64.3304347826087)], z: [np.float64(6.516129032258064), np.float64(20.80869

Conexion: x: [np.float64(9.39776951672863), np.float64(7.117647058823536)], y: [np.float64(52.98141 263940519), np.float64(57.448529411764696)], z: [np.float64(3.1524163568773247), np.float64(15.7426 47058823536)]

Conexion: x: [np.float64(7.17647058823529), np.float64(10.440366972477065)], y: [np.float64(48.1411 7647058825), np.float64(53.83486238532109)], z: [np.float64(38.627450980392155), np.float64(36.4954 1324482660)]

1284403669)]
Conexion: x: [np.float64(7.17647058823529), np.float64(7.347457627118644)], y: [np.float64(48.14117
647058825), np.float64(38.525423728813564)], z: [np.float64(38.627450980392155), np.float64(40.6694

047636237, hp.ft0at04(36.3234237268133047), 2. [hp.ft0at04(36.0274369663321337), hp.ft0at04(46.0034 9152542372)] Conexion: x: [np.float64(10.440366972477065), np.float64(20.0)], y: [np.float64(53.83486238532109), np.float64(53.20812182741116)], z: [np.float64(36.49541284403669), np.float64(25.401015228426402)]

np.float64(53.20812182741116)], z: [np.float64(36.49541284403669), np.float64(25.401015228426402)] Conexion: x: [np.float64(7.117647058823536), np.float64(10.426086956521743)], y: [np.float64(57.448529411764696), np.float64(64.3304347826087)], z: [np.float64(15.742647058823536), np.float64(20.80869565217391)]

Conexion: x: [np.float64(10.426086956521743), np.float64(17.65957446808511)], y: [np.float64(64.330
4347826087), np.float64(59.446808510638306)], z: [np.float64(20.80869565217391), np.float64(19.5851
06382978722)]

Conexion: x: [np.float64(7.425925925925924), np.float64(7.347457627118644)], y: [np.float64(27.9444
44444444457), np.float64(38.525423728813564)], z: [np.float64(48.51851851851852), np.float64(40.669
49152542372)]

Conexion: x: [np.float64(7.425925925925924), np.float64(7.942446043165461)], y: [np.float64(27.9444
44444444457), np.float64(14.050359712230204)], z: [np.float64(48.51851851851851), np.float64(49.992
80575539568)]

Conexion: x: [np.float64(10.009049773755663), np.float64(17.18320610687023)], y: [np.float64(34.054
29864253395), np.float64(30.160305343511453)], z: [np.float64(56.63348416289594), np.float64(51.473
282442748086)]

Conexion: x: [np.float64(-13.743842364532014), np.float64(-21.028571428571425)], y: [np.float64(55.

purational approved the form of the state of

64412811387888), np.float64(22.101796407185617)], z: [np.float64(-21.110320284697508), np.float64(-19.203592814371255)] Conexion: x: [np.float64(-21.028571428571425), np.float64(23.098814229249015)], y: [np.float64(61.4 28571428571416), np.float64(62.02371541501975)], z: [np.float64(-6.383673469387759), np.float64(-5. 003952569169954)] Conexion: x: [np.float64(23.098814229249015), np.float64(22.6666666666667)], y: [np.float64(62.023 71541501975), np.float64(62.300366300366306)], z: [np.float64(-5.003952569169954), np.float64(2.769 2307692307736)1 Conexion: x: [np.float64(17.667953667953668), np.float64(16.851405622489963)], y: [np.float64(25.96 1389961389955), np.float64(42.361445783132524)], z: [np.float64(-21.328185328185327), np.float64(-2 0.008032128514053)] Conexion: x: [np.float64(17.667953667953668), np.float64(9.647058823529406)], y: [np.float64(25.961 389961389955), np.float64(24.323529411764696)], z: [np.float64(-21.328185328185327), np.float64(-2 1,13235294117647)1 Conexion: x: [np.float64(22.666666666667), np.float64(20.51960784313725)], y: [np.float64(62.3003 66300366306), np.float64(63.1666666666666)], z: [np.float64(2.7692307692307736), np.float64(12.009 803921568633)]

876971608826), np.float64(60.871559633027516)], z: [np.float64(19.671924290220815), np.float64(27.4

Conexion: x: [np.float64(-5.00946372239747), np.float64(-5.096989966555185)], y: [np.float64(50.466

876971608826), np.float64(57.39130434782609)], z: [np.float64(19.671924290220815), np.float64(7.404

Conexion: x: [np.float64(-5.00946372239747), np.float64(-1.898832684824896)], y: [np.float64(50.466

876971608826), np.float64(46.70817120622567)], z: [np.float64(19.671924290220815), np.float64(31.10

Conexion: x: [np.float64(-5.00946372239747), np.float64(7.117647058823536)], y: [np.float64(50.4668

76971608826), np.float64(57.448529411764696)], z: [np.float64(19.671924290220815), np.float64(15.74

Conexion: x: [np.float64(-5.00946372239747), np.float64(-3.418604651162795)], y: [np.float64(50.466

876971608826), np.float64(39.92248062015503)], z: [np.float64(19.671924290220815), np.float64(10.17

Conexion: x: [np.float64(-5.677419354838705), np.float64(-3.7245901639344225)], y: [np.float64(26.6

6129032258064), np.float64(36.61639344262295)], z: [np.float64(40.314516129032256), np.float64(36.1

Conexion: x: [np.float64(-5.677419354838705), np.float64(7.425925925925924)], y: [np.float64(26.661

29032258064), np.float64(27.94444444444457)], z: [np.float64(40.314516129032256), np.float64(48.51

Conexion: x: [np.float64(-5.677419354838705), np.float64(-31.52380952380952)], y: [np.float64(26.66

129032258064), np.float64(23.3113553113553)], z: [np.float64(40.314516129032256), np.float64(1.3846

Conexion: x: [np.float64(-5.677419354838705), np.float64(37.201581027667984)], y: [np.float64(26.66 129032258064), np.float64(23.87351778656125)], z: [np.float64(40.314516129032256), np.float64(0.197

Conexion: x: [np.float64(-5.677419354838705), np.float64(-4.55230125523012)], y: [np.float64(26.661

29032258064), np.float64(17.054393305439334)], z: [np.float64(40.314516129032256), np.float64(47.84

Conexion: x: [np.float64(-8.62135922330097), np.float64(-5.096989966555185)], y: [np.float64(64.951

45631067962), np.float64(57.39130434782609)], z: [np.float64(5.313915857605181), np.float64(7.40468

Conexion: x: [np.float64(-5.096989966555185), np.float64(9.39776951672863)], y: [np.float64(57.3913

0434782609), np.float64(52.98141263940519)], z: [np.float64(7.404682274247492), np.float64(3.152416

Conexion: x: [np.float64(-5.096989966555185), np.float64(7.117647058823536)], y: [np.float64(57.391

30434782609), np.float64(57.448529411764696)], z: [np.float64(7.404682274247492), np.float64(15.742

Conexion: x: [np.float64(-5.096989966555185), np.float64(-4.538745387453872)], y: [np.float64(57.39

130434782609), np.float64(46.53874538745387)], z: [np.float64(7.404682274247492), np.float64(3.0627

Conexion: x: [np.float64(-1.898832684824896), np.float64(-3.7245901639344225)], y: [np.float64(46.7

0817120622567), np.float64(36.61639344262295)], z: [np.float64(31.10505836575875), np.float64(36.11

31034482758622), np.float64(61.428571428571416)], z: [np.float64(-14.600985221674875), np.float64(-

Conexion: x: [np.float64(-14.754448398576514), np.float64(-6.772455089820355)], y: [np.float64(25.9

1.13/35/29411/04/)
Conexion: x: [np.float64(22.6666666666667), np.float64(20.51960784313725)], y: [np.float64(62.3003
66300366306), np.float64(63.16666666666666)], z: [np.float64(2.7692307692307736), np.float64(12.009
803921568633)]
Conexion: x: [np.float64(20.51960784313725), np.float64(28.60683760683761)], y: [np.float64(63.1666
666666666), np.float64(20.51960784313725), np.float64(12.009803921568633), np.float64(12.3931
62393162399)]
Conexion: x: [np.float64(20.51960784313725), np.float64(17.65957446808511)], y: [np.float64(63.1666
6666666666), np.float64(59.446808510638306)], z: [np.float64(12.009803921568633), np.float64(19.585
106382978722)]
Conexion: x: [np.float64(23.755932203389833), np.float64(17.18320610687023)], y: [np.float64(25.349
152542372877), np.float64(30.160305343511453)], z: [np.float64(51.01694915254237), np.float64(51.47
3282442748086)]
Conexion: x: [np.float64(23.755932203389833), np.float64(20.455089820359277)], y: [np.float64(25.349
152542372877), np.float64(15.940119760479035)], z: [np.float64(51.01694915254237), np.float64(56.2
1556886227546)]
Conexion: x: [np.float64(17.18320610687023), np.float64(19.704641350210977)], y: [np.float64(30.160
305343511453)], z: [np.float64(17.473282442748086), np.float64(45.40
805343511453)], np.float64(38.14345991561183)], z: [np.float64(51.473282442748086), np.float64(45.40
804843881856545)]

Conexion: x: [np.float64(18.98281786941581), np.float64(18.748148148148147)], y: [np.float64(-8.742 26804123711), np.float64(3.8740740740740740875)], z: [np.float64(70.10309278350516), np.float64(63.066 6666666666)]

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Conexion: x: [np.float64(18.98281786941581), np.float64(29.247648902821318)], y: [np.float64(-8.742 26804123711), np.float64(-6.125391849529777)], z: [np.float64(70.10309278350516), np.float64(65.040 75235109718)]

Conexion: x: [np.float64(18.98281786941581), np.float64(30.1991341991342)], y: [np.float64(-8.74226 804123711), np.float64(-1.701298701298697)], z: [np.float64(70.10309278350516), np.float64(65.9653 6796536796)]

Conexion: x: [np.float64(18.98281786941581), np.float64(9.450980392156865)], y: [np.float64(-8.74226 8084123711), np.float64(-1.1450980392156822)], z: [np.float64(70.1339278350516), np.float64(70.345 09803921569)]

Conexion: x: [np.float64(26.25992779783394), np.float64(18.748148148148147)], y: [np.float64(4.4909 74729241884), np.float64(3.8740740740740875)], z: [np.float64(60.361010830324915), np.float64(63.06 66666666666)]

Conexion: x: [np.float64(26.25992779783394), np.float64(29.247648902821318)], y: [np.float64(4.4909

74729241884), np.float64(-6.125391849529777)], z: [np.float64(60.361010830324915), np.float64(65.04 075235109718)] conexion: x: [np.float64(26.25992779783394), np.float64(45.80434782608695)], y: [np.float64(4.49097 4729241884), np.float64(-39.413043478260875)], z: [np.float64(60.361010830324915), np.float64(52.89

4729241884), np.float64(-39.413043478260875)], z: [np.float64(60.361010830324915), np.float64(52.89 130434782609)]
Conexion: x: [np.float64(26.25992779783394), np.float64(39.969696969697)], y: [np.float64(4.49097

donexion: x: [np.float64(26.259927/9783394), np.float64(39.999699999997)], y: [np.float64(4.49097)], donexion: x: [np.float64(26.25992779783394), np.float64(-19.24242424242425)], y: [np.float64(4.4909)]

74729241884), np.float64(-59.4469696969697)], z: [np.float64(60.361010830324915), np.float64(61.765 1515151515)] Conexion: x: [np.float64(26.25992779783394), np.float64(23.81967213114754)], y: [np.float64(4.49097 4729241884), np.float64(-58.040983606557376)], z: [np.float64(60.361010830324915), np.float64(67.17

2131147541)]
Conexion: x: [np.float64(26.25992779783394), np.float64(42.11965811965812)], y: [np.float64(4.49097
4729241884), np.float64(-46.63247863247864)], z: [np.float64(60.361010830324915), np.float64(59.581

Conexion: x: [np.float64(26.25992779783394), np.float64(15.43529411764706)], y: [np.float64(4.49097
4729241884), np.float64(-59.521568627450975)], z: [np.float64(60.361010830324915), np.float64(68.03
137254901961)]

Conexion: x: [np.float64(26.25992779783394), np.float64(18.66129032258064)], y: [np.float64(4.49097
4729241884), np.float64(-69.95967741935485)], z: [np.float64(60.361010830324915), np.float64(58.040
32258064515)]

Conexion: x: [np.float64(26.25992779783394), np.float64(-30.414937759336098)], y: [np.float64(4.490 974729241884), np.float64(-9.684647302904565)], z: [np.float64(60.361010830324915), np.float64(60.6 3070539419087)]

Conexion: x: [np.float64(18.0), np.float64(16.757446808510636)], y: [np.float64(50.37894736842105), np.float64(41.787234042553195)], z: [np.float64(32.48421052631579), np.float64(38.91063829787234)] Conexion: x: [np.float64(18.0), np.float64(20.0)], y: [np.float64(50.37894736842105), np.float64(5 3.20812182741116)], z: [np.float64(32.48421052631579), np.float64(5.401015228426402)]

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74137931034483), np.float64(-64.03424657534246)], z: [np.float64(-12.577586206896555), np.float64(-9.23287671232876)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(22.268656716417908)], y: [np.float64(-76.7 4137931034483), np.float64(-82.38059701492537)], z: [np.float64(-12.577586206896555), np.float64(-9.02985074626865)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(-35.47490347490347)], y: [np.float64(-76.7 4137931034483), np.float64(-81.66795366795367)], z: [np.float64(-12.577586206896555), np.float64(-8.903474903474901)]

Conexion: x: [np.float64(-29.295302013422813), np.float64(-25.818181818181813)], y: [np.float64(-56.7248322147651), np.float64(-41.712121212121212)], z: [np.float64(-14.483221476510067), np.float64(-14.6969696969696)]

Conexion: x: [np.float64(-29.295302013422813), np.float64(-39.55072463768116)], y: [np.float64(-56.7248322147651), np.float64(-51.90579710144928)], z: [np.float64(-14.483221476510067), np.float64(-17.876815942029)]

Conexion: x: [np.float64(-29.295302013422813), np.float64(-37.445692883895134)], y: [np.float64(-5 6.7248322147651), np.float64(-67.76779026217228)], z: [np.float64(-14.483221476510067), np.float64(-14.382022471910112)]

Conexion: x: [np.float64(-29.295302013422813), np.float64(29.364406779661017)], y: [np.float64(-56.7248322147651), np.float64(-63.60169491525424)], z: [np.float64(-14.483221476510067), np.float64(-10.16101694915254)]

Conexion: x: [np.float64(-29.295302013422813), np.float64(27.79775280898876)], y: [np.float64(-56.7
248322147651), np.float64(-52.741573033707866)], z: [np.float64(-14.483221476510067), np.float64(-16.33209737877716)]

Conexion: x: [np.float64(-29.295302013422813), np.float64(-17.849315068493155)], y: [np.float64(-5 6.7248322147651), np.float64(-64.03424657534246)], z: [np.float64(-14.483221476510067), np.float64(-9.23287671232876)]

Conexion: x: [np.float64(-25.81818181818181813), np.float64(-29.63404255319149)], y: [np.float64(-41.7121212121212), np.float64(-27.710638297872336)], z: [np.float64(-14.6969696969695), np.float64(-25.778723404255317)]

Conexion: x: [np.float64(-25.818181818181813), np.float64(32.25179856115108)], y: [np.float64(-41.7 12121212122), np.float64(-44.877697841726615)], z: [np.float64(-14.6969696969696), np.float64(-12.064748201438846)]

Conexion: x: [np.float64(-25.81818181818181813), np.float64(35.515151515151516)], y: [np.float64(-41.
7121212121212), np.float64(-32.60606060606061)], z: [np.float64(-14.6969696969696969), np.float64(23.89225589225589)]

Conexion: x: [np.float64(-25.81818181818181813), np.float64(-20.2542372881356)], y: [np.float64(-41.7
121212121212), np.float64(-32.82203389830508)], z: [np.float64(-14.696969696969695), np.float64(-1
2.618644067796609)]

Conexion: x: [np.float64(-25.81818181818181813], np.float64(-26.2510460251046)], y: [np.float64(-41.7 12121212121212), np.float64(-28.85355648535564)], z: [np.float64(-14.696969696969696), np.float64(-17.89121338912134)]

Conexion: x: [np.float64(-39.55072463768116), np.float64(-37.445692883895134)], y: [np.float64(-51.90579710144928), np.float64(-67.76779026217228)], z: [np.float64(-17.8768115942029), np.float64(-1

Conexion: x: [np.float64(22.98795180722891), np.float64(16.757446808510636)], y: [np.float64(37.951 80722891567), np.float64(41.787234042553195)], z: [np.float64(37.437751004016064), np.float64(38.91 063829787234)]
Conexion: x: [np.float64(22.9879518072891), np.float64(19.704641392109977)], y: [np.float64(37.951)

80722891567), np.float64(38.14345991561183)], z: [np.float64(37.437751004016064), np.float64(45.400 843881856545)]

Conexion: x: [np.float64(16.757446808519636), np.float64(19.704641350210977)], y: [np.float64(41.78
7234042553195), np.float64(38.14345991561183)], z: [np.float64(38.91063829787234), np.float64(45.40
0843881856545)]

Conexion: x: [np.float64(18.748148148148147), np.float64(12.732283464566933)], y: [np.float64(3.874
0740740740875), np.float64(14.20472440944883)], z: [np.float64(63.06666666666666), np.float64(64.78
740157480314)]

Conexion: x: [np.float64(18.748148148148147), np.float64(9.450980392156865)], y: [np.float64(3.87407407407407), np.float64(-1.1450980392156822)], z: [np.float64(63.06666666666666), np.float64(70.34509803921569)]

Conexion: x: [np.float64(29.247648902821318), np.float64(36.78260869565217)], y: [np.float64(-6.125
391849529777), np.float64(-36.35573122529644)], z: [np.float64(65.04075235109718), np.float64(62.22
924901185772)]

Conexion: x: [np.float64(29.247648902821318), np.float64(-30.414937759336098)], y: [np.float64(-6.1
25391849529777), np.float64(-9.684647302904565)], z: [np.float64(65.04075235109718), np.float64(60.
63070539419087)]

Conexion: x: [np.float64(29.247648902821318), np.float64(36.86466165413534)], y: [np.float64(-6.125 391849529777), np.float64(-11.353383458646618)], z: [np.float64(65.04075235109718), np.float64(57.8 7969924812029)]

Conexion: x: [np.float64(29.247648902821318), np.float64(30.1991341991342)], y: [np.float64(-6.1253
91849529777), np.float64(-16.701298701298697)], z: [np.float64(65.04075235109718), np.float64(65.96
536796536796)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(-29.295302013422813)], y: [np.float64(-76.74137931034483), np.float64(-56.7248322147651)], z: [np.float64(-12.577586206896555), np.float64(-14.483221476510067)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(-37.445692883895134)], y: [np.float64(-76.
74137931034483), np.float64(-67.76779026217228)], z: [np.float64(-12.577586206896555), np.float64(14.382022471919112)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(28.056451612993224)], y: [np.float64(-76.7
4137931034483), np.float64(-77.54838709677419)], z: [np.float64(-12.577586206896555), np.float64(-1
0.37903225806452)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(-15.822784810126578)], y: [np.float64(-76.74137931034483), np.float64(-88.06751054852322)], z: [np.float64(-12.577586206896555), np.float64(-14.962025316455694)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(-20.30901287553648)], y: [np.float64(-76.7
4137931034483), np.float64(-90.29184549356223)], z: [np.float64(-12.577586206896555), np.float64(-1
3.3905793991416)]

Conexion: x: [np.float64(-26.73275862068965), np.float64(-17.849315068493155)], y: [np.float64(-76.

ProventoE 7

29/11/24, 11:38 p.m. 4.382022471910112)]

Conexion: x: [np.float64(-39.55072463768116), np.float64(40.620370370370374)], y: [np.float64(-51.90579710144928), np.float64(-62.01851851851852)], z: [np.float64(-17.8768115942029), np.float64(-17.60185185185185185)]

Conexion: x: [np.float64(-39.55072463768116), np.float64(40.64777327935223)], y: [np.float64(-51.90
579710144928), np.float64(-42.61538461538461)], z: [np.float64(-17.8768115942029), np.float64(-20.6
779664777377932)]

Conexion: x: [np.float64(-39.55072463768116), np.float64(-50.9469964664311)], y: [np.float64(-51.90
579710144928), np.float64(-53.90106007067138)], z: [np.float64(-17.8768115942029), np.float64(-19.3
2862190812721)]

Conexion: x: [np.float64(-27.8498023715415), np.float64(-27.981900452488688)], y: [np.float64(-9.57
3122529644266), np.float64(-0.8868778280542955)], z: [np.float64(-37.07509881422925), np.float64(-3
8.69683257918552)]

Conexion: x: [np.float64(-27.8498023715415), np.float64(31.871428571428574)], y: [np.float64(-9.573 122529644266), np.float64(0.5214285714285722)], z: [np.float64(-37.07509881422925), np.float64(-39.464285714285715)]

Conexion: x: [np.float64(-27.8498023715415), np.float64(-38.61044176706827)], y: [np.float64(-9.573
122529644266), np.float64(-7.5421686746988)], z: [np.float64(-37.07509881422925), np.float64(-37.53
413654618474)]

Conexion: x: [np.float64(-29.63404255319149), np.float64(-36.58555133079847)], y: [np.float64(-27.7
10638297872336), np.float64(-31.49049429657795)], z: [np.float64(-25.778723404255317), np.float64(22.88212927756654)]

Conexion: x: [np.float64(-29.63404255319149), np.float64(-26.2510460251046)], y: [np.float64(-27.71
0638297872336), np.float64(-28.853556485355654)], z: [np.float64(-25.778723404255317), np.float64(17.89121338912134)]

Conexion: x: [np.float64(-27.981900452488688), np.float64(31.871428571428574)], y: [np.float64(-0.8 868778280542955), np.float64(0.5214285714285722)], z: [np.float64(-38.69683257918552), np.float64(-39.464285714285715)]

Conexion: x: [np.float64(-27.981900452488688), np.float64(-38.61044176706827)], y: [np.float64(-0.8 868778280542955), np.float64(-7.5421686746988)], z: [np.float64(-38.69683257918552), np.float64(-3

49040429657795), np.float64(-26.1037037037037)], z: [np.float64(-22.88212927756654), np.float64(-2 3.837037037037035)]
Conexion: x: [np.float64(-36.58555133079847), np.float64(-45.33333333333333)], y: [np.float64(-31.4

9049429657795), np.float64(-38.586956521739125)], z: [np.float64(-22.88212927756654), np.float64(-2.88212927756654), np.float64(-2.88212927756664), np.float64(-2.88212927756664), np.float64(-2.88212927756664), np.float64(-2.8821292777566664), np.float64(-2.88212927756666664), np

Conexion: x: [np.float64(-37.445692883895134), np.float64(28.056451612903224)], y: [np.float64(-67.76779026217228), np.float64(-77.54838709677419)], z: [np.float64(-14.382022471910112), np.float64(-10.37903225806452)]

Conexion: x: [np.float64(-37.445692883895134), np.float64(40.620370370370374)], y: [np.float64(-67. 76779026217228), np.float64(-62.018518518518518)], z: [np.float64(-14.382022471910112), np.float64(-17.601851851851855)]

7.601851851851855)]

672064777327932)]

64590163934426)]

Conexion: x: [np.float64(-37.445692883895134), np.float64(-46.71090047393366)], y: [np.float64(-67. $76779026217228), \; np. float 64 (-67.260663507109)], \; z: \; [np. float 64 (-14.382022471910112), \; np. float 64 (-14.382022471112), \; np. float 64 (-14.382022471112), \; np. float 64$ 3,203791469194314)1

76779026217228), np.float64(-73.84070796460176)], z: [np.float64(-14.382022471910112), np.float64(-6.1061946902654824)]

Conexion: x: [np.float64(-37.445692883895134), np.float64(-35.47490347490347)], y: [np.float64(-67. 76779026217228), np.float64(-81.66795366795367)], z: [np.float64(-14.382022471910112), np.float64(-8,903474903474901)1

76779026217228), np.float64(-72.38970588235294)], z: [np.float64(-14.382022471910112), np.float64(-12.455882352941174)]

Conexion: x: [np.float64(-37.445692883895134), np.float64(41.24528301886792)], y: [np.float64(-67.7 6779026217228), np.float64(-81.10188679245283)], z: [np.float64(-14.382022471910112), np.float64(-5,992452830188682)1

Conexion: x: [np.float64(-37.445692883895134), np.float64(50.76086956521739)], y: [np.float64(-67.7 6779026217228), np.float64(-63.91847826086956)], z: [np.float64(-14.382022471910112), np.float64(-1 3.570652173913047)]

Conexion: x: [np.float64(29.364406779661017), np.float64(27.79775280898876)], y: [np.float64(-63.60 169491525424), np.float64(-52.741573033707866)], z: [np.float64(-10.16101694915254), np.float64(-1 6.232209737827716)]

Conexion: x: [np.float64(29.364406779661017), np.float64(28.056451612903224)], y: [np.float64(-63.6 0169491525424), np.float64(-77.54838709677419)], z: [np.float64(-10.16101694915254), np.float64(-1 0.37903225806452)]

 ${\tt Conexion: x: [np.float64(29.364406779661017), np.float64(-17.849315068493155)], y: [np.float64(-63.849315068493155)], y: [np.float64(-63.84931506849315068493150], y: [np.float64(-63.84931506849315068493150], y: [np.float64(-63.849315068493150], y: [np.float64(-63.8493150684950], y: [np.float64(-63.8493150684950], y: [np.float64(-63.849315068490], y: [np.float64(-63.8493150], y: [np.float64(-63.8493150], y: [np.float64(-63$ $60169491525424), \; np. float 64 (-64.03424657534246)], \; z: \; [np. float 64 (-10.16101694915254), \; np. float 64 (-10.16101694915254)], \; np. float 64 (-10.16101694915254), \; np. float 64 (-10.16101694915254)], \; np. float 64 (-10.16101694915254), \; np. float 64 (-10.16101694915254), \; np. float 64 (-10.16101694915254)], \; np. float 64 (-10.16101694915254), \; np. float 64 (-10.16101694915254)], \; np. float 64 (-10.16101694915254), \; np. float 64 (-10.16101694915254)], \; np. float 64 (-10.16101694915254)]$ 9,23287671232876)1

Conexion: x: [np.float64(29.364406779661017), np.float64(16.131147540983605)], y: [np.float64(-63.6 $0169491525424), \; np.float64(-77.42295081967214)], \; z: \; [np.float64(-10.16101694915254), \; np.float64(-9.16101694915254)], \; rp.float64(-9.16101694915254), \; rp.float64(-9.161016949154), \; rp.float64(-9.16101694916949164), \; rp.float64(-9.161016949164), \; rp.float64(-9.161016949164), \; rp.float64(-9.161016$ 64590163934426)]

Conexion: x: [np.float64(32.25179856115108), np.float64(27.79775280898876)], y: [np.float64(-44.877 697841726615), np.float64(-52.741573033707866)], z: [np.float64(-12.064748201438846), np.float64(-1 6,232209737827716)1

7.032520325203251)]

Conexion: x: [np.float64(32.25179856115108), np.float64(29.768115942028984)], y: [np.float64(-44.87 7697841726615), np.float64(-35.555555555555555)], z: [np.float64(-12.064748201438846), np.float64(-1 0.734299516908216)1

Conexion: x: [np.float64(32.65470852017937), np.float64(31.871428571428574)], y: [np.float64(-9.659 192825112115), np.float64(0.5214285714285722)], z: [np.float64(-38.28699551569507), np.float64(-39. 464285714285715)]

Conexion: x: [np.float64(27.79775280898876), np.float64(40.6203703703703703)], y: [np.float64(-52.74

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

Conexion: x: [np.float64(-42.34666666666664), np.float64(57.832699619771866)], y: [np.float64(-20. $035555555556), \; np.float \\ 64(-20.00760456273764)], \; z: \; [np.float \\ 64(8.67555555555562), \; np.float \\ 64(9.116464), \; 10.016464), \; 10.016464, \; 10.016464, \; 10.016464, \; 10.01646$ 40684410646386)]

Conexion: x: [np.float64(45.87951807228916), np.float64(36.21487603305785)], y: [np.float64(-18.144 578313253007), np.float64(-18.396694214876035)], z: [np.float64(9.044176706827315), np.float64(12.9 91735537190081)]

Conexion: x: [np.float64(45.87951807228916), np.float64(57.5108359133127)], y: [np.float64(-18.1445 78313253007), np.float64(-13.708978328173373)], z: [np.float64(9.044176706827315), np.float64(13.87

 ${\tt Conexion: x: [np.float64(45.87951807228916), np.float64(49.80377358490566)], y: [np.float64(-18.144, 19.80377358490566)]}, y: [np.float64(-18.144, 19.80377358490566)], y: [np.float64(-18.144, 19.8037758499066], y: [np.float64(-18.144, 19.80378499066], y: [np.float64(-18.144, 19.8037849906], y: [np.float64(-18.144, 19.8037849906], y: [np.float64(-18.144, 19.8037849906], y: [np.float64(-18.144, 19.804, 19.804], y: [np.float64(-18.144, 19.804, 19.804, 19.804], y: [np.float64(-18.144, 19.804, 19.804], y: [np.float64(-18.144, 19.804, 19.804],$ 578313253007), np.float64(-6.8452830188679314)], z: [np.float64(9.044176706827315), np.float64(11.6

Conexion: x: [np.float64(45.87951807228916), np.float64(-52.10788381742739)], y: [np.float64(-18.14 4578313253007), np.float64(-22.43983402489627)], z: [np.float64(9.044176706827315), np.float64(10.0

4578313253007), np.float64(-18.2999999999999)], z: [np.float64(9.044176706827315), np.float64(3.1 9166666666663)]

4578313253007), np.float64(-20.00760456273764)], z: [np.float64(9.044176706827315), np.float64(9.14 0684410646386)]

578313253007), np.float64(-17.38116591928251)], z: [np.float64(9.044176706827315), np.float64(2.188 3408071748818)]

631067961165), np.float64(-31.72248803827752)], z: [np.float64(-0.5825242718446617), np.float64(-1. 5023923444976077)1

Conexion: x: [np.float64(-29.76146788990826), np.float64(32.70967741935484)], y: [np.float64(-31.68

02057613168725), np.float64(-14.981132075471692)], z: [np.float64(-18.995884773662553), np.float64

(-16.596226415094343)] Conexion: x: [np.float64(-20.6666666666667), np.float64(26.61111111111111)], y: [np.float64(-11.0

057613168725), np.float64(-6.804597701149419)], z: [np.float64(-18.995884773662553), np.float64(-2

Conexion: x: [np.float64(-20.6666666666667), np.float64(20.10434782608695)], y: [np.float64(-11.02

203791469194314)]

Conexion: x: [np.float64(40.620370370370374), np.float64(-42.68141592920355)], y: [np.float64(-62.0 1851851852), np.float64(-73.84070796460176)], z: [np.float64(-17.601851851851855), np.float64(-6.1061946902654824)]

Conexion: x: [np.float64(40.620370370370374), np.float64(44.294117647058826)], y: [np.float64(-62.0 1851851851852), np.float64(-72.38970588235294)], z: [np.float64(-17.601851851851855), np.float64(-1

 ${\tt Conexion: x: [np.float64(40.620370370370370), np.float64(41.24528301886792)], y: [np.float64(-62.01886792)], y: [np.flo$ 851851851852), np.float64(-81.10188679245283)], z: [np.float64(-17.601851851851855), np.float64(-5.

992452830188682)] Conexion: x: [np.float64(40.620370370370374), np.float64(50.76086956521739)], y: [np.float64(-62.01 851851851852), np.float64(-63.91847826086956)], z: [np.float64(-17.601851851851855), np.float64(-1

3,570652173913047)1 Conexion: x: [np.float64(40.64777327935223), np.float64(51.55425219941349)], y: [np.float64(-42.615 38461538461), np.float64(-43.64809384164222)], z: [np.float64(-20.672064777327932), np.float64(-24.

18181818181818)] Conexion: x: [np.float64(-42.34666666666664), np.float64(45.87951807228916)], y: [np.float64(-20.0 35555555555), np.float64(-18.144578313253007)], z: [np.float64(8.675555555555), np.float64(9.0 44176706827315)]

Conexion: x: [np.float64(-42.34666666666664), np.float64(-35.34821428571429)], y: [np.float64(-20. $0355555555556), \; \mathsf{np.float64}(-18.80357142857143)], \; \mathsf{z:} \; [\mathsf{np.float64}(8.675555555555562), \; \mathsf{np.float64}(10.8035142857143)], \; \mathsf{deg}(10.8035142857143)], \; \mathsf{deg}(10.8035142857143857143)], \; \mathsf{deg}(10.8035142857143857143)], \; \mathsf{deg}(10.8035142857143)], \; \mathsf{deg}(10.8035142857143857143)], \; \mathsf{deg}(10.803514285714385714385714385714385714385714385714385714385714385714385714385714385$

Conexion: x: [np.float64(-42.3466666666666), np.float64(36.21487603305785)], y: [np.float64(-20.0 35555555556), np.float64(-18.396694214876035)], z: [np.float64(8.675555555555562), np.float64(12. 991735537190081)]

Conexion: x: [np.float64(-42.34666666666664), np.float64(-45.52287581699346)], y: [np.float64(-20. 035555555556), np.float64(-14.169934640522882)], z: [np.float64(8.675555555555562), np.float64(1 2.503267973856211)]

Conexion: x: [np.float64(-42.34666666666664), np.float64(-48.415430267062305)], y: [np.float64(-2 0.035555555555), np.float64(-15.821958456973292)], z: [np.float64(8.675555555555562), np.float64 (14,492581602373889)]

Conexion: x: [np.float64(-42.3466666666666), np.float64(57.5108359133127)], y: [np.float64(-20.03 55555555556), np.float64(-13.708978328173373)], z: [np.float64(8.675555555555562), np.float64(13.8 7616099071208)]

Conexion: x: [np.float64(-42.3466666666664), np.float64(-52.10788381742739)], y: [np.float64(-20. 035555555556), np.float64(-22.43983402489627)], z: [np.float64(8.67555555555562), np.float64(10. 049792531120332)1

Conexion: x: [np.float64(-42.34666666666664), np.float64(-53.0749999999999)], y: [np.float64(-20. 035555555556), np.float64(-18.2999999999999)], z: [np.float64(8.67555555555562), np.float64(3. 19166666666663)]

035555555556), np.float64(-10.91119691119691)], z: [np.float64(8.6755555555562), np.float64(-0. 8339768339768341)]

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

Conexion: x: [np.float64(28.056451612903224), np.float64(22.268656716417908)], y: [np.float64(-77.5 $4838709677419), \; np.float \\ 64(-82.38059701492537)], \; z: \; [np.float \\ 64(-10.37903225806452), \; np.float \\ 64(-9.37903225806452), \; np.float \\ 64(-9.37903260642), \; np.float \\ 64(-9.37904640642), \; np.float \\ 64(-9.37904640642), \; np.float \\ 64(-9.37904640642), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064064), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064), \; np.float \\ 64(-9.3790464064064064), \; np.float \\ 64(-9.3790464064064064), \; np.float \\ 64(-9.379046406406$ 02985074626865)1 Conexion: x: [np.float64(28.056451612903224), np.float64(-35.47490347490347)], y: [np.float64(-77.5 4838709677419), np.float64(-81.66795366795367)], z: [np.float64(-10.37903225806452), np.float64(-8. 903474903474901)]

1573033707866), np.float64(-62.01851851851851)], z: [np.float64(-16.232209737827716), np.float64(-1

Conexion: x: [np.float64(35.51515151515151516), np.float64(40.64777327935223)], y: [np.float64(-32.60

 $606060606061), \; np. float \\ 64(-42.61538461538461)], \; z: \; [np. float \\ 64(-23.89225589225589), \; np. float \\ 64(-20.8925589225589), \; np. float \\ 64(-20.892589225589), \; np. float \\ 64(-20.8925892592589), \; np. float \\ 64(-20.89259259259), \; np. float \\ 64(-20.89259259259), \; np. float \\ 64(-20.89259259), \; np. float \\ 64(-20$

Conexion: x: [np.float64(28.056451612903224), np.float64(16.131147540983605)], y: [np.float64(-77.5

4838709677419), np.float64(-77.42295081967214)], z: [np.float64(-10.37903225806452), np.float64(-9.

Conexion: x: [np.float64(28.056451612903224), np.float64(34.86695278969957)], y: [np.float64(-77.54 838709677419), np.float64(-87.2961373390558)), z: [np.float64(-10.37903225806452), np.float64(-11.1 33047210300433)1

 ${\tt Conexion: x: [np.float64(28.056451612903224), np.float64(41.24528301886792)], y: [np.float64(-77.5481612903224), np.float64(1.24528301886792)], y: [np.float64(1.24528301886792)], y: [np.float64(1.2452886782)], y: [np.float64(1.24528886782)], y: [np.float64(1.2452886782)], y: [np.float64(1.2452886$ 838709677419), np.float64(-81.10188679245283)], z: [np.float64(-10.37903225806452), np.float64(-5.9 92452830188682)]

Conexion: x: [np.float64(39.424778761061944), np.float64(29.706122448979592)], y: [np.float64(-21.2 6548672566372), np.float64(-19.004081632653055)], z: [np.float64(-26.415929203539825), np.float64(-25,461224489795917)]

Conexion: x: [np.float64(39.424778761061944), np.float64(-43.029629629629625)], y: [np.float64(-21.26548672566372), np.float64(-26.1037037037037)], z: [np.float64(-26.415929203539825), np.float64(-26.415929203539825)] 3.837037037037035)1

Conexion: x: [np.float64(39.424778761061944), np.float64(48.87586206896552)], y: [np.float64(-21.26 548672566372), np.float64(-16.944827586206898)], z: [np.float64(-26.415929203539825), np.float64(-2 9,420689655172417)1

Conexion: x: [np.float64(31.871428571428574), np.float64(25.40517241379311)], y: [np.float64(0.5214 285714285722), np.float64(1.103448275862064)], z: [np.float64(-39.464285714285715), np.float64(-31. 60344827586207)]

Conexion: x: [np.float64(31.871428571428574), np.float64(37.74324324324324)], y: [np.float64(0.5214 285714285722), np.float64(4.702702702702709)], z: [np.float64(-39.464285714285715), np.float64(-41. 87837837837838)1

Conexion: x: [np.float64(31.871428571428574), np.float64(42.633663366336634)], y: [np.float64(0.521 4285714285722), np.float64(-4.752475247524757)], z: [np.float64(-39.464285714285715), np.float64(-4

0.17821782178218)] Conexion: x: [np.float64(40.620370370370374), np.float64(40.64777327935223)], y: [np.float64(-62.01

851851851852), np.float64(-42.61538461538461)], z: [np.float64(-17.601851851851855), np.float64(-2 0.672064777327932)1

Conexion: x: [np.float64(40.620370370370374), np.float64(-46.71090047393366)], y: [np.float64(-62.0 185185185185185), np.float64(-67.260663507109)], z: [np.float64(-17.601851851851855), np.float64(-13.

616099071208)1

07547169811326)1

49792531120332)]

Conexion: x: [np.float64(45.87951807228916), np.float64(-53.0749999999999)], y: [np.float64(-18.14

Conexion: x: [np.float64(45.87951807228916), np.float64(57.832699619771866)], y: [np.float64(-18.14

Conexion: x: [np.float64(45.87951807228916), np.float64(56.44843049327354)], y: [np.float64(-18.144

Conexion: x: [np.float64(-19.349514563106794), np.float64(22.26794258373205)], y: [np.float64(-33.5

Conexion: x: [np.float64(-19.349514563106794), np.float64(-20.2542372881356)], y: [np.float64(-33.5 631067961165), np.float64(-32.82203389830508)], z: [np.float64(-0.5825242718446617), np.float64(-1

2.618644067796609)]

807339449542), np.float64(-30.875576036866363)], z: [np.float64(-6.77064220183486), np.float64(-6.9

21658986175117)]

2057613168725), np.float64(-11.992063492063494)], z: [np.float64(-18.995884773662553), np.float64(-

9.923371647509576)]

ProyectoF_Zaira 057613168725), np.float64(-2.486956521739131)], z: [np.float64(-18.995884773662553), np.float64(-2 3.930434782608693)] Conexion: x: [np.float64(-30.347169811320754), np.float64(33.298507462686565)], y: [np.float64(-14. 981132075471692), np.float64(-13.082089552238813)], z: [np.float64(-16.596226415094343), np.float64 (-16,253731343283583)] Conexion: x: [np.float64(-30.347169811320754), np.float64(26.611111111111111)], y: [np.float64(-14. 981132075471692), np.float64(-11.992063492063494)], z: [np.float64(-16.596226415094343), np.float64 (-18.96825396825397)] Conexion: x: [np.float64(-38.0952380952381), np.float64(-42.803278688524586)], v: [np.float64(-63.9 4444444444), np.float64(-62.90983606557377)], z: [np.float64(42.86507936507937), np.float64(38.8 03278688524586)1 Conexion: x: [np.float64(-38.0952380952381), np.float64(-30.609970674486803)], y: [np.float64(-63.9 44444444444), np.float64(-64.96774193548387)], z: [np.float64(42.86507936507937), np.float64(43.3 13782991202345)] Conexion: x: [np.float64(-47.54751131221718), np.float64(-49.516393442622956)], y: <math>[np.float64(-61.61), np.float64(-61.61)]809954751131215), np.float64(-55.893442622950815)], z: [np.float64(25.366515837104075), np.float64 (31,278688524590166)1 Conexion: x: [np.float64(-47.54751131221718), np.float64(-44.75471698113208)], y: [np.float64(-61.8 09954751131215), np.float64(-66.32075471698113)], z: [np.float64(25.366515837104075), np.float64(3 1.632075471698116)1 Conexion: x: [np.float64(-47.54751131221718), np.float64(-5.976095617529879)], y: [np.float64(-61.8 09954751131215), np.float64(-57.69721115537848)], z: [np.float64(25.366515837104075), np.float64(3 1,434262948207177)1 Conexion: x: [np.float64(-47.54751131221718), np.float64(-47.20187793427229)], y: [np.float64(-61.8 09954751131215), np.float64(-57.436619718309856)], z: [np.float64(25.366515837104075), np.float64(1 7.981220657276992)] Conexion: x: [np.float64(-47.54751131221718), np.float64(-44.478048780487796)], y: [np.float64(-61. 809954751131215), np.float64(-66.79024390243902)], z: [np.float64(25.366515837104075), np.float64(1 7.014634146341464)] Conexion: x: [np.float64(-42.803278688524586), np.float64(-44.75471698113208)], y: [np.float64(-62. 90983606557377), np.float64(-66.32075471698113)], z: [np.float64(38.803278688524586), np.float64(3 1.632075471698116)] Conexion: x: [np.float64(-49.516393442622956), np.float64(-44.75471698113208)], v: [np.float64(-55. 893442622950815), np.float64(-66.32075471698113)], z: [np.float64(31.278688524590166), np.float64(3 1,632075471698116)1 Conexion: x: [np.float64(-49.516393442622956), np.float64(48.055335968379445)], y: [np.float64(-55. 893442622950815), np.float64(-63.22529644268775)], z: [np.float64(31.278688524590166), np.float64(3 2.3794466403162)] Conexion: x: [np.float64(-49.516393442622956), np.float64(-54.13654618473896)], y: [np.float64(-55. 893442622950815), np.float64(-46.18473895582329)], z: [np.float64(31.278688524590166), np.float64(3 0.955823293172685)1 Conexion: x: [np.float64(-44.75471698113208), np.float64(-37.365187713310576)], y: [np.float64(-66.

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ProyectoF_Zair

32075471698113), np.float64(-73.20819112627987)], z: [np.float64(31.632075471698116), np.float64(2

Conexion: x: [np.float64(-40.36162361623616), np.float64(-58.40466926070039)], y: [np.float64(-5.21
77121771217685), np.float64(-26.210116731517516)], z: [np.float64(1.0258302583025767), np.float64(2
2.264591439688715)]

Conexion: x: [np.float64(-35.34821428571429), np.float64(-45.52287581699346)], y: [np.float64(-18.8 0357142857143), np.float64(-14.169934640522882)], z: [np.float64(10.25), np.float64(12.503267973856 2111)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(-31.948717948717942)], y: [np.float64(23.3
113553113553), np.float64(14.88644688644689)], z: [np.float64(1.3846153846153868), np.float64(9.318
681318681314)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(-35.60942760942761)], y: [np.float64(23.31
13553113553), np.float64(14.17508417508418)], z: [np.float64(1.3846153846153868), np.float64(-6.350
168350168346)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(37.201581027667984)], y: [np.float64(23.31 13553113553), np.float64(23.87351778656125)], z: [np.float64(1.3846153846153868), np.float64(0.1976 2845849803057)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(40.333333333333333)], y: [np.float64(23.31
13553113553), np.float64(13.207407407407402)], z: [np.float64(1.3846153846153868), np.float64(0.281
4814814814781)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(-37.10914454277287)], y: [np.float64(23.31
13553113553), np.float64(-55.687315634218294)], z: [np.float64(1.3846153846153868), np.float64(52.6
07669616519175)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(-48.1930501930502)], y: [np.float64(23.311
3553113553), np.float64(7.0888030888030755)], z: [np.float64(1.3846153846153868), np.float64(32.308
880308880305)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(-2.606837606837601)], y: [np.float64(23.31 13553113553), np.float64(12.0)], z: [np.float64(1.3846153846153868), np.float64(55.27350427350427)] Conexion: x: [np.float64(-31.52380952380952), np.float64(-4.55230125523012)], y: [np.float64(23.311 3553113553), np.float64(17.054393305439334)], z: [np.float64(1.3846153846153868), np.float64(47.849 37238493724)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(7.942446043165461)], y: [np.float64(23.311
3553113553), np.float64(14.050359712230204)], z: [np.float64(1.3846153846153868), np.float64(49.992
80575539568)]

Conexion: x: [np.float64(-31.52380952380952), np.float64(8.902255639097746)], y: [np.float64(23.311 3553113553), np.float64(-11.94736842105263)], z: [np.float64(1.3846153846153868), np.float64(3.7443 60902255636)]

Conexion: x: [np.float64(-31.948717948717942), np.float64(-36.08906882591094)], y: [np.float64(14.8
8644688644689), np.float64(-4.218623481781378)], z: [np.float64(9.318681318681314), np.float64(13.1
8218623481782)]

Conexion: x: [np.float64(-31.948717948717942), np.float64(37.201581027667984)], y: [np.float64(14.8
8644688644689), np.float64(23.87351778656125)], z: [np.float64(9.318681318681314), np.float64(0.197
62845849803057)]

Conexion: x: [np.float64(-31.948717948717942), np.float64(40.3333333333333)], y: [np.float64(14.88644688644689), np.float64(13.207407407407402)], z: [np.float64(9.318681318681314), np.float64(0.28

8.51194539249147)]

Gonexion: x: [np.float64(-44.75471698113208), np.float64(48.055335968379445)], y: [np.float64(-66.3 2075471698113), np.float64(-63.22529644268775)], z: [np.float64(31.632075471698116), np.float64(32.3794466403162)]

Conexion: x: [np.float64(-44.75471698113208), np.float64(-5.976095617529879)], y: [np.float64(-66.3
2075471698113), np.float64(-57.69721115537848)], z: [np.float64(31.632075471698116), np.float64(31.
434262948207177)]

Conexion: x: [np.float64(22.26794258373205), np.float64(20.68807339449542)], y: [np.float64(-31.722
48803827752), np.float64(-28.073394495412842)], z: [np.float64(-1.5023923444976077), np.float64(-1
5.220183486238533)]

Conexion: x: [np.float64(33.298507462686565), np.float64(26.6111111111111111), y: [np.float64(-13.0 82089552238813), np.float64(-11.992063492063494)], z: [np.float64(-16.253731343283583), np.float64(-18.96825396825397)]

Conexion: x: [np.float64(26.6111111111111111), np.float64(20.10434782608695)], y: [np.float64(-11.99
2063492063494), np.float64(-2.486956521739131)], z: [np.float64(-18.96825396825397), np.float64(-2
3.930434782608693)]

Conexion: x: [np.float64(26.61111111111111114), np.float64(29.706122448979592)], y: [np.float64(-11.9
92063492063494), np.float64(-19.004081632653055)], z: [np.float64(-18.96825396825397), np.float64(25.461224489795917)]

Conexion: x: [np.float64(32.70967741935484), np.float64(29.768115942028984)], y: [np.float64(-30.87 5576036866363), np.float64(-35.555555555555556)], z: [np.float64(-6.921658986175117), np.float64(-1 0.734299516908216)]

Conexion: x: [np.float64(-40.36162361623616), np.float64(-36.08906882591094)], y: [np.float64(-5.21
77121771217685), np.float64(-4.218623481781378)], z: [np.float64(1.0258302583025767), np.float64(1
3.18218623481782)]

Conexion: x: [np.float64(-40.36162361623616), np.float64(40.87747035573123)], y: [np.float64(-5.217
7121771217685), np.float64(7.090909090909090935)], z: [np.float64(1.0258302583025767), np.float64(1.0
197628458497974)]

Conexion: x: [np.float64(-40.36162361623616), np.float64(42.83524904214559)], y: [np.float64(-5.217
7121771217685), np.float64(-5.731800766283527)], z: [np.float64(1.0258302583025767), np.float64(-3.
5708812260536433)]

Conexion: x: [np.float64(-40.36162361623616), np.float64(39.93162393162393)], y: [np.float64(-5.217
7121771217685), np.float64(-3.8547008547008517)], z: [np.float64(1.0258302583025767), np.float64(1
0.41880342)]

Conexion: x: [np.float64(-40.36162361623616), np.float64(-45.52287581699346)], y: [np.float64(-5.21
77121771217685), np.float64(-14.169934640522882)], z: [np.float64(1.0258302583025767), np.float64(1
2.503267973856211)]

Conexion: x: [np.float64(-40.36162361623616), np.float64(-47.27516778523491)], y: [np.float64(-5.21
77121771217685), np.float64(-0.6577181208053702)], z: [np.float64(1.0258302583025767), np.float64
(8.053691275167779)]

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ProyectoF_2

Conexion: x: [np.float64(-31.948717948717942), np.float64(-14.693140794223822)], y: [np.float64(14.88644688644689), np.float64(-15.653429602888082)], z: [np.float64(9.318681318681314), np.float64(7.812274368231044)]

Conexion: x: [np.float64(-35.60942760942761), np.float64(-37.062271062271066)], y: [np.float64(14.1
7508417508418), np.float64(7.831501831501839)], z: [np.float64(-6.350168350168346), np.float64(-10.
366300366300365)]

Conexion: x: [np.float64(-35.60942760942761), np.float64(37.201581027667984)], y: [np.float64(14.17
508417508418), np.float64(23.87351778656125)], z: [np.float64(-6.350168350168346), np.float64(0.197
62845849803057)]

Conexion: x: [np.float64(-35.60942760942761), np.float64(33.4863813229572)], y: [np.float64(14.1750
8417508418), np.float64(16.871595330739297)], z: [np.float64(-6.350168350168346), np.float64(-13.98
443579766537)]

Conexion: x: [np.float64(-35.60942760942761), np.float64(40.333333333333333)], y: [np.float64(14.17 508417508418), np.float64(13.207407407407402)], z: [np.float64(-6.350168350168346), np.float64(0.28 14814814814781)]

Conexion: x: [np.float64(-36.08906882591094), np.float64(39.93162393162393)], y: [np.float64(-4.218
623481781378), np.float64(-3.8547008547008517)], z: [np.float64(13.18218623481782), np.float64(10.4
1880341880342)]

Conexion: x: [np.float64(-36.08906882591094), np.float64(-48.571428571428584)], y: [np.float64(-4.2
18623481781378), np.float64(0.673469387755091)], z: [np.float64(13.18218623481782), np.float64(13.1
32653061224488)]

Conexion: x: [np.float64(-36.08906882591094), np.float64(-47.27516778523491)], y: [np.float64(-4.21 8623481781378), np.float64(-0.6577181208053702)], z: [np.float64(13.18218623481782), np.float64(8.0

53691275167779)]
Conexion: x: [np.float64(37.201581027667984), np.float64(33.4863813229572)], y: [np.float64(23.8735
1778656125), np.float64(16.871595330739297)], z: [np.float64(0.19762845849803057), np.float64(-13.9

17/0050127), ip.10d104(10.0/1393300/39297)], 2: [ip.110d104(0.13702043049003037), ip.110d104(-13.9 8443579766537)] Conexion: x: [np.float64(37.201581027667984), np.float64(40.33333333333333)], y: [np.float64(23.87

351778656125), np.float64(13.2074074074074074)], z: [np.float64(0.19762845849803057), np.float64(0.2 814814814781)] Conexion: x: [np.float64(37.201581027667984), np.float64(-37.10914454277287)], y: [np.float64(23.87

\$51778656125), np.float64(-55.687315634218294)], z: [np.float64(0.19762845849803057), np.float64(5 2.607669616519175)]

Conexion: x: [np.float64(37.201581027667984), np.float64(39.96969696969697)], y: [np.float64(23.873
51778656125), np.float64(-53.290909090909090)], z: [np.float64(0.19762845849803057), np.float64(51.81818181818181)]

Conexion: x: [np.float64(37.201581027667984), np.float64(-30.687074829931973)], y: [np.float64(23.8 7351778656125), np.float64(-61.74829931972789)], z: [np.float64(0.19762845849803057), np.float64(5 3.25170068027211)]

Conexion: x: [np.float64(37.201581027667984), np.float64(-48.1930501930502)], y: [np.float64(23.873 51778556125), np.float64(7.0888030888030755)], z: [np.float64(0.19762845849803057), np.float64(32.3 08880308880305)]

597014925373131)] Conexion: x: [np.float64(37.201581027667984), np.float64(8.902255639097746)], y: [np.float64(23.873 51778656125), np.float64(-11.94736842105263)], z: [np.float64(0.19762845849803057), np.float64(3.74

4360902255636)] Conexion: x: [np.float64(40.33333333333333333), np.float64(40.87747035573123)], y: [np.float64(13.207 407407407402), np.float64(7.0909090909090935)], z: [np.float64(0.2814814814781), np.float64(1.01

97628458497974)] Conexion: x: [np.float64(40.33333333333333333), np.float64(-24.06037735849057)], y: [np.float64(13.20 7407407407402), np.float64(4.77735849056603)], z: [np.float64(0.2814814814781), np.float64(8.037 735849056602)]

Conexion: x: [np.float64(40.3333333333333333333), np.float64(7.942446043165461)], y: [np.float64(13.207 407407407402), np.float64(14.050359712230204)], z: [np.float64(0.2814814814814781), np.float64(49.9 9280575539568)1

Conexion: x: [np.float64(40.333333333333333333), np.float64(8.902255639097746)], y: [np.float64(13.207 407407407402), np.float64(-11.94736842105263)], z: [np.float64(0.2814814814814781), np.float64(3.74 4360902255636)]

Conexion: x: [np.float64(40.87747035573123), np.float64(42.83524904214559)], y: [np.float64(7.09090 90909090935), np.float64(-5.731800766283527)], z: [np.float64(1.0197628458497974), np.float64(-3.57 08812260536433)1

Conexion: x: [np.float64(40.87747035573123), np.float64(39.93162393162393)], y: [np.float64(7.09090 90909090935), np.float64(-3.8547008547008517)], z: [np.float64(1.0197628458497974), np.float64(10.4 1880341880342)]

Conexion: x: [np.float64(42.83524904214559), np.float64(39.93162393)], y: [np.float64(-5.7318 00766283527), np.float64(-3.8547008547008517)], z: [np.float64(-3.5708812260536433), np.float64(10.

Conexion: x: [np.float64(39.93162393162393), np.float64(36.21487603305785)], y: [np.float64(-3.8547 008547008517), np.float64(-18.396694214876035)], z: [np.float64(10.41880341880342), np.float64(12.9 91735537190081)]

Conexion: x: [np.float64(39.93162393162393), np.float64(-48.571428571428584)], y: [np.float64(-3.85

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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471698113208) 1

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44594594594), np.float64(-64.03424657534246)], z: [np.float64(-2.804054054054049), np.float64(-9.23287671232876)]

Conexion: x: [np.float64(-19.91891891891892), np.float64(17.61338289962825)], y: [np.float64(-68.44 594594594), np.float64(-49.29368029739777)], z: [np.float64(-2.80405405405405409), np.float64(-0.3

 ${\tt Conexion: x: [np.float64(-19.91891891891891892), np.float64(-8.484429065743939)], y: [np.float64(-68.484429065743939)], y: [np.float64(-68.48442906574399)], y: [np.float64(-68.48442906574399)], y: [np.float64(-68.4844990657439)], y: [np.float64(-68.4844990657439)], y: [np.float64(-68.4844990657439)], y: [np.float64(-68.4844990657439)], y: [np.float64(-68.4844990657439)], y: [np.float64(-68.4844990657439)], y: [np.float64(-68.484999)], y: [np.float64(-68.484999)], y: [np.float64(-68.484999)], y: [np.float64(-68.484999)], y: [np.float64(-68.484999)], y: [np.float64(-68.48499)], y: [np.float64(-68.4849)], y: [np.float64(-68.4849)], y: [np.float64(-68.4849)],$ 4594594594), np.float64(-84.59515570934256)], z: [np.float64(-2.8040540540540409), np.float64(4.8 02768166089962)]

Conexion: x: [np.float64(-19.91891891891892), np.float64(19.481707317073173)], y: [np.float64(-68.4 45945945945), np.float64(-63.11585365853658)], z: [np.float64(-2.804054054054049), np.float64(9.8 10975609756099)]

Conexion: x: [np.float64(-20.30901287553648), np.float64(22.268656716417908)], y: [np.float64(-90.2 9184549356223), np.float64(-82.38059701492537)], z: [np.float64(-13.39055793991416), np.float64(-9. 02985074626865)]

Conexion: x: [np.float64(-20.30901287553648), np.float64(24.30232558139535)], y: [np.float64(-90.29 184549356223), np.float64(-94.53488372093022)], z: [np.float64(-13.39055793991416), np.float64(-13. 662790697674417)1

Conexion: x: [np.float64(-20.30901287553648), np.float64(-23.0204081632653)], y: [np.float64(-90.29 184549356223), np.float64(-93.23265306122448)], z: [np.float64(-13.39055793991416), np.float64(-8.7 8367346938775)]

Conexion: x: [np.float64(-20.30901287553648), np.float64(29.00456621004566)], y: [np.float64(-90.29 $184549356223), \; np. float64(-94.76712328767124)], \; z: \; [np. float64(-13.39055793991416), \; np. float64(-6.00164)], \; results that the second contract of th$ 45662100456624)1

 ${\tt Conexion: x: [np.float64(-20.30901287553648), np.float64(34.86695278969957)], y: [np.float64(-90.298164), np.float64(-90.29816)]}, y: [np.float64(-90.29816)], pp.float64(-90.29816)], pp.float64$

33047210300433)] Conexion: x: [np.float64(-20.30901287553648), np.float64(-5.340206185567013)], y: [np.float64(-90.2 9184549356223), np.float64(-97.74226804123711)], z: [np.float64(-13.39055793991416), np.float64(-7.

948453608247419)1 ${\tt Conexion: x: [np.float64(-20.30901287553648), np.float64(17.75)], y: [np.float64(-90.2918454935622] }$

3), np.float64(-96.546875)], z: [np.float64(-13.39055793991416), np.float64(-0.75)]
Conexion: x: [np.float64(-6.15094339622641), np.float64(10.4083044982699)], y: [np.float64(-68.2792 4528301887), np.float64(-67.01038062283737)], z: [np.float64(1.95471698113208), np.float64(1.993079 5847750886)]

Conexion: x: [np.float64(-6.15094339622641), np.float64(-7.273846153846151)], y: [np.float64(-68.27 924528301887), np.float64(-70.91076923076923)], z: [np.float64(1.95471698113208), np.float64(14.098

Conexion: x: [np.float64(-6.15094339622641), np.float64(-11.049180327868854)], y: [np.float64(-68.2 7924528301887), np.float64(-59.531615925058546)], z: [np.float64(1.95471698113208), np.float64(8.75 8782201405154)1

Conexion: x: [np.float64(-12.849816849816847), np.float64(-20.211009174311926)], y: [np.float64(-4

 $47008547008517), \; np.float64(0.673469387755091)], \; z: \; [np.float64(10.41880341880342), \; np.float64(13.11880341880342)], \; np.float64(10.41880341880342)], \; np.float64(10.41880341880342)]$ 32653061224488)1

 ${\tt Conexion: x: [np.float64(39.93162393), np.float64(49.80377358490566)], y: [np.float64(-3.8547, abs.)]}, {\tt abs.}$ 008547008517), np.float64(-6.8452830188679314)], z: [np.float64(10.41880341880342), np.float64(11.6 07547169811326)]

Conexion: x: [np.float64(39.93162393162393), np.float64(48.87248322147651)], y: [np.float64(-3.8547 008547008517), np.float64(-4.919463087248317)], z: [np.float64(10.41880341880342), np.float64(15.83 2214765100673)]

Conexion: x: [np.float64(39.93162393162393), np.float64(51.52873563218391)], y: [np.float64(-3.8547008517), np.float64(4.22988505747125)], z: [np.float64(10.41880341880342), np.float64(5.43678 1609195407)1

Conexion: x: [np.float64(36.21487603305785), np.float64(49.80377358490566)], y: [np.float64(-18.396 $694214876035), \; np.float64(-6.8452830188679314)], \; z: \; [np.float64(12.991735537190081), \; np.float64(11.991735537190081)], \; details the second control of the second contr$ 607547169811326)]

Conexion: x: [np.float64(-7.096085409252666), np.float64(-6.15094339622641)], y: [np.float64(-78.46 $263345195729), \; np. float \\ 64(-68.27924528301887)], \; z: \; [np. float \\ 64(-3.893238434163706), \; np. float \\ 64(1.95.16364), \; respectively. \\$ 471698113208)

 ${\tt Conexion: x: [np.float64(-7.096085409252666), np.float64(-17.849315068493155)], y: [np.float64(-78.849315068493155)], y: [np.float64(-78.849315068495)], y: [np.float64(-78.8495)], y: [np.float64(-78$ 46263345195729), np.float64(-64.03424657534246)], z: [np.float64(-3.893238434163706), np.float64(-9.23287671232876)]

Conexion: x: [np.float64(-7.096085409252666), np.float64(14.772058823529406)], y: [np.float64(-78.4 6263345195729), np.float64(-81.13970588235294)], z: [np.float64(-3.893238434163706), np.float64(-3.

Conexion: x: [np.float64(-7.096085409252666), np.float64(-4.228915662650607)], y: [np.float64(-78.4 6263345195729), np.float64(-88.43373493975903)], z: [np.float64(-3.893238434163706), np.float64(-8. 289156626506028)]

Conexion: x: [np.float64(-7.096085409252666), np.float64(-2.046948356807505)], y: [np.float64(-78.4 6263345195729), np.float64(-86.7793427230047)], z: [np.float64(-3.893238434163706), np.float64(-0.1 0328638497652776)1

Conexion: x: [np.float64(-7.096085409252666), np.float64(16.34042553191489)], y: [np.float64(-78.46 263345195729), np.float64(-79.55623100303951)], z: [np.float64(-3.893238434163706), np.float64(3.92 0972644376903)]

Conexion: x: [np.float64(-15.822784810126578), np.float64(-20.30901287553648)], y: [np.float64(-88.06751054852322), np.float64(-90.29184549356223)], z: [np.float64(-14.962025316455694), np.float64(-13,39055793991416)1

Conexion: x: [np.float64(-15.822784810126578), np.float64(22.268656716417908)], y: [np.float64(-88. 06751054852322), np.float64(-82.38059701492537)], z: [np.float64(-14.962025316455694), np.float64(-9.02985074626865)]

Conexion: x: [np.float64(-15.822784810126578), np.float64(-5.340206185567013)], y: [np.float64(-88. 06751054852322), np.float64(-97.74226804123711)], z: [np.float64(-14.962025316455694), np.float64(-7,948453608247419)1

9.765567765567766), np.float64(-44.38532110091744)], z: [np.float64(-2.578754578754584), np.float64 (-5.11009174311927)]

Conexion: x: [np.float64(-12.849816849816847), np.float64(17.61338289962825)], y: [np.float64(-49.7 65567765567766), np.float64(-49.29368029739777)], z: [np.float64(-2.578754578754584), np.float64(-0.3866171003717511)]

ProvectoF Zaira

Conexion: x: [np.float64(-12.849816849816847), np.float64(10.36363636363636)], y: [np.float64(-49.7 65567765567766), np.float64(-46.96256684491979)], z: [np.float64(-2.578754584), np.float64(-1.1871657754010698)]

Conexion: x: [np.float64(-12.849816849816847), np.float64(-11.049180327868854)], y: [np.float64(-4 $9.765567765567766), \; np.float64(-59.531615925058546)], \; z \colon [np.float64(-2.578754578754584), \; np.float64(-2.578754578754584)], \; description of the context of the con$ 4(8,758782201405154)]

Conexion: x: [np.float64(-12.849816849816847), np.float64(-10.733668341708537)], y: [np.float64(-4 9.7655677656, np.float64(-51.1608040201005)], z: [np.float64(-2.578754578754584), np.float64 (11.32663316582915)]

Conexion: x: [np.float64(17.61338289962825), np.float64(10.36363636363636)], y: [np.float64(-49.293 68029739777), np.float64(-46.96256684491979)], z: [np.float64(-0.3866171003717511), np.float64(-1.1 871657754010698)1

Conexion: x: [np.float64(17.61338289962825), np.float64(20.512195121951223)], y: [np.float64(-49.29 032520325203251)]

Conexion: x: [np.float64(17.61338289962825), np.float64(15.899705014749259)], y: [np.float64(-49.29 368029739777), np.float64(-56.90265486725664)], z: [np.float64(-0.3866171003717511), np.float64(11. 722713864306783)]

Conexion: x: [np.float64(17.61338289962825), np.float64(19.481707317073173)], y: [np.float64(-49.29 368029739777), np.float64(-63.11585365853658)], z: [np.float64(-0.3866171003717511), np.float64(9.8 10975609756099)]

Conexion: x: [np.float64(10.4083044982699), np.float64(10.828767123287676)], y: [np.float64(-67.010 38062283737), np.float64(-66.86986301369862)], z: [np.float64(1.9930795847750886), np.float64(-6.55

4794520547944)] Conexion: x: [np.float64(10.4083044982699), np.float64(10.36363636363636)], y: [np.float64(-67.0103 8062283737), np.float64(-46.96256684491979)], z: [np.float64(1.9930795847750886), np.float64(-1.187

1657754010698)] Conexion: x: [np.float64(10.4083044982699), np.float64(13.447204968944106)], y: [np.float64(-67.010 38062283737), np.float64(-72.24844720496895)], z: [np.float64(1.9930795847750886), np.float64(11.43

4782608695656)1 ${\tt Conexion: x: [np.float64(10.4083044982699), np.float64(19.481707317073173)], y: [np.float64(-67.010, 10.100111, 10.100111, 10.100111, 10.100111, 10.100111, 10.100111, 10.10011, 10.1$

38062283737), np.float64(-63.11585365853658)], z: [np.float64(1.9930795847750886), np.float64(9.810 Conexion: x: [np.float64(16.131147540983605), np.float64(22.268656716417908)], y: [np.float64(-77.4 2295081967214), np.float64(-82.38059701492537)], z: [np.float64(-9.64590163934426), np.float64(-9.0

2985074626865)1 Conexion: x: [np.float64(16.131147540983605), np.float64(10.828767123287676)], y: [np.float64(-77.4

2295081967214), np.float64(-66.86986301369862)], z: [np.float64(-9.64590163934426), np.float64(-6.5

60663507109), np.float64(-73.84070796460176)], z: [np.float64(-13.203791469194314), np.float64(-6.1

ProyectoF_Zaira 54794520547944)1 Conexion: x: [np.float64(16.131147540983605), np.float64(14.772058823529406)], y: [np.float64(-77.4 2295081967214), np.float64(-81.13970588235294)], z: [np.float64(-9.64590163934426), np.float64(-3.2 72058823529406)] Conexion: x: [np.float64(22.268656716417908), np.float64(24.30232558139535)], y: [np.float64(-82.38 $059701492537), \; np. float64(-94.53488372093022)], \; z: \; [np. float64(-9.02985074626865), \; np. float64(-13.6865)], \; np. float66(-13.6865)], \; n$ 62790697674417)] Conexion: x: [np.float64(22.268656716417908), np.float64(14.772058823529406)], y: [np.float64(-82.3 8059701492537), np.float64(-81.13970588235294)], z: [np.float64(-9.02985074626865), np.float64(-3.2 72058823529406)] Conexion: x: [np.float64(22.268656716417908), np.float64(-23.0204081632653)], y: [np.float64(-82.38 059701492537), np.float64(-93.23265306122448)], z: [np.float64(-9.02985074620865), np.float64(-8.78 367346938775)] Conexion: x: [np.float64(22.268656716417908), np.float64(-35.47490347490347)], y: [np.float64(-82.3 8059701492537), np.float64(-81.66795366795367)], z: [np.float64(-9.02985074626865), np.float64(-8.9 03474903474901)] Conexion: x: [np.float64(22.268656716417908), np.float64(29.00456621004566)], y: [np.float64(-82.38 059701492537), np.float64(-94.76712328767124)], z: [np.float64(-9.02985074626865), np.float64(-6.04 5662100456624)1 Conexion: x: [np.float64(22.268656716417908), np.float64(-24.0)], y: [np.float64(-82.3805970149253 7), np.float64(-94.23423423423424)], z: [np.float64(-9.02985074626865), np.float64(8.1081081081081081 3252032520325)1

Conexion: x: [np.float64(22.268656716417908), np.float64(-33.08943089430895)], y: [np.float64(-82.3

Conexion: x: [np.float64(22.268656716417908), np.float64(17.75)], y: [np.float64(-82.3805970149253 7), np.float64(-96.546875)], z: [np.float64(-9.02985074626865), np.float64(-0.75)]

Conexion: x: [np.float64(24.30232558139535), np.float64(29.00456621004566)], y: [np.float64(-94.534 88372093022), np.float64(-94.76712328767124)], z: [np.float64(-13.662790697674417), np.float64(-6.0 45662100456624)]

Conexion: x: [np.float64(24.30232558139535), np.float64(17.75)], y: [np.float64(-94.5348837209302 2), np.float64(-96.546875)], z: [np.float64(-13.662790697674417), np.float64(-0.75)]

Conexion: x: [np.float64(20.512195121951223), np.float64(29.768115942028984)], y: [np.float64(-47.8 0.734299516908216)1

Conexion: x: [np.float64(14.772058823529406), np.float64(-4.228915662650607)], y: [np.float64(-81.1 3970588235294), np.float64(-88.43373493975903)], z: [np.float64(-3.272058823529406), np.float64(-8. 289156626506028)]

Conexion: x: [np.float64(14.772058823529406), np.float64(-2.046948356807505)], y: [np.float64(-81.1 3970588235294), np.float64(-86.7793427230047)], z: [np.float64(-3.272058823529406), np.float64(-0.1 0328638497652776)1

Conexion: x: [np.float64(14.772058823529406), np.float64(16.34042553191489)], y: [np.float64(-81.13
970588235294), np.float64(-79.55623100303951)], z: [np.float64(-3.272058823529406), np.float64(3.92

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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4070796460176), np.float64(-81.66795366795367)], z: [np.float64(-6.1061946902654824), np.float64(-8.903474903474901)]

Conexion: x: [np.float64(-42.68141592920355), np.float64(44.294117647058826)], y: [np.float64(-73.8 4070796460176), np.float64(-72.38970588235294)], z: [np.float64(-6.1061946902654824), np.float64(-1

Conexion: x: [np.float64(-42.68141592920355), np.float64(41.24528301886792)], y: [np.float64(-73.84 070796460176), np.float64(-81.10188679245283)], z: [np.float64(-6.1061946902654824), np.float64(-5. 992452830188682)]

Conexion: x: [np.float64(-42.68141592920355), np.float64(-43.25552050473186)], y: [np.float64(-73.8 $4070796460176), \; np.float \\ 64(-73.88643533123027)], \; z: \; [np.float \\ 64(-6.1061946902654824), \; np.float \\ 64(1.1061946902654824), \; np.float \\ 64(1.106196902654824), \; np.float \\ 64(1.1061969026644), \; np.float \\ 64(1.106196902664), \; np.float \\ 64(1.106196902664), \; np.float \\ 64(1.1061969066464), \; np.float \\$ 0977917981072522)1

Conexion: x: [np.float64(-42.68141592920355), np.float64(43.25991189427313)], y: [np.float64(-73.84 070796460176), np.float64(-77.40088105726872)], z: [np.float64(-6.1061946902654824), np.float64(3.7

Conexion: x: [np.float64(-42.68141592920355), np.float64(-54.32075471698113)], y: [np.float64(-73.8 4070796460176), np.float64(-59.57232704402516)], z: [np.float64(-6.1061946902654824), np.float64(-1 0.333333333333336)1

Conexion: x: [np.float64(-42.68141592920355), np.float64(50.76086956521739)], y: [np.float64(-73.84 070796460176), np.float64(-63.91847826086956)], z: [np.float64(-6.1061946902654824), np.float64(-1 3.570652173913047)]

Conexion: x: [np.float64(-42.68141592920355), np.float64(54.70918367346939)], y: [np.float64(-73.84 070796460176), np.float64(-57.95408163265306)], z: [np.float64(-6.1061946902654824), np.float64(-8.

Conexion: x: [np.float64(-35.47490347490347), np.float64(44.294117647058826)], y: [np.float64(-81.6 6795366795367), np.float64(-72.38970588235294)], z: [np.float64(-8.903474903474901), np.float64(-1 2.455882352941174)]

Conexion: x: [np.float64(-35.47490347490347), np.float64(34.86695278969957)], y: [np.float64(-81.66 795366795367), np.float64(-87.2961373390558)], z: [np.float64(-8.903474903474901), np.float64(-11.1 33047210300433)]

Conexion: x: [np.float64(-35.47490347490347), np.float64(41.24528301886792)], y: [np.float64(-81.66 795366795367), np.float64(-81.10188679245283)], z: [np.float64(-8.903474903474901), np.float64(-5.9 92452830188682)]

 ${\tt Conexion: x: [np.float64(-35.47490347490347), np.float64(-33.08943089430895)], y: [np.float64(-81.68943089430895)], y: [np.float64(-81.6894308943089430895)], y: [np.float64(-81.68943089430895)], y: [np.float64(-81.689430895)], y: [np.float64(-81.68940895)], y: [np.float64(-81.68940895)], y: [np.float64(-81.68940895)], y: [np.float64(-81.68940895)], y: [np.float64(-81.68940895)], y: [np.float64(-81.68940895)], y: [np.float64(-81.68$ $6795366795367), \; \mathsf{np.float64}(-85.9349593495935)], \; \mathsf{z:} \; [\mathsf{np.float64}(-8.903474903474901), \; \mathsf{np.float64}(-1.2111)]$ 03252032520325)1

Conexion: x: [np.float64(-35.47490347490347), np.float64(34.299065420560744)], y: [np.float64(-81.6 6795366795367), np.float64(-90.97196261682242)], z: [np.float64(-8.903474903474901), np.float64(2.4 85981308411212)]

Conexion: x: [np.float64(44.294117647058826), np.float64(41.24528301886792)], y: [np.float64(-72.38 970588235294), np.float64(-81.10188679245283)], z: [np.float64(-12.455882352941174), np.float64(-5. 992452830188682)1

Conexion: x: [np.float64(44.294117647058826), np.float64(-33.08943089430895)], y: [np.float64(-72.3 8970588235294), np.float64(-85.9349593495935)], z: [np.float64(-12.455882352941174), np.float64(-1.

```
03474903474901)]
455882352941174)]
2452830188682)]
5981308411212)]
333333333333336)1
70652173913047)]
3474903474901)1
662100456624)1
047210300433)]
9308176100633)]
252032520325)]
777777777778)]
```

0972644376903)1

061946902654824)] Conexion: x: [np.float64(-46.71090047393366), np.float64(-35.47490347490347)], y: [np.float64(-67.2 60663507109), np.float64(-81.66795366795367)], z: [np.float64(-13.203791469194314), np.float64(-8.9 Conexion: x: [np.float64(-46.71090047393366), np.float64(44.294117647058826)], y: [np.float64(-67.2 60663507109), np.float64(-72.38970588235294)], z: [np.float64(-13.203791469194314), np.float64(-12. Conexion: x: [np.float64(-46.71090047393366), np.float64(41.24528301886792)], y: [np.float64(-67.26 $0663507109), \; \mathsf{np.float64(-81.10188679245283)]}, \; \mathsf{z:} \; [\mathsf{np.float64(-13.203791469194314)}, \; \mathsf{np.float64(-5.9918188679245283)}], \; \mathsf{deg} \; \mathsf{deg}$ Conexion: x: [np.float64(-46.71090047393366), np.float64(34.299065420560744)], y: [np.float64(-67.2 60663507109), np.float64(-90.97196261682242)], z: [np.float64(-13.203791469194314), np.float64(2.48 Conexion: x: [np.float64(-46.71090047393366), np.float64(-54.32075471698113)], y: [np.float64(-67.2 60663507109), np.float64(-59.57232704402516)], z: [np.float64(-13.203791469194314), np.float64(-10. ${\tt Conexion: x: [np.float64(-46.71090047393366), np.float64(50.76086956521739)], y: [np.float64(-67.268956521739)], y: [np.float64(-67.268956521739]], y: [np.float64(-67.268956521739)], y: [np.float64(-67.268956521739]]$ 0663507109), np.float64(-63.91847826086956)], z: [np.float64(-13.203791469194314), np.float64(-13.5 Conexion: x: [np.float64(-23.0204081632653), np.float64(-35.47490347490347)], y: [np.float64(-93.23 265306122448), np.float64(-81.66795366795367)], z: [np.float64(-8.78367346938775), np.float64(-8.90 Conexion: x: [np.float64(-23.0204081632653), np.float64(29.00456621004566)], y: [np.float64(-93.232 65306122448), np.float64(-94.76712328767124)], z: [np.float64(-8.78367346938775), np.float64(-6.045 Conexion: x: [np.float64(-23.0204081632653), np.float64(34.86695278969957)], y: [np.float64(-93.232 65306122448), np.float64(-87.2961373390558)], z: [np.float64(-8.78367346938775), np.float64(-11.133 Conexion: x: [np.float64(-23.0204081632653), np.float64(-21.496855345911953)], y: [np.float64(-93.2 3265306122448), np.float64(-93.9496855345912)], z: [np.float64(-8.78367346938775), np.float64(-2.28 Conexion: x: [np.float64(-23.0204081632653), np.float64(-33.08943089430895)], y: [np.float64(-93.23 265306122448), np.float64(-85.9349593495935)], z: [np.float64(-8.78367346938775), np.float64(-1.203 Conexion: x: [np.float64(-23.0204081632653), np.float64(-7.8222222222223)], y: [np.float64(-93.23 265306122448), np.float64(-100.411111111111)], z: [np.float64(-8.78367346938775), np.float64(-1.3 Conexion: x: [np.float64(-23.0204081632653), np.float64(17.75)], y: [np.float64(-93.2326530612244 8), np.float64(-96.546875)], z: [np.float64(-8.78367346938775), np.float64(-0.75)] Conexion: x: [np.float64(-42.68141592920355), np.float64(-35.47490347490347)], y: [np.float64(-73.8

203252032520325)1 Conexion: x: [np.float64(44.294117647058826), np.float64(34.299065420560744)], y: [np.float64(-72.3 8970588235294), np.float64(-90.97196261682242)], z: [np.float64(-12.455882352941174), np.float64(2. 485981308411212)] Conexion: x: [np.float64(44.294117647058826), np.float64(50.76086956521739)], y: [np.float64(-72.38 970588235294), np.float64(-63.91847826086956)], z: [np.float64(-12.455882352941174), np.float64(-1 Conexion: x: [np.float64(29.00456621004566), np.float64(34.86695278969957)], y: [np.float64(-94.767

12328767124), np.float64(-87.2961373390558)], z: [np.float64(-6.045662100456624), np.float64(-11.13 3047210300433)] Conexion: x: [np.float64(29.00456621004566), np.float64(-21.496855345911953)], y: [np.float64(-94.7 6712328767124), np.float64(-93.9496855345912)], z: [np.float64(-6.045662100456624), np.float64(-2.2

89308176100633)] Conexion: x: [np.float64(29.00456621004566), np.float64(-33.08943089430895)], y: [np.float64(-94.76 712328767124), np.float64(-85.9349593495935)], z: [np.float64(-6.045662100456624), np.float64(-1.20 3252032520325)]

Conexion: x: [np.float64(29.00456621004566), np.float64(34.299065420560744)], y: [np.float64(-94.76 712328767124), np.float64(-90.97196261682242)], z: [np.float64(-6.045662100456624), np.float64(2.48 5981308411212)]

Conexion: x: [np.float64(29.00456621004566), np.float64(17.75)], y: [np.float64(-94.7671232876712 4), np.float64(-96.546875)], z: [np.float64(-6.045662100456624), np.float64(-0.75)]

Conexion: x: [np.float64(34.86695278969957), np.float64(41.24528301886792)], y: [np.float64(-87.296 1373390558), np.float64(-81.10188679245283)], z: [np.float64(-11.133047210300433), np.float64(-5.99 2452830188682)]

Conexion: x: [np.float64(34.86695278969957), np.float64(-33.08943089430895)], y: [np.float64(-87.2961373390558), np.float64(-85.9349593495935)], z: [np.float64(-11.133047210300433), np.float64(-1.20 3252032520325)1

Conexion: x: [np.float64(41.24528301886792), np.float64(-33.76699029126213)], y: [np.float64(-81.10 188679245283), np.float64(-86.8252427184466)], z: [np.float64(-5.992452830188682), np.float64(6.728

Conexion: x: [np.float64(41.24528301886792), np.float64(-43.25552050473186)], y: [np.float64(-81.10 188679245283), np.float64(-73.88643533123027)], z: [np.float64(-5.992452830188682), np.float64(1.09

77917981072522)1

3252032520325)]

Conexion: x: [np.float64(41.24528301886792), np.float64(43.25991189427313)], y: [np.float64(-81.101 88679245283), np.float64(-77.40088105726872)], z: [np.float64(-5.992452830188682), np.float64(3.709

Conexion: x: [np.float64(41.24528301886792), np.float64(50.76086956521739)], y: [np.float64(-81.101 88679245283), np.float64(-63.91847826086956)], z: [np.float64(-5.992452830188682), np.float64(-13.5 70652173913047)1

Conexion: x: [np.float64(-24.0), np.float64(-25.911439114391143)], y: [np.float64(-94.2342342342342

4), np.float64(-88.96678966789668)], z: [np.float64(8.1081081081081010), np.float64(15.940959409594 4), np.float64(-86.8252427184466)], z: [np.float64(8.10810810810812), np.float64(6.72815533980582 Conexion: x: [np.float64(-24.0), np.float64(-16.75)], y: [np.float64(-94.2342342342342), np.float6 4(-100.61363636363636)], z: [np.float64(8.10810810810112), np.float64(3.34090909090905)]

4), np.float64(-93.9496855345912)], z: [np.float64(8.10810810810812), np.float64(-2.28930817610063 3)1

4), np.float64(-85.9349593495935)], z: [np.float64(8.10810810810812), np.float64(-1.20325203252032

Conexion: x: [np.float64(-24.0), np.float64(30.230483271375462)], y: [np.float64(-94.2342342342342 4), np.float64(-91.25650557620818)], z: [np.float64(8.10810810810812), np.float64(10.3420074349442 36)1

4), np.float64(-90.97196261682242)], z: [np.float64(8.108108108108112), np.float64(2.48598130841121 2)1

4), np.float64(-95.39240506329114)], z: [np.float64(8.10810810810812), np.float64(9.23206751054851

4), np.float64(-90.56382978723404)], z: [np.float64(8.10810810810812), np.float64(12.0319148936170 28)1 Conexion: x: [np.float64(-24.0), np.float64(17.75)], y: [np.float64(-94.23423423423423), np.float64

(-96.546875)], z: [np.float64(8.108108108108112), np.float64(-0.75)] Conexion: x: [np.float64(-25.911439114391143), np.float64(-33.76699029126213)], y: [np.float64(-88. 96678966789668), np.float64(-86.8252427184466)], z: [np.float64(15.9409594095941), np.float64(6.728

Conexion: x: [np.float64(-25.911439114391143), np.float64(-34.6283185840708)], y: [np.float64(-88.9

 $6678966789668), \; np.float \\ 64(-81.83185840707964)], \; z: \; [np.float \\ 64(15.9409594095941), \; np.float \\ 64(20.781641), \; np.float \\ 64(2$ 761061946902)1 Conexion: x: [np.float64(-25.911439114391143), np.float64(38.536)], y: [np.float64(-88.966789667896

68), np.float64(-80.904)], z: [np.float64(15.9409594095941), np.float64(19.64799999999999)] Conexion: x: [np.float64(-25.911439114391143), np.float64(30.230483271375462)], y: [np.float64(-88. 96678966789668), np.float64(-91.25650557620818)], z: [np.float64(15.9409594095941), np.float64(10.3 42007434944236)]

Conexion: x: [np.float64(-25.911439114391143), np.float64(31.592727272727274)], y: [np.float64(-88. 96678966789668), np.float64(-82.64)], z: [np.float64(15.9409594095941), np.float64(25.1054545454545

Conexion: x: [np.float64(-25.911439114391143), np.float64(-14.915254237288138)], y: [np.float64(-8 8.9667896678), np.float64(-87.28135593220338)], z: [np.float64(15.9409594095941), np.float64(2

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Conexion: x: [np.float64(-43.25552050473186), np.float64(50.76086956521739)], y: [np.float64(-73.88 $643533123027), \; np. float \\ 64(-63.91847826086956)], \; z: \; [np. float \\ 64(1.0977917981072522), \; np. float \\ 64(-13.0977917981072522), \; np. float \\ 64(-13.0977917917981072522), \; np. float \\ 64(-13.097791791791072522), \; np. float \\ 64(-13.09779179179170722), \; np. float \\ 64(-13.0977917917910722), \; np. float \\$ 570652173913047)1

 ${\tt Conexion: x: [np.float64(-43.25552050473186), np.float64(-48.180257510729604)], y: [np.float64(-73.180257510729604)], y: [np.float64(-73.18025750404)], y: [np.float64(-73.18025750404)], y: [np.float64(-73.18025750404)$ 88643533123027), np.float64(-65.76824034334764)], z: [np.float64(1.0977917981072522), np.float64(4. 472103004291839)]

Conexion: x: [np.float64(-43.25552050473186), np.float64(52.00892857142857)], y: [np.float64(-73.88 643533123027), np.float64(-62.49107142857143)], z: [np.float64(1.0977917981072522), np.float64(1.44 64285714285694)1

Conexion: x: [np.float64(-43.25552050473186), np.float64(47.43873517786561)], y: [np.float64(-73.88 643533123027), np.float64(-69.77075098814228)], z: [np.float64(1.0977917981072522), np.float64(5.01 1857707509876)]

Conexion: x: [np.float64(-42.56050955414014), np.float64(-37.365187713310576)], y: [np.float64(-73. 64968152866243), np.float64(-73.20819112627987)], z: [np.float64(15.076433121019107), np.float64(2 8.51194539249147)

Conexion: x: [np.float64(-42.56050955414014), np.float64(-48.180257510729604)], y: [np.float64(-73. 64968152866243), np.float64(-65.76824034334764)], z: [np.float64(15.076433121019107), np.float64(4. 472103004291839)]

Conexion: x: [np.float64(-42.56050955414014), np.float64(-44.478048780487796)], y: [np.float64(-73. 64968152866243), np.float64(-66.79024390243902)], z: [np.float64(15.076433121019107), np.float64(1 7.014634146341464)]

Conexion: x: [np.float64(-42.56050955414014), np.float64(47.654901960784315)], y: [np.float64(-73.6 4968152866243), np.float64(-68.11764705882354)], z: [np.float64(15.076433121019107), np.float64(16. 572549019607848)]

Conexion: x: [np.float64(-42.56050955414014), np.float64(47.43873517786561)], y: [np.float64(-73.64 $968152866243), \; np. float \\ 64(-69.77075098814228)], \; z: \; [np. float \\ 64(15.076433121019107), \; np. float \\ 64(5.0119107), \; np. float \\ 64(15.0119107), \; np. float \\ 64(15.011907), \; np. float \\ 64(15.$ 1857707509876)]

Conexion: x: [np.float64(-16.75), np.float64(-21.496855345911953)], y: [np.float64(-100.61363636363 636), np.float64(-93.9496855345912)], z: [np.float64(3.34090909090935), np.float64(-2.28930817610

Conexion: x: [np.float64(-16.75), np.float64(-12.970464135021103)], y: [np.float64(-100.61363636363 636), np.float64(-95.39240506329114)], z: [np.float64(3.34090909090935), np.float64(9.23206751054 8518)]

36), np.float64(-100.4111111111111)], z: [np.float64(3.34090909090935), np.float64(-1.3777777777 7778)]

Conexion: x: [np.float64(-16.75), np.float64(17.75)], y: [np.float64(-100.61363636363636), np.float 64(-96.546875)], z: [np.float64(3.34090909090935), np.float64(-0.75)]

Conexion: x: [np.float64(-21.496855345911953), np.float64(34.299065420560744)], y: [np.float64(-93. 9496855345912), np.float64(-90.97196261682242)], z: [np.float64(-2.289308176100633), np.float64(2.4 85981308411212)]

Conexion: x: [np.float64(-21.496855345911953), np.float64(-7.8222222222222)], y: [np.float64(-93. 9496855345912), np.float64(-100.41111111111111)], z: [np.float64(-2.289308176100633), np.float64(-

0.88813559322034)1

ProyectoF_Zaira Conexion: x: [np.float64(-25.911439114391143), np.float64(-22.41106719367589)], y: [np.float64(-88. 96678966789668), np.float64(-84.95652173913044)], z: [np.float64(15.9409594095941), np.float64(28.7 43083003952563)]

Conexion: x: [np.float64(-25.911439114391143), np.float64(23.755319148936167)], y: [np.float64(-88. 96678966789668), np.float64(-90.56382978723404)], z: [np.float64(15.9409594095941), np.float64(12.0

Conexion: x: [np.float64(-33.76699029126213), np.float64(-38.7111111111111)], y: [np.float64(-86.8 252427184466), np.float64(-81.768888888888888)], z: [np.float64(6.728155339805824), np.float64(10.37 3333333333335)]

Conexion: x: [np.float64(-33.76699029126213), np.float64(-33.08943089430895)], y: [np.float64(-86.8 252427184466), np.float64(-85.9349593495935)], z: [np.float64(6.728155339805824), np.float64(-1.203 252032520325)]

Conexion: x: [np.float64(-33.76699029126213), np.float64(30.230483271375462)], y: [np.float64(-86.8 252427184466), np.float64(-91.25650557620818)], z: [np.float64(6.728155339805824), np.float64(10.34 2007434944236)]

Conexion: x: [np.float64(-33.76699029126213), np.float64(34.299065420560744)], y: [np.float64(-86.8 252427184466), np.float64(-90.97196261682242)], z: [np.float64(6.728155339805824), np.float64(2.485 981308411212)1

Conexion: x: [np.float64(-33.76699029126213), np.float64(23.755319148936167)], y: [np.float64(-86.8 252427184466), np.float64(-90.56382978723404)], z: [np.float64(6.728155339805824), np.float64(12.03 1914893617028)]

Conexion: x: [np.float64(-38.71111111111111), np.float64(-43.25552050473186)], y: [np.float64(-81.7 68888888888), np.float64(-73.88643533123027)], z: [np.float64(10.3733333333335), np.float64(1.0 977917981072522)1

Conexion: x: [np.float64(-38.71111111111111), np.float64(-42.56050955414014)], y: [np.float64(-81.7 076433121019107)]

Conexion: x: [np.float64(-38.71111111111111), np.float64(43.25991189427313)], y: [np.float64(-81.76 8888888888), np.float64(-77.40088105726872)], z: [np.float64(10.3733333333333), np.float64(3.70 9251101321584)1

Conexion: x: [np.float64(-38.71111111111111), np.float64(40.752066115702476)], y: [np.float64(-81.7 68888888888), np.float64(-79.79338842975207)], z: [np.float64(10.373333333333), np.float64(11. 95867768595042)]

Conexion: x: [np.float64(-43.25552050473186), np.float64(-42.56050955414014)], y: [np.float64(-73.8 8643533123027), np.float64(-73.64968152866243)], z: [np.float64(1.0977917981072522), np.float64(15. 076433121019107)]

Conexion: x: [np.float64(-43.25552050473186), np.float64(-33.08943089430895)], y: [np.float64(-73.8 8643533123027), np.float64(-85.9349593495935)], z: [np.float64(1.0977917981072522), np.float64(-1.2 03252032520325)]

Conexion: x: [np.float64(-43.25552050473186), np.float64(43.25991189427313)], y: [np.float64(-73.88 643533123027), np.float64(-77.40088105726872)], z: [np.float64(1.0977917981072522), np.float64(3.70 9251101321584)1

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1,3777777777778)]

Conexion: x: [np.float64(-21.496855345911953), np.float64(17.75)], y: [np.float64(-93.949685534591 2), np.float64(-96.546875)], z: [np.float64(-2.289308176100633), np.float64(-0.75)]

Conexion: x: [np.float64(-27.322683706070293), np.float64(-32.23178807947019)], y: [np.float64(-78. 23003194888179), np.float64(-73.28476821192052)], z: [np.float64(31.463258785942486), np.float64(3 4.90066225165563)]

Conexion: x: [np.float64(-27.322683706070293), np.float64(-34.6283185840708)], y: [np.float64(-78.2 3003194888179), np.float64(-81.83185840707964)], z: [np.float64(31.463258785942486), np.float64(20. 78761061946902)]

Conexion: x: [np.float64(-27.322683706070293), np.float64(31.592727272727274)], y: [np.float64(-78. 23003194888179), np.float64(-82.64)], z: [np.float64(31.463258785942486), np.float64(25.10545454545

Conexion: x: [np.float64(-27.322683706070293), np.float64(34.299065420560744)], y: [np.float64(-78. 23003194888179), np.float64(-90.97196261682242)], z: [np.float64(31.463258785942486), np.float64(2. 485981308411212)]

Conexion: x: [np.float64(-27.322683706070293), np.float64(35.75460122699386)], y: [np.float64(-78.2 3003194888179), np.float64(-76.60736196319019)], z: [np.float64(31.463258785942486), np.float64(34. 25153374233129)]

Conexion: x: [np.float64(-27.322683706070293), np.float64(-17.156549520766774)], y: [np.float64(-7 8.23003194888179), np.float64(-79.09265175718849)], z: [np.float64(31.463258785942486), np.float64 (40.626198083067095)]

Conexion: x: [np.float64(-27.322683706070293), np.float64(-22.41106719367589)], y: [np.float64(-78. 23003194888179), np.float64(-84.95652173913044)], z: [np.float64(31.463258785942486), np.float64(2 8.743083003952563)]

Conexion: x: [np.float64(-37.365187713310576), np.float64(-32.23178807947019)], y: [np.float64(-73. 20819112627987), np.float64(-73.28476821192052)], z: [np.float64(28.51194539249147), np.float64(34. 90066225165563)1

Conexion: x: [np.float64(-37.365187713310576), np.float64(-34.6283185840708)], y: [np.float64(-73.2 0819112627987), np.float64(-81.83185840707964)], z: [np.float64(28.51194539249147), np.float64(20.7

8761061946902)] Conexion: x: [np.float64(-32.23178807947019), np.float64(35.75460122699386)], y: [np.float64(-73.28

476821192052), np.float64(-76.60736196319019)], z: [np.float64(34.90066225165563), np.float64(34.25 153374233129)

28476821192052), np.float64(-79.09265175718849)], z: [np.float64(34.90066225165563), np.float64(40. 626198083067095)]

Conexion: x: [np.float64(-32.23178807947019), np.float64(-30.609970674486803)], y: [np.float64(-73. 28476821192052), np.float64(-64.96774193548387)], z: [np.float64(34.90066225165563), np.float64(43. Conexion: x: [np.float64(-34.6283185840708), np.float64(38.536)], y: [np.float64(-81.8318584070796

4), np.float64(-80.904)], z: [np.float64(20.78761061946902), np.float64(19.64799999999999)] Conexion: x: [np.float64(-34.6283185840708), np.float64(31.59272727272727274)], y: [np.float64(-81.83 185840707964), np.float64(-82.64)], z: [np.float64(20.78761061946902), np.float64(25.1054545454545

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ProyectoF_Za

3507462686567), np.float64(-84.95652173913044)], z: [np.float64(31.13432835820896), np.float64(28.7 43083003952563)]

Conexion: x: [np.float64(-17.156549520766774), np.float64(23.73553719008264)], y: [np.float64(-79.0
9265175718849), np.float64(-82.31404958677686)], z: [np.float64(40.626198083067095), np.float64(35.
719008264462815)]

Conexion: x: [np.float64(-17.156549520766774), np.float64(28.164556962025316)], y: [np.float64(-79.09265175718849), np.float64(-74.22151898734177)], z: [np.float64(40.626198083067095), np.float64(42.46835443037975)]

Conexion: x: [np.float64(-17.156549520766774), np.float64(-21.245283018867923)], y: [np.float64(-7 9.09265175718849), np.float64(-72.15849056603773)], z: [np.float64(40.626198083067095), np.float64(45.41132075471698)]

Conexion: x: [np.float64(-22.41106719367589), np.float64(23.73553719008264)], y: [np.float64(-84.95652173913044), np.float64(-82.31404958677686)], z: [np.float64(28.743083003952563), np.float64(35.7120803646315)]

Conexion: x: [np.float64(-22.41106719367589), np.float64(25.77477477477477)], y: [np.float64(-84.95 652173913044), np.float64(-82.8018018018018)], z: [np.float64(28.743083003952563), np.float64(25.81 0810810810807)]

Conexion: x: [np.float64(45.688), np.float64(47.49612403100775)], y: [np.float64(-59.2720000000000000000000000000000), np.float64(-51.480620155038764)], z: [np.float64(43.616), np.float64(46.52713178294573)]

Conexion: x: [np.float64(45.688), np.float64(50.95967741935484)], y: [np.float64(-59.27200000000000000000000000000000), np.float64(-51.2258064516129)], z: [np.float64(43.616), np.float64(40.55645161290323)]

Conexion: x: [np.float64(42.96234309623431), np.float64(48.055335968379445)], y: [np.float64(-67.42
259414225941), np.float64(-63.22529644268775)], z: [np.float64(37.10460251046025), np.float64(32.37
94466403162)]

Conexion: x: [np.float64(48.055335968379445), np.float64(50.92134831460674)], y: [np.float64(-63.2252964288775), np.float64(-57.54307116104869)], z: [np.float64(32.3794466403162), np.float64(26.329

58801498127)] Conexion: x: [np.float64(34.68376068376068), np.float64(38.71774193548387)], y: [np.float64(-67.846 15384615384), np.float64(-62.87903225806451)], z: [np.float64(44.92307692307692), np.float64(46.991

93548387096)]
Conexion: x: [np.float64(34.68376068376068), np.float64(28.164556962025316)], y: [np.float64(-67.84 615384615384), np.float64(-74.22151898734177)], z: [np.float64(44.92307692307692), np.float64(42.46 835443037975)]

Conexion: x: [np.float64(34.68376068376068), np.float64(-37.10914454277287)], y: [np.float64(-67.84615384615384), np.float64(-55.687315634218294)], z: [np.float64(44.92307692307692), np.float64(52.68769616519175)]

Conexion: x: [np.float64(34.68376068376068], np.float64(-30.609970674486803)], y: [np.float64(-67.8
4615384615384), np.float64(-64.96774193548387)], z: [np.float64(44.92307692307692), np.float64(43.3
13782991202345)]

Conexion: x: [np.float64(34.68376068376068), np.float64(-30.687074829931973)], y: [np.float64(-67.8 4615384615384), np.float64(-61.74829931972789)], z: [np.float64(44.92307692307692), np.float64(53.2

Conexion: x: [np.float64(31.592727272727274), np.float64(35.75460122699386)], y: [np.float64(-82.6
4), np.float64(-76.60736196319019)], z: [np.float64(25.10545454545455), np.float64(34.2515337423312
9)]
Conexion: x: [np.float64(31.5927272727274), np.float64(-22.41106719367589)], y: [np.float64(-82.6

Conexion: X: [np.float64(31.592/2/2/2/2/2/4), np.float64(-22.41106/1936/589)], y: [np.float64(-82.64), np.float64(-84.95652173913044)], z: [np.float64(25.10545454545455), np.float64(28.743083003952563)]

Conexion: x: [np.float64(31.592727272727274), np.float64(25.77477477477477)], y: [np.float64(-82.6 4), np.float64(-82.8018018018018)], z: [np.float64(25.10545454545455), np.float64(25.81081081081080 7)]

Conexion: x: [np.float64(34.29965420560744), np.float64(50.76086956521739)], y: [np.float64(-90.97 196261682242), np.float64(-63.91847826086956)], z: [np.float64(2.485981308411212), np.float64(-13.570652173913047)]

Conexion: x: [np.float64(35.75460122699386), np.float64(43.26101694915254)], y: [np.float64(-76.607
36196319019), np.float64(-71.5322033898305)], z: [np.float64(34.25153374233129), np.float64(26.6915
2542372882)]

Conexion: x: [np.float64(35.75460122699386), np.float64(-17.156549520766774)], y: [np.float64(-76.6
0736196319019), np.float64(-79.09265175718849)], z: [np.float64(34.25153374233129), np.float64(40.6
26198083067095)]

Conexion: x: [np.float64(35.75460122699386), np.float64(-22.41166719367589)], y: [np.float64(-76.60736196319019), np.float64(-84.95652173913044)], z: [np.float64(34.25153374233129), np.float64(28.743083003952563)]

Conexion: x: [np.float64(35.75460122699386), np.float64(28.164556962025316)], y: [np.float64(-76.60
736196319019), np.float64(-74.22151898734177)], z: [np.float64(34.25153374233129), np.float64(42.46
835443037975)]

Conexion: x: [np.float64(35.75460122699386), np.float64(-16.52233676975945)], y: [np.float64(-76.60
736196319919), np.float64(-72.24742268041237)], z: [np.float64(34.25153374233129), np.float64(51.02
405498281787)]

Conexion: x: [np.float64(35.75460122699386), np.float64(-21.245283018867923)], y: [np.float64(-76.6
0736196319019), np.float64(-72.15849056603773)], z: [np.float64(34.25153374233129), np.float64(45.4
1132075471698)]

Conexion: x: [np.float64(-12.970464135021103), np.float64(-14.915254237288138)], y: [np.float64(-9
5.39240506329114), np.float64(-87.28135593220338)], z: [np.float64(9.232067510548518), np.float64(2
0.888135593220334)]

Conexion: x: [np.float64(-14.915254237288138), np.float64(-16.328358208955223)], y: [np.float64(-8
7.28135593220338), np.float64(-83.3507462686567)], z: [np.float64(20.88813559322034), np.float64(3
1.13432835820896)]

Conexion: x: [np.float64(-14.915254237288138), np.float64(-22.41106719367589)], y: [np.float64(-87. 28135593220338), np.float64(-84.95652173913044)], z: [np.float64(20.88813559322034), np.float64(28. 743083003952563)]

Conexion: x: [np.float64(-16.328358208955223), np.float64(-22.41106719367589)], y: [np.float64(-83.

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5170068027211)]

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ProyectoF_2

Conexion: x: [np.float64(34.68376068376068), np.float64(28.980237154150196)], y: [np.float64(-67.84 6153846), np.float64(-69.12252964426878)], z: [np.float64(44.92307692307692), np.float64(52.26 877470355731)]

Conexion: x: [np.float64(50.92134831460674), np.float64(53.93869731800766)], y: [np.float64(-57.543
07116104869), np.float64(-51.831417624521066)], z: [np.float64(26.32958801498127), np.float64(31.47
892720306514)]

Conexion: x: [np.float64(50.92134831460674), np.float64(51.20987654320987)], y: [np.float64(-57.543 07116104869), np.float64(-60.592592592592595)], z: [np.float64(26.32958801498127), np.float64(18.28 8065843621396)]

Conexion: x: [np.float64(38.71774193548387), np.float64(-37.10914454277287)], y: [np.float64(-62.87 903225806451), np.float64(-55.687315634218294)], z: [np.float64(46.99193548387096), np.float64(52.6 07669616519175)]

Conexion: x: [np.float64(38.71774193548387), np.float64(-30.609970674486803)], y: [np.float64(-62.8 7903225806451), np.float64(-64.96774193548387)], z: [np.float64(46.99193548387096), np.float64(43.3 13782991202345)]

Conexion: x: [np.float64(38.71774193548387), np.float64(39.969696969697)], y: [np.float64(-62.879
03225866451), np.float64(-53.290909090909090)], z: [np.float64(46.99193548387096), np.float64(51.81
818181818181)]

Conexion: x: [np.float64(38.71774193548387), np.float64(-30.687074829931973)], y: [np.float64(-62.8 7903225806451), np.float64(-61.74829931972789)], z: [np.float64(46.99193548387096), np.float64(53.2 5170068027211)]

Conexion: x: [np.float64(53.93869731800766), np.float64(50.95967741935484)], y: [np.float64(-51.831
417624521066), np.float64(-51.2258064516129)], z: [np.float64(31.47892720306514), np.float64(40.556
45161290323)]

Conexion: x: [np.float64(53.93869731800766), np.float64(56.66914498141264)], y: [np.float64(-51.831 417624521666), np.float64(-44.75836431226766)], z: [np.float64(31.47892720306514), np.float64(31.36

059479553903)]
Conexion: x: [np.float64(21.687763713080173), np.float64(23.755319148936167)], y: [np.float64(-83.1

8143459915612), np.float64(-90.56382978723404)], z: [np.float64(22.599156118143455), np.float64(12.691914893617928)]

Conexion: x: [np.float64(18.692307692307693), np.float64(23.73553719008264)], y: [np.float64(-84.91 346153846155), np.float64(-82.31404958677686)], z: [np.float64(28.557692307692307), np.float64(35.7 19008264462815)]

Conexion: x: [np.float64(18.692307692307693), np.float64(25.77477477477477)], y: [np.float64(-84.91
346153846155), np.float64(-82.8018018018018)], z: [np.float64(28.557692307692307), np.float64(25.81
0810810810807)]

Conexion: x: [np.float64(23.73553719008264), np.float64(28.164556962025316)], y: [np.float64(-82.31
404958677686), np.float64(-74.22151898734177)], z: [np.float64(35.719008264462815), np.float64(42.4
6835443037975)]

Conexion: x: [np.float64(23.73553719008264), np.float64(25.77477477477477)], y: [np.float64(-82.314 04958677686), np.float64(-82.8018018018)], z: [np.float64(35.719008264462815), np.float64(25.810 810810807)]

55174)1

(4.4654545454545485)]

4(7,812274368231044)]

(5.597014925373131)]

735849056602)]

480916030534345)]

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101321585903037)]

6764705882348)]

4360902255636)]

23371647509576)]

30434782608693)1

(7.812274368231044)]

583617747440258), np.float64(-22.8145454545453)], z: [np.float64(-1.0443686006825885), np.float64

Conexion: x: [np.float64(-18.061433447098977), np.float64(-14.693140794223822)], y: [np.float64(-1.

3583617747440258), np.float64(-15.653429602888082)], z: [np.float64(-1.0443686006825885), np.float6

Conexion: x: [np.float64(-18.061433447098977), np.float64(-7.268656716417908)], y: [np.float64(-1.3

583617747440258), np.float64(-11.007462686567166)], z: [np.float64(-1.0443686006825885), np.float64

Conexion: x: [np.float64(20.921428571428578), np.float64(-24.06037735849057)], y: [np.float64(-1.05 7142857142864), np.float64(4.77735849056603)], z: [np.float64(-1.085714285714289), np.float64(8.037

Conexion: x: [np.float64(20.921428571428578), np.float64(-26.297709923664115)], y: [np.float64(-1.0

57142857142864), np.float64(2.015267175572518)], z: [np.float64(-1.085714285714289), np.float64(-4.

Conexion: x: [np.float64(20.921428571428578), np.float64(-18.97637795275591)], y: [np.float64(-1.05

 $7142857142864), \; np.float64(12.842519685039377)], \; z: \; [np.float64(-1.085714285714289), \; np.float64(-3.085714285714289)], \; np.float64(-3.085714285714289), \; np.float64(-3.085714285714289), \; np.float64(-3.085714285714289), \; np.float64(-3.085714289), \; np.float64(-3.08571428$

Conexion: x: [np.float64(20.921428571428578), np.float64(31.118942731277535)], y: [np.float64(-1.05

7142857142864), np.float64(-10.12334801762114)], z: [np.float64(-1.085714285714289), np.float64(1.1

Conexion: x: [np.float64(20.921428571428578), np.float64(25.544117647058826)], y: [np.float64(-1.05

7142857142864), np.float64(5.330882352941188)], z: [np.float64(-1.085714285714289), np.float64(2.28

Conexion: x: [np.float64(20.921428571428578), np.float64(-3.75)], y: [np.float64(-1.05714285714286

4), np.float64(-2.146551724137936)], z: [np.float64(-1.085714285714289), np.float64(62.758620689655

 ${\tt Conexion: x: [np.float64(20.921428571428578), np.float64(-14.693140794223822)], y: [np.float64(-1.008140794223822)], y: [np.float64(-1.008140794223822], y: [np.float64(-1.0081407942220], y: [np.float64(-1.008140794220], y: [np.float64(-1.008140794220], y: [np.float64(-1.008140794220], y: [np.float64(-$

Conexion: x: [np.float64(20.921428571428578), np.float64(8.902255639097746)], y: [np.float64(-1.057

142857142864), np.float64(-11.94736842105263)], z: [np.float64(-1.085714285714289), np.float64(3.74

Conexion: x: [np.float64(-20.04132231404958), np.float64(-19.6015325670498)], y: [np.float64(-2.041

32231404958), np.float64(-6.804597701149419)], z: [np.float64(-26.33057851239669), np.float64(-29.9

Conexion: x: [np.float64(-20.04132231404958), np.float64(20.10434782608695)], y: [np.float64(-2.04132231404958), np.float64(-2.486956521739131)], z: [np.float64(-26.33057851239669), np.float64(-23.9

57142857142864), np.float64(-15.653429602888082)], z: [np.float64(-1.085714285714289), np.float64

57142857142864), np.float64(-10.666666666666671)], z: [np.float64(-1.085714285714289), np.float64

41132075471698)]

Conexion: x: [np.float64(28.164556962025316), np.float64(28.980237154150196)], y: [np.float64(-74.2 2151898734177), np.float64(-69.12252964426878)], z: [np.float64(42.46835443037975), np.float64(52.2 6877470355731)]

Conexion: x: [np.float64(28.164556962025316), np.float64(18.546218487394952)], y: [np.float64(-74.2 2151898734177), np.float64(-73.25210084033614)], z: [np.float64(42.46835443037975), np.float64(50.5 0420168067227)]

 ${\tt Conexion: x: [np.float64(23.755319148936167), np.float64(17.75)], y: [np.float64(-90.5638297872340]} \\$

4), np.float64(-96.546875)], z: [np.float64(12.031914893617028), np.float64(-0.75)] Conexion: x: [np.float64(-8.26428571428572), np.float64(-6.772455089820355)], y: [np.float64(13.864 285714285728), np.float64(22.101796407185617)], z: [np.float64(-12.685714285714283), np.float64(-1 9.203592814371255)]

Conexion: x: [np.float64(-8.26428571428572), np.float64(-7.402390438247011)], y: [np.float64(13.864 285714285728), np.float64(14.446215139442245)], z: [np.float64(-12.685714285714283), np.float64(-4. 5179282868525945)1

Conexion: x: [np.float64(10.124567474048447), np.float64(9.24897959183673)], y: [np.float64(14.6643 59861591691), np.float64(11.983673469387753)], z: [np.float64(-12.560553633217992), np.float64(1.36 32653061224431)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(20.921428571428578)], y: [np.float64(-1.3 583617747440258), np.float64(-1.057142857142864)], z: [np.float64(-1.0443686006825885), np.float64

Conexion: x: [np.float64(-18.061433447098977), np.float64(-24.06037735849057)], y: [np.float64(-1.3 583617747440258), np.float64(4.77735849056603)], z: [np.float64(-1.0443686006825885), np.float64(8. 037735849056602)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(-26.297709923664115)], y: [np.float64(-1. 3583617747440258), np.float64(2.015267175572518)], z: [np.float64(-1.0443686006825885), np.float64 (-4.480916030534345)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(-18.97637795275591)], y: [np.float64(-1.3 583617747440258), np.float64(12.842519685039377)], z: [np.float64(-1.0443686006825885), np.float64 (-3.055118110236222)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(-27.807017543859644)], y: [np.float64(-1. 3583617747440258), np.float64(-10.66666666666671)], z: [np.float64(-1.0443686006825885), np.float6 4(3,94736842105263)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(25.544117647058826)], y: [np.float64(-1.3 583617747440258), np.float64(5.330882352941188)], z: [np.float64(-1.0443686006825885), np.float64 (2.286764705882348)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(-5.765957446808514)], y: [np.float64(-1.3 583617747440258), np.float64(-1.9716312056737593)], z: [np.float64(-1.0443686006825885), np.float64 (50.99290780141844)]

Conexion: x: [np.float64(-18.061433447098977), np.float64(-3.75)], y: [np.float64(-1.35836177474402 58), np.float64(-2.146551724137936)], z: [np.float64(-1.0443686006825885), np.float64(62.7586206896

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https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

58823529411768), np.float64(-33.52313167259787)], z: [np.float64(76.49264705882354), np.float64(68. 17081850533808)]

Conexion: x: [np.float64(-6.659003831417621), np.float64(8.327683615819211)], y: [np.float64(-34.99 6168582375475), np.float64(-33.89830508474576)], z: [np.float64(63.08045977011494), np.float64(58.0 6214689265536)]

Conexion: x: [np.float64(-6.659003831417621), np.float64(-6.797153024911026)], y: [np.float64(-34.9 96168582375475), np.float64(-45.580071174377224)], z: [np.float64(63.08045977011494), np.float64(5 3.978647686832744)]

Conexion: x: [np.float64(8.327683615819211), np.float64(5.740585774058573)], y: [np.float64(-33.898 30508474576), np.float64(-48.40167364016736)], z: [np.float64(58.06214689265536), np.float64(58.987 447698744774)1

Conexion: x: [np.float64(8.327683615819211), np.float64(8.65306122448979)], y: [np.float64(-33.8983 0508474576), np.float64(-21.4421768707483)], z: [np.float64(58.06214689265536), np.float64(54.81632 653061226)]

Conexion: x: [np.float64(6.78367346938775), np.float64(5.687763713080173)], y: [np.float64(-26.3510 20408163265), np.float64(-38.32911392405063)], z: [np.float64(74.61224489795919), np.float64(71.746 83544303798)1

Conexion: x: [np.float64(6.78367346938775), np.float64(18.78857142857143)], y: [np.float64(-26.3510 20408163265), np.float64(-26.651428571428568)], z: [np.float64(74.61224489795919), np.float64(73.31 428571428572)]

Conexion: x: [np.float64(5.687763713080173), np.float64(13.5625)], y: [np.float64(-38.3291139240506 3), np.float64(-36.3875)], z: [np.float64(71.74683544303798), np.float64(73.5375)]

Conexion: x: [np.float64(5.687763713080173), np.float64(8.511363636364)], y: [np.float64(-38.3291 1392405063), np.float64(-48.022727272727266)], z: [np.float64(71.74683544303798), np.float64(68.5)] Conexion: x: [np.float64(-48.954198473282446), np.float64(-50.77564102564102)], y: [np.float64(-37. 83969465648855), np.float64(-27.647435897435898)], z: [np.float64(46.1145038167939), np.float64(41. 967948717948715)]

Conexion: x: [np.float64(-48.954198473282446), np.float64(-41.091445427728615)], y: [np.float64(-3 7.83969465648855), np.float64(-44.525073746312685)], z: [np.float64(46.1145038167939), np.float64(5

Conexion: x: [np.float64(-48.954198473282446), np.float64(-49.5655172413793)], y: [np.float64(-37.8 3969465648855), np.float64(-40.5999999999999)], z: [np.float64(46.1145038167939), np.float64(39.6 2758620689655)1

Conexion: x: [np.float64(-48.954198473282446), np.float64(49.51931330472103)], y: [np.float64(-37.8 3969465648855), np.float64(-41.01287553648069)], z: [np.float64(46.1145038167939), np.float64(47.45 922746781116)]

Conexion: x: [np.float64(-48.954198473282446), np.float64(45.80434782608695)], y: [np.float64(-37.8 3969465648855), np.float64(-39.413043478260875)], z: [np.float64(46.1145038167939), np.float64(52.8

1818181818181)

Conexion: x: [np.float64(-48.954198473282446), np.float64(-24.7870036101083)], y: [np.float64(-37.8

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Conexion: x: [np.float64(-20.04132231404958), np.float64(-25.04905660377358)], y: [np.float64(-2.04 $132231404958), \; np. float64 (11.418867924528314)], \; z: \; [np. float64 (-26.33057851239669), \; np. float64 (-29.33057851239669), \; np. float64 (-29.3305785123969), \; np. float64 (-29.33057869), \; np. fl$ 10188679245283)]

Conexion: x: [np.float64(-19.6015325670498), np.float64(20.10434782608695)], y: [np.float64(-6.8045 97701149419), np.float64(-2.486956521739131)], z: [np.float64(-29.923371647509576), np.float64(-23.

930434782608693)] Conexion: x: [np.float64(-20.2542372881356), np.float64(-26.2510460251046)], y: [np.float64(-32.822

03389830508), np.float64(-28.853556485355654)], z: [np.float64(-12.618644067796609), np.float64(-1 7,89121338912134)] Conexion: x: [np.float64(-20.2542372881356), np.float64(20.68807339449542)], y: [np.float64(-32.822

03389830508), np.float64(-28.073394495412842)], z: [np.float64(-12.618644067796609), np.float64(-1 5.220183486238533)]

Conexion: x: [np.float64(20.68807339449542), np.float64(29.706122448979592)], y: [np.float64(-28.07 3394495412842), np.float64(-19.004081632653055)], z: [np.float64(-15.220183486238533), np.float64(-25.461224489795917)]

Conexion: x: [np.float64(25.40517241379311), np.float64(28.80916030534351)], y: [np.float64(1.10344 8275862064), np.float64(12.297709923664115)], z: [np.float64(-31.60344827586207), np.float64(-38.93 893129770992)]

 ${\tt Conexion: x: [np.float64(-10.836879432624116), np.float64(-7.314079422382676)], y: [np.float64(-19.836879432624116), np.float64(-19.836879432624116), np.float64(-19.83687943624116), np.float64(-19.83687944116), np.float64(-19.836$ 2.88086642599279)]

Conexion: x: [np.float64(-10.836879432624116), np.float64(-5.5564202334630295)], y: [np.float64(-1 9.808510638297875), np.float64(-27.53307392996109)], z: [np.float64(75.64539007092199), np.float64 (64.77042801556419)]

Conexion: x: [np.float64(-7.314079422382676), np.float64(-5.5564202334630295)], y: [np.float64(-20. 4,77042801556419)]

Conexion: x: [np.float64(-7.314079422382676), np.float64(-5.4444444444444)], y: [np.float64(-20.1 15523465703973), np.float64(-15.230158730158735)], z: [np.float64(62.88086642599279), np.float64(5

Conexion: x: [np.float64(-5.5564202334630295), np.float64(-9.227941176470594)], y: [np.float64(-27. 53307392996109), np.float64(-31.558823529411768)], z: [np.float64(64.77042801556419), np.float64(7 6,49264705882354)

53307392996109), np.float64(-34.996168582375475)], z: [np.float64(64.77042801556419), np.float64(6 3.08045977011494)]

Conexion: x: [np.float64(-5.5564202334630295), np.float64(8.327683615819211)], y: [np.float64(-27.5 3307392996109), np.float64(-33.89830508474576)], z: [np.float64(64.77042801556419), np.float64(58.0

Conexion: x: [np.float64(-9.227941176470594), np.float64(-6.659003831417621)], y: [np.float64(-31.5 58823529411768), np.float64(-34.996168582375475)], z: [np.float64(76.49264705882354), np.float64(6 3.08045977011494)1

Conexion: x: [np.float64(-9.227941176470594), np.float64(-21.12455516014235)], y: [np.float64(-31.5

ProyectoF_Zaira 3969465648855), np.float64(-64.05776173285199)], z: [np.float64(46.1145038167939), np.float64(56.77 256317689532)] Conexion: x: [np.float64(-48.954198473282446), np.float64(-30.687074829931973)], y: [np.float64(-3 7.83969465648855), np.float64(-61.74829931972789)], z: [np.float64(46.1145038167939), np.float64(5 3,25170068027211)] Conexion: x: [np.float64(-48.954198473282446), np.float64(-44.169278996865216)], y: [np.float64(-3 7.83969465648855), np.float64(-32.60815047021944)], z: [np.float64(46.1145038167939), np.float64(5 1.661442006269596)] Conexion: x: [np.float64(-48.954198473282446), np.float64(-48.1930501930502)], y: [np.float64(-37.8 3969465648855), np.float64(7.0888030888030755)], z: [np.float64(46.1145038167939), np.float64(32.30 8880308880305)1 Conexion: x: [np.float64(-37.10914454277287), np.float64(-41.091445427728615)], y: [np.float64(-55. 687315634218294), np.float64(-44.525073746312685)], z: [np.float64(52.607669616519175), np.float64 (52.14749262536873)] Conexion: x: [np.float64(-37.10914454277287), np.float64(-44.539923954372625)], y: [np.float64(-55. 687315634218294), np.float64(-51.28517110266159)], z: [np.float64(52.607669616519175), np.float64(4 6.70722433460077)1 Conexion: x: [np.float64(-37.10914454277287), np.float64(-30.609970674486803)], y: [np.float64(-55. 687315634218294), np.float64(-64.96774193548387)], z: [np.float64(52.607669616519175), np.float64(4 3.313782991202345)] Conexion: x: [np.float64(-37.10914454277287), np.float64(49.51931330472103)], y: [np.float64(-55.68 7315634218294), np.float64(-41.01287553648069)], z: [np.float64(52.607669616519175), np.float64(47. Conexion: x: [np.float64(-37.10914454277287), np.float64(39.969696969697)], y: [np.float64(-55.68 7315634218294), np.float64(-53.2909090909090909)], z: [np.float64(52.607669616519175), np.float64(5 1.81818181818181)]

1.81818181818181] Conexion: x: [np.float64(-37.10914454277287), np.float64(-30.687074829931973)], y: [np.float64(-55.687315634218294), np.float64(-61.74829931972789)], z: [np.float64(52.607669616519175), np.float64(53.25170068027211)]

Conexion: x: [np.float64(-37.10914454277287), np.float64(-48.1930501930502)], y: [np.float64(-55.68 7315634218294), np.float64(7.0888030888030755)], z: [np.float64(52.607669616519175), np.float64(32.30888030880305)]

Conexion: x: [np.float64(-37.10914454277287), np.float64(-41.230158730158735)], y: [np.float64(-55.687315634218294), np.float64(0.1428571428571388)], z: [np.float64(52.607669616519175), np.float64(4 8.58730158730158)]

Conexion: x: [np.float64(-37.10914454277287), np.float64(-4.55230125523012)], y: [np.float64(-55.68 7315634218294), np.float64(17.054393305439334)], z: [np.float64(52.607669616519175), np.float64(47.84937238493724)]

Conexion: x: [n.float64(-37.10914454277287), np.float64(7.942446043165461)], y: [np.float64(-55.68 7315634218294), np.float64(14.050359712230204)], z: [np.float64(52.607669616519175), np.float64(49.99280575539568)]

Conexion: x: [np.float64(-50.77564102564102), np.float64(-49.5655172413793)], y: [np.float64(-27.647435897435898), np.float64(-40.5999999999999)], z: [np.float64(41.967948717948715), np.float64(3

 $https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t = 173294453358719a09/ProyectoF_Zaira.html?t = 173294453358919a09/ProyectoF_Zaira.html?t = 17329445335919a09/ProyectoF_Zaira.html?t = 1732944533919a09/ProyectoF_Zaira.html?t = 173294453919a09/ProyectoF_Zaira.html?t = 173294453919a09/ProyectoF_Z$

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4.525073746312685), np.float64(-61.74829931972789)], z: [np.float64(52.14749262536873), np.float64(53.25170068027211)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-44.169278996865216)], y: [np.float64(-4
4.525073746312685), np.float64(-32.60815047021944)], z: [np.float64(52.14749262536873), np.float64
(51.661442006269596)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-36.35830618892507)], y: [np.float64(-44.
525073746312685), np.float64(-38.1172638436482)], z: [np.float64(52.14749262536873), np.float64(58.
88599348534203)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-48.1930501930502)], y: [np.float64(-44.5
25073746312685), np.float64(7.0888030888030755)], z: [np.float64(52.14749262536873), np.float64(32.308880308880305)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-34.39269406392694)], y: [np.float64(-44.
525073746312685), np.float64(-3.050228310502277)], z: [np.float64(52.14749262536873), np.float64(5
3.85388127853881)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(50.06896551724138)], y: [np.float64(-44.5
25073746312685), np.float64(7.400000000000000)], z: [np.float64(52.14749262536873), np.float64(40.2
8965517241379)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-4.55230125523012)], y: [np.float64(-44.5
25073746312685), np.float64(17.054393305439334)], z: [np.float64(52.14749262536873), np.float64(47.8493773493774)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(7.942446043165461)], y: [np.float64(-44.5
25073746312685), np.float64(14.050359712230204)], z: [np.float64(52.14749262536873), np.float64(49.
99280575539568)]

99200735393067] Conexion: x: [np.float64(-44.539923954372625), np.float64(-45.72575250836121)], y: [np.float64(-51. 28517110266159), np.float64(-50.2675585284281)], z: [np.float64(46.70722433460077), np.float64(39.5

3177257525084)] Conexion: x: [np.float64(-44.539923954372625), np.float64(-30.609970674486803)], y: [np.float64(-5 1.28517110266159), np.float64(-64.96774193548387)], z: [np.float64(46.70722433460077), np.float64(4

3.313782991202345)] Conexion: x: [np.float64(-44.539923954372625), np.float64(49.51931330472103)], y: [np.float64(-51.2 8517110266159), np.float64(-41.01287553648069)], z: [np.float64(46.70722433460077), np.float64(47.4

5922746781116]]
Conexion: x: [np.float64(-44.539923954372625), np.float64(39.969696969697)], y: [np.float64(-51.2 8517110266159), np.float64(-53.29090909090906)], z: [np.float64(46.70722433460077), np.float64(51.

81818181818181) Conexion: x: [np.float64(-44.539923954372625), np.float64(47.49612403100775)], y: [np.float64(-51.2 8517110266159), np.float64(-51.480620155038764)], z: [np.float64(46.70722433460077), np.float64(46.52713178294573)]

Conexion: x: [np.float64(-44.539923954372625), np.float64(50.95967741935484)], y: [np.float64(-51.28517110266159), np.float64(-51.2258064516129)], z: [np.float64(46.70722433460077), np.float64(40.55

9.62758620689655)]

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Conexion: x: [np.float64(-50.77564102564102), np.float64(-44.169278996865216)], y: [np.float64(-27.6474358974)], np.float64(-32.60815047021944)], z: [np.float64(41.967948717948715), np.float64(51.661442006269596)]

Conexion: x: [np.float64(-50.77564102564102), np.float64(-49.91851851851851)], y: [np.float64(-27.6
47435897435898), np.float64(-18.992592592592597)], z: [np.float64(41.967948717948715), np.float64(4
4.42962962962963)]

Conexion: x: [np.float64(-50.77564102564102), np.float64(-36.863247863247864)], y: [np.float64(-27.647435897435898), np.float64(-13.452991452991455)], z: [np.float64(41.967948717948715), np.float64 (55.4957264957265)]

Conexion: x: [np.float64(-50.77564102564102), np.float64(-58.40466926070039)], y: [np.float64(-27.6
47435897435898), np.float64(-26.210116731517516)], z: [np.float64(41.967948717948715), np.float64(2
2.264591439688715)]

Conexion: x: [np.float64(-50.77564102564102), np.float64(-55.671875)], y: [np.float64(-27.647435897 435898), np.float64(-25.625)], z: [np.float64(41.967948717948715), np.float64(34.265625)]

Conexion: x: [np.float64(-50.77564102564102), np.float64(-56.669387755102036)], y: [np.float64(-27.647435897435898), np.float64(-34.02448979591837)], z: [np.float64(41.967948717948715), np.float64(3.2.734693877551024)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-44.539923954372625)], y: [np.float64(-4
4.525073746312685), np.float64(-51.28517110266159)], z: [np.float64(52.14749262536873), np.float64
(46.70722433460077)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(49.51931330472103)], y: [np.float64(-44.5
25073746312685), np.float64(-41.01287553648069)], z: [np.float64(52.14749262536873), np.float64(47.45922746781116)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(45.80434782608695)], y: [np.float64(-44.5
25073746312685), np.float64(-39.413043478260875)], z: [np.float64(52.14749262536873), np.float64(5
2.89130434782609)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(39.969696969697)], y: [np.float64(-44.5 25073746312685), np.float64(-53.29090909090909)], z: [np.float64(52.14749262536873), np.float64(5 1.81818181818181)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-24.7870036101083)], y: [np.float64(-44.5 25073746312685), np.float64(-64.05776173285199)], z: [np.float64(52.14749262536873), np.float64(56. 77256317689532)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-16.52233676975945)], y: [np.float64(-44.
525073746312685), np.float64(-72.24742268041237)], z: [np.float64(52.14749262536873), np.float64(5
1.02405498281787)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-21.245283018867923)], y: [np.float64(-4
4.525073746312685), np.float64(-72.15849056603773)], z: [np.float64(52.14749262536873), np.float64
(45.41132075471698)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-30.987447698744774)], y: [np.float64(-4
4.525073746312685), np.float64(-47.12133891213389)], z: [np.float64(52.14749262536873), np.float64
(63.748953974895386)]

Conexion: x: [np.float64(-41.091445427728615), np.float64(-30.687074829931973)], y: [np.float64(-4

Conexion: x: [np.float64(-41.09144542//28615), np.float64(-30.68/0/48299319/3)], y: [np.float64(-4

. .

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645161290323)]
Conexion: x: [np.float64(-44.539923954372625), np.float64(-4.55230125523012)], y: [np.float64(-51.2 8517110266159), np.float64(17.054393305439334)], z: [np.float64(46.70722433460077), np.float64(47.8 4937238493724)]

Conexion: x: [np.float64(-45.72575250836121), np.float64(-49.5655172413793)], y: [np.float64(-50.26 75585284281), np.float64(-40.5999999999999)], z: [np.float64(39.53177257525084), np.float64(39.62 758620889655)]

Conexion: x: [np.float64(-45.72575250836121), np.float64(50.95967741935484)], y: [np.float64(-50.26 75585284281), np.float64(-51.2258064516129)], z: [np.float64(39.53177257525084), np.float64(40.5564 5161290323)]

Conexion: x: [np.float64(-49.5655172413793), np.float64(49.51931330472103)], y: [np.float64(-40.599
99999999999), np.float64(-41.01287553648069)], z: [np.float64(39.62758620689655), np.float64(47.45
922746781116)]

Conexion: x: [np.float64(-49.5655172413793), np.float64(-54.13654618473896)], y: [np.float64(-49.59
99999999994), np.float64(-46.18473895582329)], z: [np.float64(39.62758620689655), np.float64(30.9
55823293172685)]

Conexion: x: [np.float64(-49.5655172413793), np.float64(-56.669387755102036)], y: [np.float64(-40.5 999999999999), np.float64(-34.02448979591837)], z: [np.float64(39.62758620689655), np.float64(32.734693877551024)]

Conexion: x: [np.float64(-49.5655172413793), np.float64(51.7236363636366)], y: [np.float64(-40.59
99999999994), np.float64(-32.54545454545455)], z: [np.float64(39.62758620689655), np.float64(43.2
72727272727266)]

Conexion: x: [np.float64(-30.609970674486803), np.float64(-21.245283018867923)], y: [np.float64(-64.96774193548387), np.float64(-72.15849056603773)], z: [np.float64(43.313782991202345), np.float64(45.41132075471698)]

(45.411320/54/1698)| Conexion: x: [np.float64(-30.609970674486803), np.float64(-30.687074829931973)], y: [np.float64(-6 4.96774193548387), np.float64(-61.74829931972789)], z: [np.float64(43.313782991202345), np.float64

4.96774193548387), np.float64(-61.74829931972789)], z: [np.float64(43.313782991202345), np.float64 (53.25170068027211)]
Conexion: x: [np.float64(-30.609970674486803), np.float64(-48.1930501930502)], y: [np.float64(-64.9

Conexion: x: [np.float64(-30.6099/06/4486803), np.float64(-48.1930501930502)], y: [np.float64(-64.96774193548387), np.float64(7.0888030888030755)], z: [np.float64(43.313782991202345), np.float64(32.30880308880305)]

Conexion: x: [np.float64(-30.609970674486803), np.float64(-2.606837606837601)], y: [np.float64(-64.
96774193548387), np.float64(12.0)], z: [np.float64(43.313782991202345), np.float64(55.2735042735042
7)]

Conexion: x: [np.float64(-30.609970674486803), np.float64(-4.55230125523012)], y: [np.float64(-64.9
6774193548387), np.float64(17.054393305439334)], z: [np.float64(43.313782991202345), np.float64(47.
84937238493724)]

 $\begin{array}{lll} \text{Conexion: } x: & [\text{np.float64}(-8.484429665743939), & \text{np.float64}(-2.046948356807505)], & y: & [\text{np.float64}(-84.59515570934256)), & \text{np.float64}(-8.67793427230047)], & z: & [\text{np.float64}(4.802768166089962), & \text{np.float64}(-0.1032638497652776)] \\ & 328638497652776)] \\ \end{array}$

Conexion: x: [np.float64(-8.484429065743939), np.float64(-7.82222222222223)], y: [np.float64(-84.5
9515570934256), np.float64(-100.4111111111111)], z: [np.float64(4.802768166089962), np.float64(-1.
3777777777778)]

272727266)1

130434782609)]

87553648069), np.float64(-39.413043478260875)], z: [np.float64(47.45922746781116), np.float64(52.89

Conexion: x: [np.float64(-8.484429065743939), np.float64(-11.8429003021148)], y: [np.float64(-84.59 515570934256), np.float64(-77.31117824773415)], z: [np.float64(4.802768166089962), np.float64(11.29 9093655589118)] Conexion: x: [np.float64(-4.228915662650607), np.float64(-2.046948356807505)], y: [np.float64(-88.4 3373493975903), np.float64(-86.7793427230047)], z: [np.float64(-8.289156626506028), np.float64(-0.1 0328638497652776)] Conexion: x: [np.float64(-4.228915662650607), np.float64(-5.340206185567013)], y: [np.float64(-88.4 3373493975903), np.float64(-97.74226804123711)], z: [np.float64(-8.289156626506028), np.float64(-7. 948453608247419)1 Conexion: x: [np.float64(-2.046948356807505), np.float64(1.05263157894737)], y: [np.float64(-86.779 3427230047), np.float64(-86.70676691729324)], z: [np.float64(-0.10328638497652776), np.float64(9.48 8721804511272)] Conexion: x: [np.float64(-2.046948356807505), np.float64(16.34042553191489)], y: [np.float64(-86.77 93427230047), np.float64(-79.55623100303951)], z: [np.float64(-0.10328638497652776), np.float64(3.9 20972644376903)1 Conexion: x: [np.float64(-7.273846153846151), np.float64(-11.049180327868854)], y: [np.float64(-70. 91076923076923), np.float64(-59.531615925058546)], z: [np.float64(14.098461538461535), np.float64 (8.758782201405154)] Conexion: x: [np.float64(-7.273846153846151), np.float64(-11.8429003021148)], y: [np.float64(-70.91 076923076923), np.float64(-77.31117824773415)], z: [np.float64(14.098461538461535), np.float64(11.2 99093655589118)] Conexion: x: [np.float64(-7.273846153846151), np.float64(13.447204968944106)], y: [np.float64(-70.9 1076923076923), np.float64(-72.24844720496895)], z: [np.float64(14.098461538461535), np.float64(11. 434782608695656)] Conexion: x: [np.float64(-11.049180327868854), np.float64(-10.733668341708537)], y: [np.float64(-5 $9.531615925058546), \; np.float64(-51.1608040201005)], \; z: \; [np.float64(8.758782201405154), \; np.float64(1.758782201405154)], \; description of the state of th$ 1,32663316582915)] Conexion: x: [np.float64(-11.049180327868854), np.float64(15.899705014749259)], y: [np.float64(-59. 531615925058546), np.float64(-56.90265486725664)], z: [np.float64(8.758782201405154), np.float64(1 Conexion: x: [np.float64(-11.049180327868854), np.float64(19.481707317073173)], y: [np.float64(-59. 531615925058546), np.float64(-63.11585365853658)], z: [np.float64(8.758782201405154), np.float64(9. 810975609756099)1 Conexion: x: [np.float64(-5.340206185567013), np.float64(-7.8222222222223)], y: [np.float64(-97.7 4226804123711), np.float64(-100.41111111111111)], z: [np.float64(-7.948453608247419), np.float64(-1.3777777777778)] 1), np.float64(-96.546875)], z: [np.float64(-1.3777777777778), np.float64(-0.75)] Conexion: x: [np.float64(1.05263157894737), np.float64(-11.8429003021148)], y: [np.float64(-86.7067 93655589118)1 Conexion: x: [np.float64(1.05263157894737), np.float64(11.1958041958042)], y: [np.float64(-86.70676 691729324), np.float64(-85.1048951048951)], z: [np.float64(9.488721804511272), np.float64(10.272727 Conexion: x: [np.float64(39.96969696969697), np.float64(-30.687074829931973)], y: [np.float64(-53.2 25170068027211)] 92063492063494)1 8880308880305)] 65517241379)1 280575539568)] Conexion: x: [np.float64(47.49612403100775), np.float64(50.95967741935484)], y: [np.float64(-51.480 45161290323)]

Conexion: x: [np.float64(49.51931330472103), np.float64(39.96969696969697)], y: [np.float64(-41.012 87553648069), np.float64(-53.290909090909090)], z: [np.float64(47.45922746781116), np.float64(51.81 Conexion: x: [np.float64(49.51931330472103), np.float64(47.49612403100775)], y: [np.float64(-41.012 87553648069), np.float64(-51.480620155038764)], z: [np.float64(47.45922746781116), np.float64(46.52 713178294573)] Conexion: x: [np.float64(49.51931330472103), np.float64(50.95967741935484)], y: [np.float64(-41.012 87553648069), np.float64(-51.2258064516129)], z: [np.float64(47.45922746781116), np.float64(40.5564 5161290323)] Conexion: x: [np.float64(49.51931330472103), np.float64(56.04166666666664)], y: [np.float64(-41.01 287553648069), np.float64(-40.150000000000006)], z: [np.float64(47.45922746781116), np.float64(40.4 583333333333)] Conexion: x: [np.float64(49.51931330472103), np.float64(51.7236363636363636)], y: [np.float64(-41.01 287553648069), np.float64(-32.54545454545455)], z: [np.float64(47.45922746781116), np.float64(43.27 2727272727266)1 043478260875), np.float64(-53.290909090909090)], z: [np.float64(52.89130434782609), np.float64(51.8 18181818181)] Conexion: x: [np.float64(45.80434782608695), np.float64(-24.7870036101083)], y: [np.float64(-39.413 043478260875), np.float64(-64.05776173285199)], z: [np.float64(52.89130434782609), np.float64(56.77 256317689532)1 Conexion: x: [np.float64(45.80434782608695), np.float64(42.11965811965812)], y: [np.float64(-39.413 043478260875), np.float64(-46.63247863247864)], z: [np.float64(52.89130434782609), np.float64(59.58 119658119659)1 Conexion: x: [np.float64(45.80434782608695), np.float64(15.43529411764706)], y: [np.float64(-39.413 043478260875), np.float64(-59.521568627450975)], z: [np.float64(52.89130434782609), np.float64(68.0 3137254901961)] Conexion: x: [np.float64(45.80434782608695), np.float64(18.66129032258064)], y: [np.float64(-39.413 043478260875), np.float64(-69.95967741935485)], z: [np.float64(52.89130434782609), np.float64(58.04 032258064515)] Conexion: x: [np.float64(45.80434782608695), np.float64(45.867867867867865)], y: [np.float64(-39.41 3043478260875), np.float64(-27.207207207207205)], z: [np.float64(52.89130434782609), np.float64(53. 567567567565)] Conexion: x: [np.float64(39.96969696969697), np.float64(47.49612403100775)], y: [np.float64(-53.290 90909090909), np.float64(-51.480620155038764)], z: [np.float64(51.81818181818181), np.float64(46.5 2713178294573)] Conexion: x: [np.float64(39.96969696969697), np.float64(-24.7870036101083)], y: [np.float64(-53.290 90909090909), np.float64(-64.05776173285199)], z: [np.float64(51.8181818181818181), np.float64(56.77 256317689532)1 https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587 5776173285199), np.float64(-72.15849056603773)], z: [np.float64(56.77256317689532), np.float64(45.4 1132075471698)] Conexion: x: [np.float64(-24.7870036101083), np.float64(-30.687074829931973)], y: [np.float64(-64.0 5776173285199), np.float64(-61.74829931972789)], z: [np.float64(56.77256317689532), np.float64(53.2 5170068027211)] Conexion: x: [np.float64(-24.7870036101083), np.float64(28.980237154150196)], y: [np.float64(-64.05 776173285199), np.float64(-69.12252964426878)], z: [np.float64(56.77256317689532), np.float64(52.26 877470355731)] Conexion: x: [np.float64(-24.7870036101083), np.float64(18.66129032258064)], y: [np.float64(-64.057 76173285199), np.float64(-69.95967741935485)], z: [np.float64(56.77256317689532), np.float64(58.040 32258064515)1 ${\tt Conexion: x: [np.float64(-24.7870036101083), np.float64(30.37007874015748)], y: [np.float64(-64.057818)]}, {\tt conexion: x: [np.float64(-24.7870036101083), np.float64(30.37007874015748)]}, {\tt conexion: x: [np.float64(-64.05788)]}, {\tt co$ 76173285199), np.float64(-62.84251968503936)], z: [np.float64(56.77256317689532), np.float64(59.842 51968503938)] Conexion: x: [np.float64(-19.242424242425), np.float64(-18.910798122065728)], y: [np.float64(-59. 44696969697), np.float64(-49.070422535211264)], z: [np.float64(61.76515151515), np.float64(69.3 9906103286384)1 Conexion: x: [np.float64(-19.242424242425), np.float64(23.81967213114754)], y: [np.float64(-59.44 69696969697), np.float64(-58.040983606557376)], z: [np.float64(61.765151515151), np.float64(67.172 131147541)] Conexion: x: [np.float64(-19.242424242425), np.float64(15.43529411764706)], y: [np.float64(-59.44 69696969697), np.float64(-59.521568627450975)], z: [np.float64(61.76515151515), np.float64(68.031 Conexion: x: [np.float64(-19.24242424242425), np.float64(18.66129032258064)], y: [np.float64(-59.44 69696969697), np.float64(-69.95967741935485)], z: [np.float64(61.76515151515), np.float64(58.0403 2258064515)] Conexion: x: [np.float64(-19.24242424242425), np.float64(30.37007874015748)], y: [np.float64(-59.44 69696969697), np.float64(-62.84251968503936)], z: [np.float64(61.76515151515), np.float64(59.8425 1968503938)] Conexion: x: [np.float64(-19.242424242425), np.float64(-10.320610687022906)], y: [np.float64(-59. 44696969697), np.float64(-62.09923664122137)], z: [np.float64(61.76515151515), np.float64(62.11 45038167939)] Conexion: x: [np.float64(-16.52233676975945), np.float64(-21.245283018867923)], y: [np.float64(-72. 24742268041237), np.float64(-72.15849056603773)], z: [np.float64(51.02405498281787), np.float64(45. 41132075471698)] Conexion: x: [np.float64(-16.52233676975945), np.float64(28.980237154150196)], y: [np.float64(-72.2 4742268041237), np.float64(-69.12252964426878)], z: [np.float64(51.02405498281787), np.float64(52.2 6877470355731)] Conexion: x: [np.float64(-16.52233676975945), np.float64(18.546218487394952)], y: [np.float64(-72.2 4742268041237), np.float64(-73.25210084033614)], z: [np.float64(51.02405498281787), np.float64(50.5 0420168067227)] Conexion: x: [np.float64(-16.52233676975945), np.float64(18.66129032258064)], y: [np.float64(-72.24

742268041237), np.float64(-69.95967741935485)], z: [np.float64(51.02405498281787), np.float64(58.04

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Conexion: x: [np.float64(39.96969696969697), np.float64(42.11965811965812)], y: [np.float64(-53.290 90909090909), np.float64(-46.63247863247864)], z: [np.float64(51.818181818181), np.float64(59.58

Conexion: x: [np.float64(39.96969696969697), np.float64(34.20634920634921)], y: [np.float64(-53.290 909090909090), np.float64(-54.3888888888888888)], z: [np.float64(51.81818181818181), np.float64(61.9

Conexion: x: [np.float64(39.96969696969697), np.float64(-48.1930501930502)], y: [np.float64(-53.290 90909090909), np.float64(7.0888030888030755)], z: [np.float64(51.818181818181), np.float64(32.30

Conexion: x: [np.float64(39.96969696969697), np.float64(50.06896551724138)], y: [np.float64(-53.290 9090909090), np.float64(7.400000000000000)], z: [np.float64(51.81818181818181), np.float64(40.289

Conexion: x: [np.float64(39.96969696969697), np.float64(7.942446043165461)], y: [np.float64(-53.290 90909090909), np.float64(14.050359712230204)], z: [np.float64(51.818181818181), np.float64(49.99

620155038764), np.float64(-51.2258064516129)], z: [np.float64(46.52713178294573), np.float64(40.556

Conexion: x: [np.float64(50.95967741935484), np.float64(56.04166666666664)], y: [np.float64(-51.22 58064516129), np.float64(-40.1500000000000000)], z: [np.float64(40.55645161290323), np.float64(40.45 83333333333)]

Conexion: x: [np.float64(-27.603603603603602), np.float64(-30.987447698744774)], y: [np.float64(-5 4.57657657657), np.float64(-47.12133891213389)], z: [np.float64(65.19819819819818), np.float64(6 3,748953974895386)1

Conexion: x: [np.float64(-27.603603603603602), np.float64(23.81967213114754)], y: [np.float64(-54.5 7657657657657), np.float64(-58.040983606557376)], z: [np.float64(65.19819819819819), np.float64(67. 172131147541)]

Conexion: x: [np.float64(-27.603603603603602), np.float64(34.20634920634921)], y: [np.float64(-54.5 7657657657657), np.float64(-54.388888888888888888)], z: [np.float64(65.19819819819819), np.float64(61. 992063492063494)1

Conexion: x: [np.float64(-27.603603603603602), np.float64(30.37007874015748)], y: [np.float64(-54.5 7657657657657), np.float64(-62.84251968503936)], z: [np.float64(65.19819819819818), np.float64(59.8 4251968503938)]

Conexion: x: [np.float64(-24.7870036101083), np.float64(-19.24242424242425)], y: [np.float64(-64.05 776173285199), np.float64(-59.4469696969697)], z: [np.float64(56.77256317689532), np.float64(61.765

Conexion: x: [np.float64(-24.7870036101083), np.float64(-16.52233676975945)], y: [np.float64(-64.05 776173285199), np.float64(-72.24742268041237)], z: [np.float64(56.77256317689532), np.float64(51.02 405498281787)

Conexion: x: [np.float64(-24.7870036101083), np.float64(-21.245283018867923)], y: [np.float64(-64.0

032258064515)] Conexion: x: [np.float64(-16.52233676975945), np.float64(-10.15789473684211)], y: [np.float64(-72.2 4742268041237), np.float64(-69.91228070175438)], z: [np.float64(51.02405498281787), np.float64(53.8 5087719298245)] Conexion: x: [np.float64(-16.52233676975945), np.float64(10.355769230769226)], y: [np.float64(-72.2 4742268041237), np.float64(-70.86538461538461)], z: [np.float64(51.02405498281787), np.float64(54.7 4038461538461)1 Conexion: x: [np.float64(-21.245283018867923), np.float64(-30.687074829931973)], y: [np.float64(-7 2.15849056603773), np.float64(-61.74829931972789)], z: [np.float64(45.41132075471698), np.float64(5 3.25170068027211)] Conexion: x: [np.float64(-21.245283018867923), np.float64(28.980237154150196)], y: [np.float64(-72. $15849056603773), \; np.float64(-69.12252964426878)], \; z: \; [np.float64(45.41132075471698), \; np.float64(52.41132075471698)], \; rp.float64(52.41132075471698)], \; rp.float64(52.41132075471698)]$ 26877470355731)] Conexion: x: [np.float64(-21.245283018867923), np.float64(18.546218487394952)], y: [np.float64(-72. 15849056603773), np.float64(-73.25210084033614)], z: [np.float64(45.41132075471698), np.float64(50. 50420168067227)] Conexion: x: [np.float64(-21.245283018867923), np.float64(-48.1930501930502)], y: [np.float64(-72.1 5849056603773), np.float64(7.0888030888030755)], z: [np.float64(45.41132075471698), np.float64(32.3 08880308880305)1 2133891213389), np.float64(-54.38888888888888888)], z: [np.float64(63.748953974895386), np.float64(6 1.992063492063494)] Conexion: x: [np.float64(-30.987447698744774), np.float64(-36.35830618892507)], y: [np.float64(-47. 12133891213389), np.float64(-38.1172638436482)], z: [np.float64(63.748953974895386), np.float64(58. 88599348534203)1 Conexion: x: [np.float64(-30.987447698744774), np.float64(-26.596638655462186)], y: [np.float64(-4 7.12133891213389), np.float64(-40.420168067226896)], z: [np.float64(63.748953974895386), np.float64 (64.2436974789916)] Conexion: x: [np.float64(-18.910798122065728), np.float64(15.43529411764706)], y: [np.float64(-49.0 70422535211264), np.float64(-59.521568627450975)], z: [np.float64(69.39906103286384), np.float64(6 8.03137254901961)] Conexion: x: [np.float64(-18.910798122065728), np.float64(-10.644808743169392)], y: [np.float64(-4 9.070422535211264), np.float64(-54.65573770491804)], z: [np.float64(69.39906103286384), np.float64 (70.18579234972677)] Conexion: x: [np.float64(-30.687074829931973), np.float64(28.980237154150196)], y: [np.float64(-61. 74829931972789), np.float64(-69.12252964426878)], z: [np.float64(53.25170068027211), np.float64(52. 26877470355731)] Conexion: x: [np.float64(-30.687074829931973), np.float64(30.37007874015748)], y: [np.float64(-61.7 4829931972789), np.float64(-62.84251968503936)], z: [np.float64(53.25170068027211), np.float64(59.8 4251968503938)] Conexion: x: [np.float64(-30.687074829931973), np.float64(-48.1930501930502)], y: [np.float64(-61.7 4829931972789), np.float64(7.0888030888030755)], z: [np.float64(53.25170068027211), np.float64(32.3

08880308880305)1

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47863247864), np.float64(-54.38888888888888888)], z: [np.float64(59.58119658119659), np.float64(61.99 2063492063494)]

Conexion: x: [np.float64(15.43529411764706), np.float64(18.66129032258064)], y: [np.float64(-59.521 568627450975), np.float64(-69.95967741935485)], z: [np.float64(68.03137254901961), np.float64(58.04

Conexion: x: [np.float64(15.43529411764706), np.float64(-10.320610687022906)], y: [np.float64(-59.5 21568627450975), np.float64(-62.09923664122137)], z: [np.float64(68.03137254901961), np.float64(62. 1145038167939)]

Conexion: x: [np.float64(15.43529411764706), np.float64(7.904761904761898)], y: [np.float64(-59.521 $568627450975), \; np. float \\ 64(-56.539682539682545)], \; z: \; [np. float \\ 64(68.03137254901961), \; np. float \\ 64(67.9160164), \; np. float \\ 64(67.916016$ 047619047619)

Conexion: x: [np.float64(15.43529411764706), np.float64(7.627118644067792)], y: [np.float64(-59.521 568627450975), np.float64(-63.11864406779661)], z: [np.float64(68.03137254901961), np.float64(60.05 084745762713)]

Conexion: x: [np.float64(18.66129032258064), np.float64(30.37007874015748)], y: [np.float64(-69.959 67741935485), np.float64(-62.84251968503936)], z: [np.float64(58.04032258064515), np.float64(59.842 51968503938)1

 ${\tt Conexion: x: [np.float64(18.66129032258064), np.float64(-30.414937759336098)], y: [np.float64(-69.98160164)]}, y: [np.float64(-69.98160164)], pp.float64(-69.98160164)], pp.float64(-69.98160164)], pp.float64(-69.98160164), pp.float64(-69.98160164)], pp.float64(-69.981601640164)], pp.float64(-69.981601640164)]$ 5967741935485), np.float64(-9.684647302904565)], z: [np.float64(58.04032258064515), np.float64(60.6 3070539419087)]

Conexion: x: [np.float64(18.66129032258064), np.float64(-10.15789473684211)], y: [np.float64(-69.95 967741935485), np.float64(-69.91228070175438)], z: [np.float64(58.04032258064515), np.float64(53.85

Conexion: x: [np.float64(18.66129032258064), np.float64(-10.320610687022906)], y: [np.float64(-69.9 5967741935485), np.float64(-62.09923664122137)], z: [np.float64(58.04032258064515), np.float64(62.1 145038167939)]

Conexion: x: [np.float64(18.66129032258064), np.float64(10.355769230769220)], y: [np.float64(-69.95 967741935485), np.float64(-70.86538461538461)], z: [np.float64(58.04032258064515), np.float64(54.74 038461538461)]

Conexion: x: [np.float64(20.94262295081967), np.float64(21.405940594059402)], y: [np.float64(-49.50 819672131148), np.float64(-41.20792079207921)], z: [np.float64(68.71311475409837), np.float64(72.31 683168316832)]

Conexion: x: [np.float64(20.94262295081967), np.float64(14.01129943502825)], y: [np.float64(-49.508 19672131148), np.float64(-45.89830508474576)], z: [np.float64(68.71311475409837), np.float64(71.954 802259887)1

 ${\tt Conexion: x: [np.float64(20.94262295081967), np.float64(29.41044776119403)], y: [np.float64(-49.5081967), np.float64(-49.5081967)]}, {\tt pp.float64(20.94262295081967), np.float64(29.41044776119403)]}, {\tt pp.float64(20.94262295081967), np.float64(20.94262295081967), np.float64(20.9426295081967), n$ 19672131148), np.float64(-44.23134328358209)], z: [np.float64(68.71311475409837), np.float64(63.589 552238805965)]

Conexion: x: [np.float64(20.94262295081967), np.float64(8.51136363636364)], y: [np.float64(-49.5081 9672131148), np.float64(-48.022727272727266)], z: [np.float64(68.71311475409837), np.float64(68.5)] Conexion: x: [np.float64(34.20634920634921), np.float64(30.37007874015748)], y: [np.float64(-54.388 8888888886), np.float64(-62.84251968503936)], z: [np.float64(61.992063492063494), np.float64(59.8 4251968503938)]

74829931972789), np.float64(12.0)], z: [np.float64(53.25170068027211), np.float64(55.2735042735042 Conexion: x: [np.float64(-30.687074829931973), np.float64(-4.55230125523012)], y: [np.float64(-61.7 4829931972789), np.float64(17.054393305439334)], z: [np.float64(53.25170068027211), np.float64(47.8 4937238493724)] Conexion: x: [np.float64(28.980237154150196), np.float64(18.546218487394952)], y: [np.float64(-69.1 2252964426878), np.float64(-73.25210084033614)], z: [np.float64(52.26877470355731), np.float64(50.5 0420168067227)] ${\tt Conexion: x: [np.float64(28.980237154150196), np.float64(18.66129032258064)], y: [np.float64(-69.1280196)]}, {\tt conexion: x: [np.float64(28.980237154150196), np.float64(18.66129032258064)]}, {\tt conexion: x: [np.float64(28.980237154150196), np.float64(28.980237154150196)]}, {\tt conexion: x: [np.float64(28.980237154150196), np.float64(28.98023715416)]}, {\tt conexion: x: [np.float64(28.98023715416), np.float64(28.98023715416)]}, {\tt conexion: x: [np.float64(28.980237154160196), np.float64(28.98023715416)]}, {\tt conexion: x: [np.float64(28.980237154160$ 252964426878), np.float64(-69.95967741935485)], z: [np.float64(52.26877470355731), np.float64(58.04 032258064515)] Conexion: x: [np.float64(28.980237154150196), np.float64(30.37007874015748)], y: [np.float64(-69.12 252964426878), np.float64(-62.84251968503936)], z: [np.float64(52.26877470355731), np.float64(59.84 251968503938)1 Conexion: x: [np.float64(18.546218487394952), np.float64(18.66129032258064)], y: [np.float64(-73.25

210084033614), np.float64(-69.95967741935485)], z: [np.float64(50.50420168067227), np.float64(58.04 032258064515)] Conexion: x: [np.float64(18.546218487394952), np.float64(-10.15789473684211)], y: [np.float64(-73.2

5210084033614), np.float64(-69.91228070175438)], z: [np.float64(50.50420168067227), np.float64(53.8 5087719298245)] Conexion: x: [np.float64(18.546218487394952), np.float64(7.707317073170728)], y: [np.float64(-73.25

210084033614), np.float64(-71.17073170731707)], z: [np.float64(50.50420168067227), np.float64(47.86 178861788618)] Conexion: x: [np.float64(18.546218487394952), np.float64(10.355769230769226)], y: [np.float64(-73.2

 $5210084033614), \; np. float \\ 64(-70.86538461538461)], \; z: \; [np. float \\ 64(50.50420168067227), \; np. float \\ 64(54.70168067227), \; np. float \\ 64(54.701680672007), \; np. float \\ 64(54.701680672007), \; np. float \\ 64(54.70168067007), \; np.$ 4038461538461)] Conexion: x: [np.float64(23.81967213114754), np.float64(15.43529411764706)], y: [np.float64(-58.040

983606557376), np.float64(-59.521568627450975)], z: [np.float64(67.172131147541), np.float64(68.031

Conexion: x: [np.float64(23.81967213114754), np.float64(20.94262295081967)], y: [np.float64(-58.040 983606557376), np.float64(-49.50819672131148)], z: [np.float64(67.172131147541), np.float64(68.7131 1475409837)1

Conexion: x: [np.float64(23.81967213114754), np.float64(34.20634920634921)], y: [np.float64(-58.040 983606557376), np.float64(-54.38888888888888)], z: [np.float64(67.172131147541), np.float64(61.992 063492063494)]

Conexion: x: [np.float64(23.81967213114754), np.float64(30.37007874015748)], y: [np.float64(-58.040 983606557376), np.float64(-62.84251968503936)], z: [np.float64(67.172131147541), np.float64(59.8425 1968503938)1

Conexion: x: [np.float64(42.11965811965812), np.float64(15.43529411764706)], y: [np.float64(-46.632 47863247864), np.float64(-59.521568627450975)], z: [np.float64(59.58119658119659), np.float64(68.03 137254901961)1

Conexion: x: [np.float64(42.11965811965812), np.float64(34.20634920634921)], y: [np.float64(-46.632

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

Conexion: x: [np.float64(-20.487046632124347), np.float64(-21.12455516014235)], y: [np.float64(-39. 17081850533808)]

Conexion: x: [np.float64(-20.487046632124347), np.float64(-26.596638655462186)], y: [np.float64(-3 9.18134715025907), np.float64(-40.420168067226896)], z: [np.float64(74.49740932642487), np.float64 (64.2436974789916)]

Conexion: x: [np.float64(-20.487046632124347), np.float64(21.405940594059402)], y: [np.float64(-39. 18134715025907), np.float64(-41.20792079207921)], z: [np.float64(74.49740932642487), np.float64(72. 31683168316832)]

Conexion: x: [np.float64(-20.487046632124347), np.float64(14.01129943502825)], y: [np.float64(-39.1 8134715025907), np.float64(-45.89830508474576)], z: [np.float64(74.49740932642487), np.float64(71.9 54802259887)]

Conexion: x: [np.float64(-20.487046632124347), np.float64(-10.452991452991455)], y: [np.float64(-3 9.18134715025907), np.float64(-45.16239316239316)], z: [np.float64(74.49740932642487), np.float64(7 3.46153846153845)

7159763313606), np.float64(-9.682539682539684)], z: [np.float64(18.071005917159766), np.float64(36. 89682539682539)]

 ${\tt Conexion: x: [np.float64(-56.42603550295857), np.float64(-57.269035532994934)], y: [np.float64(-3.986857), np.float64(-3.986867)]}, y: [np.float64(-3.986867)], pp.float64(-3.986867)], pp.float64(-3.986867)]$ 17159763313606), np.float64(-8.751269035533)], z: [np.float64(18.071005917159766), np.float64(27.81 7258883248726)1

Conexion: x: [np.float64(-56.42603550295857), np.float64(-56.10434782608695)], y: [np.float64(-3.91 7159763313606), np.float64(-12.84347826086956)], z: [np.float64(18.071005917159766), np.float64(20. 313043478260866)]

Conexion: x: [np.float64(-56.42603550295857), np.float64(63.394230769230774)], y: [np.float64(-3.91 7159763313606), np.float64(-3.336538461538467)], z: [np.float64(18.071005917159766), np.float64(21. 519230769230774)1

Conexion: x: [np.float64(-56.42603550295857), np.float64(53.070422535211264)], y: [np.float64(-3.91 7159763313606), np.float64(-8.302816901408448)], z: [np.float64(18.071005917159766), np.float64(33.

59154929577464)] Conexion: x: [np.float64(-56.42603550295857), np.float64(-53.05882352941177)], y: [np.float64(-3.91

7159763313606), np.float64(2.622837370242223)], z: [np.float64(18.071005917159766), np.float64(22.9 5501730103807)1

7159763313606), np.float64(-7.4538745387453815)], z: [np.float64(18.071005917159766), np.float64(4 1.055350553505534)]

Conexion: x: [np.float64(-56.42603550295857), np.float64(-48.415430267062305)], y: [np.float64(-3.9 17159763313606), np.float64(-15.821958456973292)], z: [np.float64(18.071005917159766), np.float64(1

Conexion: x: [np.float64(-56.42603550295857), np.float64(53.19557195571956)], y: [np.float64(-3.917 159763313606), np.float64(-11.291512915129147)], z: [np.float64(18.071005917159766), np.float64(16. 678966789667896) 1

Conexion: x: [np.float64(-44.169278996865216), np.float64(-41.964601769911496)], y: [np.float64(-3

ProyectoF_Zaira 2.60815047021944), np.float64(-28.345132743362825)], z: [np.float64(51.661442006269596), np.float64 (57.38053097345133)] Conexion: x: [np.float64(-44.169278996865216), np.float64(-42.53125)], y: [np.float64(-32.608150470 21944), np.float64(-21.8046875)], z: [np.float64(51.661442006269596), np.float64(52.328125)] Conexion: x: [np.float64(-44.169278996865216), np.float64(-36.35830618892507)], y: [np.float64(-32. 60815047021944), np.float64(-38.1172638436482)], z: [np.float64(51.661442006269596), np.float64(58. 88599348534203)1 Conexion: x: [np.float64(-44.169278996865216), np.float64(-5.765957446808514)], y: [np.float64(-32. 60815047021944), np.float64(-1.9716312056737593)], z: [np.float64(51.661442006269596), np.float64(5 0.99290780141844)] Conexion: x: [np.float64(-41.964601769911496), np.float64(-42.53125)], y: [np.float64(-28.345132743 362825), np.float64(-21.8046875)], z: [np.float64(57.38053097345133), np.float64(52.328125)] Conexion: x: [np.float64(-41.964601769911496), np.float64(-36.35830618892507)], y: [np.float64(-28. 345132743362825), np.float64(-38.1172638436482)], z: [np.float64(57.38053097345133), np.float64(58. 88599348534203)] Conexion: x: [np.float64(-41.964601769911496), np.float64(-35.41634241245136)], y: [np.float64(-28. 345132743362825), np.float64(-19.64980544747091)], z: [np.float64(57.38053097345133), np.float64(5 9.29961089494162)] Conexion: x: [np.float64(-41.964601769911496), np.float64(-31.457364341085267)], y: [np.float64(-2 8.345132743362825), np.float64(-25.054263565891475)], z: [np.float64(57.38053097345133), np.float64 (63.72868217054264)] Conexion: x: [np.float64(-41.964601769911496), np.float64(-5.765957446808514)], y: [np.float64(-28. 345132743362825), np.float64(-1.9716312056737593)], z: [np.float64(57.38053097345133), np.float64(5 0.99290780141844)] Conexion: x: [np.float64(-41.964601769911496), np.float64(-5.4444444444443)], y: [np.float64(-28. 6.0952380952381)] 6.594795539033456)] Conexion: x: [np.float64(-49.91851851851851), np.float64(-42.53125)], y: [np.float64(-18.9925925925

Conexion: x: [np.float64(-49.91851851851851), np.float64(-45.78438661710038)], y: [np.float64(-18.9 92592592592597), np.float64(-12.921933085501863)], z: [np.float64(44.42962962962963), np.float64(4

92587), np.float64(-21.8046875)], z: [np.float64(44.42962962962963), np.float64(52.328125)] Conexion: x: [np.float64(-49.91851851851851), np.float64(-50.57936507936509)], y: [np.float64(-18.9 92592592592597), np.float64(-9.682539682539684)], z: [np.float64(44.42962962962963), np.float64(36. 89682539682539)1

Conexion: x: [np.float64(-49.91851851851851), np.float64(53.070422535211264)], y: [np.float64(-18.9 92592592592597, np.float64(-8.302816901408448)], z: [np.float64(44.42962962962963), np.float64(33. 59154929577464)]

Conexion: x: [np.float64(-49.91851851851851), np.float64(51.239852398523986)], y: [np.float64(-18.9 92592592592597, np.float64(-7.4538745387453815)], z: [np.float64(44.42962962962963), np.float64(4 1.055350553505534)]

Conexion: x: [np.float64(-45.78438661710038), np.float64(-42.53125)], y: [np.float64(-12.921933085501863), np.float64(-21.8046875)], z: [np.float64(46.594795539033456), np.float64(52.328125)]

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 $2539682539684), \; \mathsf{np.float64}(-7.4538745387453815)], \; \mathsf{z:} \; [\mathsf{np.float64}(36.89682539682539), \; \mathsf{np.float64}(41.8689682539682539)], \; \mathsf{np.float64}(41.8689682539682539)]$ 055350553505534)]

Conexion: x: [np.float64(-50.57936507936509), np.float64(59.86065573770492)], y: [np.float64(-9.682 539682539684), np.float64(-32.786885245901644)], z: [np.float64(36.89682539682539), np.float64(7.72

Conexion: x: [np.float64(-50.57936507936509), np.float64(57.53310104529617)], y: [np.float64(-9.682 539682539684), np.float64(-25.54703832752614)], z: [np.float64(36.89682539682539), np.float64(1.177 7003484320545)]

Conexion: x: [np.float64(-60.677248687248684), np.float64(-56.11952191235059)], y: [np.float64(-17. 386243386243393), np.float64(-17.880478087649408)], z: [np.float64(20.539682539682545), np.float64 (32,254980079681275)]

Conexion: x: [np.float64(-60.677248677248684), np.float64(-56.10434782608695)], y: [np.float64(-17. 386243386243393), np.float64(-12.84347826086956)], z: [np.float64(20.539682539682545), np.float64(2

Conexion: x: [np.float64(-60.677248677248684), np.float64(57.5108359133127)], y: [np.float64(-17.38 6243386243393), np.float64(-13.708978328173373)], z: [np.float64(20.539682539682545), np.float64(1 3,87616099071208)]

Conexion: x: [np.float64(-60.677248687248684), np.float64(-58.40466926070039)], y: [np.float64(-17. 386243386243393), np.float64(-26.210116731517516)], z: [np.float64(20.539682539682545), np.float64 (22.264591439688715)]

Conexion: x: [np.float64(-60.677248677248684), np.float64(61.65853658536585)], y: [np.float64(-17.3 86243386243393), np.float64(-24.512195121951223)], z: [np.float64(20.539682539682545), np.float64(2 2.910569105691053)]

Conexion: x: [np.float64(-60.677248677248684), np.float64(-52.10788381742739)], y: [np.float64(-17. 386243386243393), np.float64(-22.43983402489627)], z: [np.float64(20.539682539682545), np.float64(1 0.049792531120332)]

Conexion: x: [np.float64(-36.35830618892507), np.float64(-29.89387755102041)], y: [np.float64(-38.1 172638436482), np.float64(-31.35510204081632)], z: [np.float64(58.88599348534203), np.float64(65.07 755102040815)]

Conexion: x: [np.float64(-36.35830618892507), np.float64(-26.596638655462186)], y: <math>[np.float64(-38.658462186)]1172638436482), np.float64(-40.420168067226896)], z: [np.float64(58.88599348534203), np.float64(64. 2436974789916)]

Conexion: x: [np.float64(-36.35830618892507), np.float64(-35.41634241245136)], y: [np.float64(-38.1 172638436482), np.float64(-19.64980544747081)], z: [np.float64(58.88599348534203), np.float64(59.29 961089494162)1

 ${\tt Conexion: x: [np.float64(-36.35830618892507), np.float64(-36.863247863247864)], y: [np.float64(-38.863247863247864)], y: [np.float64(-38.863247864)], y: [np.float64(-38.864247864)], y: [np.float64(-38.86424764)], y: [np.float64(-38.8642404)], y: [np.float64(-38.864247864)], y: [np.float64(-38$ 1172638436482), np.float64(-13.452991452991455)], z: [np.float64(58.88599348534203), np.float64(55. 4957264957265)]

Conexion: x: [np.float64(-36.35830618892507), np.float64(-30.414937759336098)], y: [np.float64(-38. 1172638436482), np.float64(-9.684647302904565)], z: [np.float64(58.88599348534203), np.float64(60.6 3070539419087)]

51269035533), np.float64(-17.880478087649408)], z: [np.float64(27.817258883248726), np.float64(32.2 Conexion: x: [np.float64(-45.78438661710038), np.float64(-50.57936507936509)], y: [np.float64(-12.9 $21933085501863), \; np.float64(-9.682539682539684)], \; z: \; [np.float64(46.594795539033456), \; np.float64(3864)], \; respectively. \\$ 6,89682539682539)1

Conexion: x: [np.float64(-45.78438661710038), np.float64(53.070422535211264)], y: [np.float64(-12.9 21933085501863), np.float64(-8.302816901408448)], z: [np.float64(46.594795539033456), np.float64(3 3.59154929577464)]

Conexion: x: [np.float64(-45.78438661710038), np.float64(-41.59055118110237)], y: [np.float64(-12.9 21933085501863), np.float64(-7.425196850393704)], z: [np.float64(46.594795539033456), np.float64(4 8,01574803149606)]

Conexion: x: [np.float64(-45.78438661710038), np.float64(51.239852398523986)], y: [np.float64(-12.9 21933085501863), np.float64(-7.4538745387453815)], z: [np.float64(46.594795539033456), np.float64(4 1.055350553505534)]

Conexion: x: [np.float64(-45.78438661710038), np.float64(45.4527027027027)], y: [np.float64(-12.921 933085501863), np.float64(-12.891891891891888)], z: [np.float64(46.594795539033456), np.float64(48. 12837837837837)]

Conexion: x: [np.float64(-45.78438661710038), np.float64(-5.765957446808514)], y: [np.float64(-12.9 21933085501863), np.float64(-1.9716312056737593)], z: [np.float64(46.594795539033456), np.float64(5 0.99290780141844)]

Conexion: x: [np.float64(-45.78438661710038), np.float64(-3.75)], y: [np.float64(-12.92193308550186 3), np.float64(-2.146551724137936)], z: [np.float64(46.594795539033456), np.float64(62.758620689655

Conexion: x: [np.float64(-42.53125), np.float64(-35.41634241245136)], y: [np.float64(-21.8046875), np.float64(-19.64980544747081)], z: [np.float64(52.328125), np.float64(59.29961089494162)] Conexion: x: [np.float64(-42.53125), np.float64(-36.863247863247864)], y: [np.float64(-21.8046875),

np.float64(-13.452991452991455)], z: [np.float64(52.328125), np.float64(55.4957264957265)] Conexion: x: [np.float64(-42.53125), np.float64(-5.765957446808514)], y: [np.float64(-21.8046875), np.float64(-1.9716312056737593)], z: [np.float64(52.328125), np.float64(50.99290780141844)]

Conexion: x: [np.float64(-50.57936507936509), np.float64(-57.269035532994934)], y: [np.float64(-9.6 82539682539684), np.float64(-8.751269035533)], z: [np.float64(36.89682539682539), np.float64(27.817

Conexion: x: [np.float64(-50.57936507936509), np.float64(63.394230769230774)], y: [np.float64(-9.68 2539682539684), np.float64(-3.336538461538467)], z: [np.float64(36.89682539682539), np.float64(21.5 19230769230774)1

Conexion: x: [np.float64(-50.57936507936509), np.float64(53.070422535211264)], y: [np.float64(-9.68 2539682539684), np.float64(-8.302816901408448)], z: [np.float64(36.89682539682539), np.float64(33.5 9154929577464)]

Conexion: x: [np.float64(-50.57936507936509), np.float64(-49.176470588235304)], y: [np.float64(-9.6 82539682539684), np.float64(1.151260504201673)], z: [np.float64(36.89682539682539), np.float64(40.1

Conexion: x: [np.float64(-50.57936507936509), np.float64(-51.75686274509803)], y: [np.float64(-9.68 2539682539684), np.float64(-2.1725490196078425)], z: [np.float64(36.89682539682539), np.float64(32.

Conexion: x: [np.float64(-50.57936507936509), np.float64(51.239852398523986)], y: [np.float64(-9.68

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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54980079681275)] Conexion: x: [np.float64(-57.269035532994934), np.float64(-56.10434782608695)], y: [np.float64(-8.7 51269035533), np.float64(-12.84347826086956)], z: [np.float64(27.817258883248726), np.float64(20.31 3043478260866)]

Conexion: x: [np.float64(-57.269035532994934), np.float64(54.95940959409594)], y: [np.float64(-8.75 1269035533), np.float64(-15.070110701107012)], z: [np.float64(27.817258883248726), np.float64(33.04 0590405904055)1

Conexion: x: [np.float64(-57.269035532994934), np.float64(63.394230769230774)], y: [np.float64(-8.7 51269035533), np.float64(-3.336538461538467)], z: [np.float64(27.817258883248726), np.float64(21.51 9230769230774)1

Conexion: x: [np.float64(-57.269035532994934), np.float64(53.070422535211264)], y: [np.float64(-8.7 51269035533), np.float64(-8.302816901408448)], z: [np.float64(27.817258883248726), np.float64(33.59 154929577464)]

Conexion: x: [np.float64(-57.269035532994934), np.float64(-51.75686274509803)], y: [np.float64(-8.7 51269035533), np.float64(-2.1725490196078425)], z: [np.float64(27.817258883248726), np.float64(32.

Conexion: x: [np.float64(-57.269035532994934), np.float64(51.239852398523986)], y: [np.float64(-8.7 51269035533), np.float64(-7.4538745387453815)], z: [np.float64(27.817258883248726), np.float64(41.0 55350553505534)1

Conexion: x: [np.float64(-56.11952191235059), np.float64(-56.10434782608695)], y: [np.float64(-17.8 80478087649408), np.float64(-12.84347826086956)], z: [np.float64(32.254980079681275), np.float64(2 0.313043478260866)]

Conexion: x: [np.float64(-56.11952191235059), np.float64(54.95940959409594)], y: [np.float64(-17.88 0478087649408), np.float64(-15.070110701107012)], z: [np.float64(32.254980079681275), np.float64(3 3,040590405904055)1

Conexion: x: [np.float64(-56.11952191235059), np.float64(-55.671875)], y: [np.float64(-17.880478087 649408), np.float64(-25.625)], z: [np.float64(32.254980079681275), np.float64(34.265625)]

Conexion: x: [np.float64(-21.12455516014235), np.float64(-29.89387755102041)], y: [np.float64(-33.5 2313167259787), np.float64(-31.35510204081632)], z: [np.float64(68.17081850533808), np.float64(65.0 7755102040815)]

Conexion: x: [np.float64(-21.12455516014235), np.float64(-24.424489795918362)], y: <math>[np.float64(-33.42489795918362)]52313167259787), np.float64(-21.61632653061224)], z: [np.float64(68.17081850533808), np.float64(69. 68979591836734)1

Conexion: x: [np.float64(-56.10434782608695), np.float64(65.07692307692308)], y: [np.float64(-12.84 347826086956), np.float64(-11.40384615384616)], z: [np.float64(20.313043478260866), np.float64(19.9 90384615384613)]

Conexion: x: [np.float64(-56.10434782608695), np.float64(63.394230769230774)], y: [np.float64(-12.8 4347826086956), np.float64(-3.336538461538467)], z: [np.float64(20.313043478260866), np.float64(21.

Conexion: x: [np.float64(-56.10434782608695), np.float64(-48.415430267062305)], y: [np.float64(-12. 84347826086956), np.float64(-15.821958456973292)], z: [np.float64(20.313043478260866), np.float64(1 4.492581602373889)1

Conexion: x: [np.float64(-56.10434782608695), np.float64(57.5108359133127)], y: [np.float64(-12.843

47826086956), np.float64(-13.708978328173373)], z: [np.float64(20.313043478260866), np.float64(13.8 7616099071208)1 ${\tt Conexion: x: [np.float64(-29.89387755102041), np.float64(-26.596638655462186)], y: [np.float64(-31.864186)]}, y: [np.float64(-31.864186)], y: [np.float64(-3$ 35510204081632), np.float64(-40.420168067226896)], z: [np.float64(65.07755102040815), np.float64(6 4.2436974789916)] Conexion: x: [np.float64(-29.89387755102041), np.float64(-31.457364341085267)], y: [np.float64(-31. 35510204081632), np.float64(-25.054263565891475)], z: [np.float64(65.07755102040815), np.float64(6 3.72868217054264)] Conexion: x: [np.float64(21.405940594059402), np.float64(14.01129943502825)], y: [np.float64(-41.20 792079207921), np.float64(-45.89830508474576)], z: [np.float64(72.31683168316832), np.float64(71.95 4802259887)1 Conexion: x: [np.float64(21.405940594059402), np.float64(23.69536423841059)], y: [np.float64(-41.20 792079207921), np.float64(-34.49006622516556)], z: [np.float64(72.31683168316832), np.float64(62.86 7549668874176)] Conexion: x: [np.float64(21.405940594059402), np.float64(13.5625)], y: [np.float64(-41.207920792079 21), np.float64(-36.3875)], z: [np.float64(72.31683168316832), np.float64(73.5375)] Conexion: x: [np.float64(56.39543726235741), np.float64(54.95940959409594)], y: [np.float64(-17.368 821292775664), np.float64(-15.070110701107012)], z: [np.float64(38.80608365019012), np.float64(33.0 40590405904055)1 Conexion: x: [np.float64(56.39543726235741), np.float64(51.763688760806915)], y: [np.float64(-17.36 8821292775664), np.float64(-21.0835734870317)], z: [np.float64(38.80608365019012), np.float64(48.39 193083573487)] Conexion: x: [np.float64(56.39543726235741), np.float64(51.239852398523986)], y: [np.float64(-17.36 8821292775664), np.float64(-7.4538745387453815)], z: [np.float64(38.80608365019012), np.float64(41. 055350553505534)1 Conexion: x: [np.float64(56.39543726235741), np.float64(61.24229074889868)], y: [np.float64(-17.368 821292775664), np.float64(-20.22026431718062)], z: [np.float64(38.80608365019012), np.float64(28.95 1541850220266)] Conexion: x: [np.float64(56.39543726235741), np.float64(54.384313725490195)], y: [np.float64(-17.36 8821292775664), np.float64(-28.031372549019608)], z: [np.float64(38.80608365019012), np.float64(38. 831372549019605)] Conexion: x: [np.float64(65.07692307692308), np.float64(54.95940959409594)], y: [np.float64(-11.403 84615384616), np.float64(-15.070110701107012)], z: [np.float64(19.990384615384613), np.float64(33.0 40590405904055)]

19230769230774)]

519230769230774)]

Conexion: x: [np.float64(54.95940959409594), np.float64(53.070422535211264)], y: [np.float64(-15.07 0110701107012), np.float64(-8.302816901408448)], z: [np.float64(33.040590405904055), np.float64(33. 59154929577464)1

 $2816901408448), \; np.float64(-7.4538745387453815)], \; z: \; [np.float64(33.59154929577464), \; np.float64(41.643.59154929577464)], \; np.float64(41.643.59154929577464)], \; np.float64(41.643.643.64164)], \; np.float64(41.643.64164)], \; np.float64(41.64164)], \; np.float64(416464)], \; np.float64(4166464)], \; np.float64(4166464)], \; np.float64(4166464)], \; np.float64(4166464)], \; np.float64(4166464)], \; np.float64(4166464)],$ 055350553505534)]

Conexion: x: [np.float64(51.763688760806915), np.float64(45.4527027027027)], y: [np.float64(-21.083 5734870317), np.float64(-12.891891891891888)], z: [np.float64(48.39193083573487), np.float64(48.128

384615384616), np.float64(-3.336538461538467)], z: [np.float64(19.990384615384613), np.float64(21.5

Conexion: x: [np.float64(54.95940959409594), np.float64(63.394230769230774)], y: [np.float64(-15.07

0110701107012), np.float64(-3.336538461538467)], z: [np.float64(33.0405904059)4055), np.float64(21.

Conexion: x: [np.float64(36.78260869565217), np.float64(39.62162162162162)], y: [np.float64(-36.355 73122529644), np.float64(-32.85810810810811)], z: [np.float64(62.22924901185772), np.float64(55.378 378378378386)]

 ${\tt Conexion: x: [np.float64(-49.176470588235304), np.float64(-42.82527881040892)], y: [np.float64(1.15823504), np.float64(-49.82527881040892)], y: [np.float64(-49.82527881040892)], y: [np.float64(-49.82528828580808)], y: [np.float64(-49.825288808)], y: [np.float64(-49.82588808)], y: [np.float64(-49.8258808)], y: [np.float64(-49.82588808)], y: [np.float64(-49.8258808)], y: [np.float64(-49$ 1260504201673), np.float64(6.118959107806688)], z: [np.float64(40.18487394957984), np.float64(42.40 148698884758)1

Conexion: x: [np.float64(-49.176470588235304), np.float64(-51.75686274509803)], y: [np.float64(1.15 1260504201673), np.float64(-2.1725490196078425)], z: [np.float64(40.18487394957984), np.float64(32.

Conexion: x: [np.float64(-49.176470588235304), np.float64(-48.1930501930502)], y: [np.float64(1.151 260504201673), np.float64(7.0888030888030755)], z: [np.float64(40.18487394957984), np.float64(32.30 8880308880305)1

Conexion: x: [np.float64(-49.176470588235304), np.float64(-41.59055118110237)], y: [np.float64(1.15 1260504201673), np.float64(-7.425196850393704)], z: [np.float64(40.18487394957984), np.float64(48.0 1574803149606)]

Conexion: x: [np.float64(-49.176470588235304), np.float64(-53.05882352941177)], y: [np.float64(1.15 1260504201673), np.float64(2.622837370242223)], z: [np.float64(40.18487394957984), np.float64(22.95

Conexion: x: [np.float64(-49.176470588235304), np.float64(-41.230158730158730)], y: [np.float64(1.1 51260504201673), np.float64(0.1428571428571388)], z: [np.float64(40.18487394957984), np.float64(48. 58730158730158)]

Conexion: x: [np.float64(-49.176470588235304), np.float64(50.06896551724138)], y: [np.float64(1.151 260504201673), np.float64(7.400000000000000)], z: [np.float64(40.18487394957984), np.float64(40.289

65517241379)] Conexion: x: [np.float64(-49.176470588235304), np.float64(48.9025974025974)], y: [np.float64(1.1512 60504201673), np.float64(0.006493506493512768)], z: [np.float64(40.18487394957984), np.float64(44.4

61038961038966)] Conexion: x: [np.float64(-49.176470588235304), np.float64(-2.606837601)], y: [np.float64(1.15

Conexion: x: [np.float64(-49.176470588235304), np.float64(7.942446043165461)], y: [np.float64(1.151 260504201673), np.float64(14.050359712230204)], z: [np.float64(40.18487394957984), np.float64(49.99

280575539568) Conexion: x: [np.float64(-49.176470588235304), np.float64(6.018018018018012)], y: [np.float64(1.151 260504201673), np.float64(9.360360360360374)], z: [np.float64(40.18487394957984), np.float64(59.297 29729729729)1

Conexion: x: [np.float64(-42.82527881040892), np.float64(-48.1930501930502)], y: [np.float64(6.1189 59107806688), np.float64(7.0888030888030755)], z: [np.float64(42.40148698884758), np.float64(32.308 29/11/24, 11:38 p.m ProyectoF_Zaira

Conexion: x: [np.float64(54.95940959409594), np.float64(61.24229074889868)], y: [np.float64(-15.070 110701107012), np.float64(-20.22026431718062)], z: [np.float64(33.040590405904055), np.float64(28.9 51541850220266)1

Conexion: x: [np.float64(30.06374501992032), np.float64(23.69536423841059)], y: [np.float64(-33.609 56175298804), np.float64(-34.49006622516556)], z: [np.float64(66.55776892430279), np.float64(62.867 549668874176)]

Conexion: x: [np.float64(30.06374501992032), np.float64(36.78260869565217)], y: [np.float64(-33.609 56175298804), np.float64(-36.35573122529644)], z: [np.float64(66.55776892430279), np.float64(62.229 24901185772)1

Conexion: x: [np.float64(30.06374501992032), np.float64(26.384615384615387)], y: [np.float64(-33.60 956175298804), np.float64(-25.615384615384613)], z: [np.float64(66.55776892430279), np.float64(67.3 5042735042734)]

Conexion: x: [np.float64(45.867867867867865), np.float64(51.763688760806915)], y: [np.float64(-27.2 07207207207205), np.float64(-21.0835734870317)], z: [np.float64(53.567567567567565), np.float64(48. 39193083573487)]

Conexion: x: [np.float64(45.867867867867865), np.float64(39.62162162162162)], y: [np.float64(-27.20 7207207207205), np.float64(-32.85810810810811)], z: [np.float64(53.567567567565), np.float64(55.

378378378378386)] Conexion: x: [np.float64(45.867867867867865), np.float64(36.7421875)], y: [np.float64(-27.207207207

207205), np.float64(-23.2578125)], z: [np.float64(53.567567567565), np.float64(59.7578125)] Conexion: x: [np.float64(14.01129943502825), np.float64(13.5625)], y: [np.float64(-45.8983050847457 6), np.float64(-36.3875)], z: [np.float64(71.954802259887), np.float64(73.5375)]

Conexion: x: [np.float64(14.01129943502825), np.float64(8.51136363636364)], y: [np.float64(-45.8983 0508474576), np.float64(-48.022727272727266)], z: [np.float64(71.954802259887), np.float64(68.5)] Conexion: x: [np.float64(23.69536423841059), np.float64(36.78260869565217)], y: [np.float64(-34.490 06622516556), np.float64(-36.35573122529644)], z: [np.float64(62.867549668874176), np.float64(62.22 924901185772)1

Conexion: x: [np.float64(29.41044776119403), np.float64(36.78260869565217)], y: [np.float64(-44.231 34328358209), np.float64(-36.35573122529644)], z: [np.float64(63.589552238805965), np.float64(62.22 924901185772)]

Conexion: x: [np.float64(63.394230769230774), np.float64(53.070422535211264)], y: [np.float64(-3.33 $6538461538467), \; np.float \\ 64(-8.302816901408448)], \; z: \; [np.float \\ 64(21.519230769230774), \; np.float \\ 64(33.302816901408448)], \; z: \; [np.float \\ 64(21.519230769230774), \; np.float \\ 64(33.302816901408448)], \; z: \; [np.float \\ 64(21.519230769230774), \; np.float \\ 64(31.519230769230774), \; np.float \\ 64(31.519230769230769230774), \; np.float \\ 64(31.519230769230774), \; np.float \\ 64(31.519230769230769230774), \; np.float \\ 64(31.519230769230774), \; np.float \\ 64(31.5192307692076076074), \; np.float \\ 64(31.51923076076076076076076074), \; np.float \\ 64(31.51923076076076076076076076076074), \; np.float \\ 64(31.51923076076076076076$ 59154929577464)1

Conexion: x: [np.float64(63.394230769230774), np.float64(59.523809523809526)], y: [np.float64(-3.33 6538461538467), np.float64(4.4365079365079225)], z: [np.float64(21.519230769230774), np.float64(22. 007936507936506)]

Conexion: x: [np.float64(53.070422535211264), np.float64(-51.75686274509803)], y: [np.float64(-8.30 2816901408448), np.float64(-2.1725490196078425)], z: [np.float64(33.59154929577464), np.float64(32.

Conexion: x: [np.float64(53.070422535211264), np.float64(59.523809523809526)], y: [np.float64(-8.30 2816901408448), np.float64(4.4365079365079225)], z: [np.float64(33.59154929577464), np.float64(22.0 07936507936506)]

Conexion: x: [np.float64(53.070422535211264), np.float64(51.239852398523986)], y: [np.float64(-8.30

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880308880305)1 Conexion: x: [np.float64(-42.82527881040892), np.float64(-41.230158730158735)], y: [np.float64(6.11 8959107806688), np.float64(0.1428571428571388)], z: [np.float64(42.40148698884758), np.float64(48.5 8730158730158)]

Conexion: x: [np.float64(-42.82527881040892), np.float64(-2.606837606837601)], y: [np.float64(6.118 959107806688), np.float64(12.0)], z: [np.float64(42.40148698884758), np.float64(55.27350427350427)] Conexion: x: [np.float64(-42.82527881040892), np.float64(-4.55230125523012)], y: [np.float64(6.1189 59107806688), np.float64(17.054393305439334)], z: [np.float64(42.40148698884758), np.float64(47.849 37238493724)1

Conexion: x: [np.float64(-51.75686274509803), np.float64(-48.1930501930502)], y: [np.float64(-2.172 5490196078425), np.float64(7.0888030888030755)], z: [np.float64(32.0), np.float64(32.30888030888030

Conexion: x: [np.float64(-51.75686274509803), np.float64(-53.05882352941177)], y: [np.float64(-2.17 25490196078425), np.float64(2.622837370242223)], z: [np.float64(32.0), np.float64(22.9550173010380

Conexion: x: [np.float64(-48.1930501930502), np.float64(-53.05882352941177)], y: [np.float64(7.0888 030888030755), np.float64(2.622837370242223)], z: [np.float64(32.308880308880305), np.float64(22.95 501730103807)]

Conexion: x: [np.float64(-48.1930501930502), np.float64(50.06896551724138)], y: [np.float64(7.08880 30888030755), np.float64(7.4000000000000000)], z: [np.float64(32.308880308880305), np.float64(40.289 65517241379)]

Conexion: x: [np.float64(-48.1930501930502), np.float64(52.66013071895425)], y: [np.float64(7.08880 30888030755), np.float64(4.405228758169926)], z: [np.float64(32.308880308860305), np.float64(31.601 30718954248)]

Conexion: x: [np.float64(-48.1930501930502), np.float64(-2.606837606837601)], y: [np.float64(7.0888 030888030755), np.float64(12.0)], z: [np.float64(32.308880308880305), np.float64(55.2735042735042

Conexion: x: [np.float64(-48.1930501930502), np.float64(-4.55230125523012)], y: [np.float64(7.08880 30888030755), np.float64(17.054393305439334)], z: [np.float64(32.30888030880305), np.float64(47.84

937238493724)] Conexion: x: [np.float64(-48.1930501930502), np.float64(7.942446043165461)], y: [np.float64(7.08880

30888030755), np.float64(14.050359712230204)], z: [np.float64(32.30888030880305), np.float64(49.99 280575539568)1

Conexion: x: [np.float64(-34.39269406392694), np.float64(-41.59055118110237)], y: [np.float64(-3.05 0228310502277), np.float64(-7.425196850393704)], z: [np.float64(53.85388127853881), np.float64(48.0 1574803149606)]

Conexion: x: [np.float64(-34.39269406392694), np.float64(-41.230158730158735)], y: [np.float64(-3.0 50228310502277), np.float64(0.1428571428571388)], z: [np.float64(53.85388127853881), np.float64(48.

Conexion: x: [np.float64(-34.39269406392694), np.float64(-30.414937759336098)], y: [np.float64(-3.0 50228310502277), np.float64(-9.684647302904565)], z: [np.float64(53.85388127853881), np.float64(60. 63070539419087)1

Conexion: x: [np.float64(-21.0390625), np.float64(-24.424489795918362)], y: [np.float64(-14.4375),

np.float64(-21.61632653061224)], z: [np.float64(71.53125), np.float64(69.68979591836734)] Conexion: x: [np.float64(-41.5965518110237), np.float64(-36.863247863247864)], y: [np.float64(-7.4 25196850393704), np.float64(-13.452991452991455)], z: [np.float64(48.01574803149606), np.float64(5 5.4957264957265)] Conexion: x: [np.float64(-41.59055118110237), np.float64(-41.230158730158735)], y: [np.float64(-7.4

25196850393704), np.float64(0.1428571428571388)], z: [np.float64(48.01574803149606), np.float64(48.

Conexion: x: [np.float64(-41.59055118110237), np.float64(48.9025974025974)], y: [np.float64(-7.4251 96850393704), np.float64(0.006493506493512768)], z: [np.float64(48.01574803149606), np.float64(44.4 61038961038966)]

Conexion: x: [np.float64(-41.59055118110237), np.float64(-5.765957446808514)], y: [np.float64(-7.42 $5196850393704), \; np.float \\ 64(-1.9716312056737593)], \; z: \; [np.float \\ 64(48.01574803149606), \; np.float \\ 64(50.01574803149606), \; np.float \\ 64(50.015748006), \; np.float \\$ 99290780141844)1

Conexion: x: [np.float64(-41.59055118110237), np.float64(-2.606837606837601)], y: [np.float64(-7.42 5196850393704), np.float64(12.0)], z: [np.float64(48.01574803149606), np.float64(55.2735042735042

Conexion: x: [np.float64(-41.59055118110237), np.float64(-3.75)], y: [np.float64(-7.42519685039370 4), np.float64(-2.146551724137936)], z: [np.float64(48.01574803149606), np.float64(62.7586206896551 74)1

Conexion: x: [np.float64(-41.59055118110237), np.float64(7.942446043165461)], y: [np.float64(-7.425 196850393704), np.float64(14.050359712230204)], z: [np.float64(48.01574803149606), np.float64(49.99 280575539568)

Conexion: x: [np.float64(-41.59055118110237), np.float64(6.018018018018012)], y: [np.float64(-7.425 196850393704), np.float64(9.360360360360374)], z: [np.float64(48.01574803149606), np.float64(59.297 29729729729)1

Conexion: x: [np.float64(-35.41634241245136), np.float64(-36.863247863247864)], y: [np.float64(-19. 5.4957264957265)]

 $\hbox{Conexion: x: [np.float64(-35.41634241245136), np.float64(-31.457364341085267)], y: [np.float64(-19.41634241245136), np.float64(-31.457364341085267)], y: [np.float64(-31.457364341085267)], y: [np.float64(-31.4573647)], y: [np.float64(-31.4573647)], y: [np.float64(-31.4573647)], y: [np.float64(-31.4573647)], y: [np.float64(-31.4574047)], y: [n$ 64980544747081), np.float64(-25.054263565891475)], z: [np.float64(59.29961089494162), np.float64(6 3.72868217054264)

Conexion: x: [np.float64(-35.41634241245136), np.float64(-30.414937759336098)], y: <math>[np.float64(-19.616416), np.float64(-19.616416)]64980544747081), np.float64(-9.684647302904565)], z: [np.float64(59.29961089494162), np.float64(60. 63070539419087)]

Conexion: x: [np.float64(-35.41634241245136), np.float64(-5.765957446808514)], y: [np.float64(-19.6 4980544747081), np.float64(-1.9716312056737593)], z: [np.float64(59.29961089494162), np.float64(50. 99290780141844)]

Conexion: x: [np.float64(-53.05882352941177), np.float64(-5.765957446808514)], y: [np.float64(2.622 837370242223), np.float64(-1.9716312056737593)], z: [np.float64(22.95501730103807), np.float64(50.9 9290780141844)]

Conexion: x: [np.float64(-36.863247863247864), np.float64(-30.414937759336098)], y: [np.float64(-1 3.452991452991455), np.float64(-9.684647302904565)], z: [np.float64(55.4957264957265), np.float64(6 0.63070539419087)]

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079365079225), np.float64(4.405228758169926)], z: [np.float64(22.007936507936506), np.float64(31.60 130718954248)

Conexion: x: [np.float64(59.523809523809526), np.float64(48.87248322147651)], y: [np.float64(4.4365 079365079225), np.float64(-4.919463087248317)], z: [np.float64(22.007936507936506), np.float64(15.8 32214765100673)]

Conexion: x: [np.float64(36.86466165413534), np.float64(36.7421875)], y: [np.float64(-11.3533834586 46618), np.float64(-23.2578125)], z: [np.float64(57.87969924812029), np.float64(59.7578125)] Conexion: x: [np.float64(36.86466165413534), np.float64(40.169117647058826)], y: [np.float64(-11.35 3383458646618), np.float64(-11.477941176470594)], z: [np.float64(57.87969924812029), np.float64(54.

95588235294119)] Conexion: x: [np.float64(36.86466165413534), np.float64(30.1991341991342)], y: [np.float64(-11.3533 83458646618), np.float64(-16.701298701298697)], z: [np.float64(57.87969924812029), np.float64(65.96 536796536796)]

Conexion: x: [np.float64(24.25), np.float64(17.48749999999997)], y: [np.float64(-18.84375), np.flo at64(-20.299999999999)], z: [np.float64(77.34375), np.float64(71.2624999999999)]

Conexion: x: [np.float64(51.239852398523986), np.float64(48.9025974025974)], y: [np.float64(-7.4538 745387453815), np.float64(0.006493506493512768)], z: [np.float64(41.055350553505534), np.float64(4 4.461038961038966)]

Conexion: x: [np.float64(51.239852398523986), np.float64(45.4527027027027)], y: [np.float64(-7.4538 745387453815), np.float64(-12.891891891891888)], z: [np.float64(41.055350553505534), np.float64(48. 12837837837837)]

Conexion: x: [np.float64(36.7421875), np.float64(40.169117647058826)], y: [np.float64(-23.2578125), np.float64(-11.477941176470594)], z: [np.float64(59.7578125), np.float64(54.95588235294119)]

Conexion: x: [np.float64(36.7421875), np.float64(30.1991341991342)], y: [np.float64(-23.2578125), n p.float64(-16.701298701298697)], z: [np.float64(59.7578125), np.float64(65.96536796536796)]

Conexion: x: [np.float64(50.06896551724138), np.float64(48.9025974025974)], y: [np.float64(7.400000 000000006), np.float64(0.006493506493512768)], z: [np.float64(40.28965517241379), np.float64(44.461 038961038966)]

Conexion: x: [np.float64(50.06896551724138), np.float64(52.66013071895425)], y: [np.float64(7.40000 0000000006), np.float64(4.405228758169926)], z: [np.float64(40.28965517241379), np.float64(31.60130 718954248)]

Conexion: x: [np.float64(50.06896551724138), np.float64(-2.606837606837601)], y: [np.float64(7.4000 00000000006), np.float64(12.0)], z: [np.float64(40.28965517241379), np.float64(55.27350427350427)] Conexion: x: [np.float64(50.06896551724138), np.float64(-4.55230125523012)], y: [np.float64(7.40000 0000000006), np.float64(17.054393305439334)], z: [np.float64(40.28965517241379), np.float64(47.8493 7238493724)]

Conexion: x: [np.float64(50.06896551724138), np.float64(7.942446043165461)], y: [np.float64(7.40000 0000000006), np.float64(14.050359712230204)], z: [np.float64(40.28965517241379), np.float64(49.9928 0575539568)1

Conexion: x: [np.float64(50.06896551724138), np.float64(6.018018018018012)], y: [np.float64(7.40000 0000000006), np.float64(9.360360360360374)], z: [np.float64(40.28965517241379), np.float64(59.29729 729729729)1

Conexion: x: [np.float64(26.384615384615387), np.float64(18.78857142857143)], y: [np.float64(-25.61

Conexion: x: [np.float64(-36.863247863247864), np.float64(-5.765957446808514)], y: [np.float64(-13. $452991452991455), \; \mathsf{np.float64}(-1.9716312056737593)], \; \mathsf{z:} \; [\mathsf{np.float64}(55.4957264957265), \; \mathsf{np.float64}(55.4957264957265)], \; \mathsf{np.float64}(55.4957264957265)]$ 0.99290780141844)1

Conexion: x: [np.float64(-36.863247863247864), np.float64(8.006622516556291)], y: [np.float64(-13.4 52991452991455), np.float64(-2.4635761589403984)], z: [np.float64(55.4957264957265), np.float64(52. 09933774834437)]

Conexion: x: [np.float64(-41.230158730158735), np.float64(50.06896551724138)], y: [np.float64(0.142 8571428571388), np.float64(7.400000000000000)], z: [np.float64(48.58730158730158), np.float64(40.28 965517241379)1

Conexion: x: [np.float64(-41.230158730158735), np.float64(48.9025974025974)], y: [np.float64(0.1428571428571388), np.float64(0.006493506493512768)], z: [np.float64(48.58730158730158), np.float64(44. 461038961038966)]

Conexion: x: [np.float64(-41.230158730158735), np.float64(-2.606837606837601)], y: [np.float64(0.14 28571428571388), np.float64(12.0)], z: [np.float64(48.58730158), np.float64(55.2735042735042

Conexion: x: [np.float64(-41.230158730158735), np.float64(-4.55230125523012)], y: [np.float64(0.142 8571428571388), np.float64(17.054393305439334)], z: [np.float64(48.587301587301587), np.float64(47.8 4937238493724)]

Conexion: x: [np.float64(-41.230158730158735), np.float64(-3.75)], y: [np.float64(0.142857142857138 8), np.float64(-2.146551724137936)], z: [np.float64(48.58730158730158), np.float64(62.7586206896551

Conexion: x: [np.float64(-41.230158730158735), np.float64(7.942446043165461)], y: [np.float64(0.142 8571428571388), np.float64(14.050359712230204)], z: [np.float64(48.58730158730158), np.float64(49.9 9280575539568)]

Conexion: x: [np.float64(-31.457364341085267), np.float64(-24.424489795918362)], v: [np.float64(-2 $5.054263565891475), \; np.float64(-21.61632653061224)], \; z: \; [np.float64(63.72868217054264), \; np.float64(-21.61632653061224)], \; z: \; [np.float64(-21.61632653061224)], \; z: \; [np.float64(-21.61632653061224)], \; z: \; [np.float64(63.72868217054264)], \; z: \; [np.float64(63.72868217054264]], \; z: \; [np.float64(63.72868217054264]], \; z: \; [np.float64(63.72868217054264]]$ (69,68979591836734)]

Conexion: x: [np.float64(-31.457364341085267), np.float64(-5.4444444444443)], y: [np.float64(-25.4444444444443)] 054263565891475), np.float64(-15.230158730158735)], z: [np.float64(63.72868217054264), np.float64(5 6.0952380952381)]

Conexion: x: [np.float64(-24.424489795918362), np.float64(26.384615384615387)], y: [np.float64(-21. 61632653061224), np.float64(-25.615384615384613)], z: [np.float64(69.68979591836734), np.float64(6 7,35042735042734)1

Conexion: x: [np.float64(-30.414937759336098), np.float64(-5.765957446808514)], y: [np.float64(-9.6 84647302904565), np.float64(-1.9716312056737593)], z: [np.float64(60.63070539419087), np.float64(5 0.99290780141844)]

Conexion: x: [np.float64(-30.414937759336098), np.float64(-3.75)], y: [np.float64(-9.68464730290456 5), np.float64(-2.146551724137936)], z: [np.float64(60.63070539419087), np.float64(62.7586206896551

Conexion: x: [np.float64(-30.414937759336098), np.float64(8.006622516556291)], y: [np.float64(-9.68 4647302904565), np.float64(-2.4635761589403984)], z: [np.float64(60.63070539419087), np.float64(52. 09933774834437)1

Conexion: x: [np.float64(59.523809523809526), np.float64(52.66013071895425)], y: [np.float64(4.4365

5384615384613), np.float64(-26.651428571428568)], z: [np.float64(67.35042735042734), np.float64(73. 31428571428572)]

Conexion: x: [np.float64(26.384615384615387), np.float64(30.1991341991342)], y: [np.float64(-25.615 384615384613), np.float64(-16.701298701298697)], z: [np.float64(67.35042735042734), np.float64(65.9

Conexion: x: [np.float64(48.9025974025974), np.float64(-2.606837606837601)], y: [np.float64(0.00649 3506493512768), np.float64(12.0)], z: [np.float64(44.461038961038966), np.float64(55.2735042735042

Conexion: x: [np.float64(48.9025974025974), np.float64(-3.75)], y: [np.float64(0.00649350649351276 8), np.float64(-2.146551724137936)], z: [np.float64(44.461038961038966), np.float64(62.758620689655 174)]

Conexion: x: [np.float64(48.9025974025974), np.float64(6.018018018018012)], y: [np.float64(0.006493 506493512768), np.float64(9.360360360360374)], z: [np.float64(44.461038961038966), np.float64(59.29 729729729729)

Conexion: x: [np.float64(48.9025974025974), np.float64(8.006622516556291)], y: [np.float64(0.006493 506493512768), np.float64(-2.4635761589403984)], z: [np.float64(44.461038961038966), np.float64(52. 09933774834437)1

Conexion: x: [np.float64(40.169117647058826), np.float64(45.4527027027027)], y: [np.float64(-11.477 941176470594), np.float64(-12.89189189189188)], z: [np.float64(54.95588235294119), np.float64(48.1 2837837837837)]

Conexion: x: [np.float64(18.78857142857143), np.float64(17.48749999999997)], y: [np.float64(-26.65 1428571428568), np.float64(-20.2999999999999)], z: [np.float64(73.31428571428572), np.float64(71. 2624999999999911

Conexion: x: [np.float64(-4.495327102803742), np.float64(-5.7251184834123166)], y: [np.float64(-50. 65420560747664), np.float64(-50.66350710900474)], z: [np.float64(59.70093457943926), np.float64(65. 60189573459715)]

Conexion: x: [np.float64(-4.495327102803742), np.float64(-4.382113821138205)], y: [np.float64(-50.6 5420560747664), np.float64(-61.8780487804878)], z: [np.float64(59.70093457943926), np.float64(50.32

520325203252)] Conexion: x: [np.float64(-4.495327102803742), np.float64(-6.797153024911026)], y: [np.float64(-50.6 5420560747664), np.float64(-45.580071174377224)], z: [np.float64(59.70093457943926), np.float64(53.

978647686832744)] Conexion: x: [np.float64(-4.495327102803742), np.float64(5.740585774058573)], y: [np.float64(-50.65

420560747664), np.float64(-48.40167364016736)], z: [np.float64(59.70093457943926), np.float64(58.98 7447698744774)]

4.65573770491804), np.float64(-50.66350710900474)], z: [np.float64(70.18579234972677), np.float64(6 5.60189573459715) Conexion: x: [np.float64(-10.644808743169392), np.float64(-10.452991452991455)], y: [np.float64(-5

4.65573770491804), np.float64(-45.16239316239316)], z: [np.float64(70.18579234972677), np.float64(7 3,46153846153845)1

Conexion: x: [np.float64(-5.976095617529879), np.float64(-6.972111553784856)], y: [np.float64(-57.6 9721115537848), np.float64(-63.31474103585657)], z: [np.float64(31.434262948207177), np.float64(27. 856573705179287)] 69721115537848), np.float64(-51.1608040201005)], z: [np.float64(31.434262948207177), np.float64(11. 32663316582915)] Conexion: x: [np.float64(-5.976095617529879), np.float64(-7.268817204301072)], y: [np.float64(-57.6 9721115537848), np.float64(-50.200716845878134)], z: [np.float64(31.434262948207177), np.float64(4 Conexion: x: [np.float64(-5.976095617529879), np.float64(9.978339350180505)], y: [np.float64(-57.69 721115537848), np.float64(-55.277978339350184)], z: [np.float64(31.434262948207177), np.float64(27. 53068592057761)] ${\tt Conexion: x: [np.float64(-6.972111553784856), np.float64(-10.733668341708537)], y: [np.float64(-63.8784856), np.float64(-63.8784856)]}, pp.float64(-63.8784856), np.float64(-63.8784856), np.float64(-63.8784856), np.float64(-63.8784856), np.float64(-63.8784856), np.float64(-63.878868541708537)], pp.float64(-63.878868541708537)], pp.float64(-63.8788685417085541708537)], pp.float64(-63.878868541708$ 31474103585657), np.float64(-51.1608040201005)], z: [np.float64(27.856573705179287), np.float64(11. 32663316582915)] Conexion: x: [np.float64(-6.972111553784856), np.float64(-3.8631178707224336)], y: [np.float64(-63. 31474103585657), np.float64(-68.83650190114068)], z: [np.float64(27.856573705179287), np.float64(4 1.41444866920152)] Conexion: x: [np.float64(-5.7251184834123166), np.float64(-10.452991452991455)], y: [np.float64(-5 $0.66350710900474), \; np. float64(-45.16239316239316)], \; z: \; [np. float64(65.60189573459715), \; np. float64(75.60189573459715)], \; np. float64(75.60189573459715), \; np. float64(75.60189573459715)], \; np. float64(75.60189573459715)]$ 3,46153846153845)] Conexion: x: [np.float64(-10.15789473684211), np.float64(-7.233480176211458)], y: [np.float64(-69.9 1228070175438), np.float64(-75.13656387665199)], z: [np.float64(53.85087719298245), np.float64(44.2 5550660792952)] Conexion: x: [np.float64(-10.15789473684211), np.float64(-4.382113821138205)], y: [np.float64(-69.9 1228070175438), np.float64(-61.8780487804878)], z: [np.float64(53.85087719298245), np.float64(50.32 520325203252)1 Conexion: x: [np.float64(-10.15789473684211), np.float64(-10.320610687022906)], y: [np.float64(-69. 91228070175438), np.float64(-62.09923664122137)], z: [np.float64(53.85087719298245), np.float64(62. 1145038167939)] Conexion: x: [np.float64(-10.733668341708537), np.float64(13.460396039603964)], y: [np.float64(-51. 1608040201005), np.float64(-48.069306930693074)], z: [np.float64(11.32663316582915), np.float64(11. 133663366336634)] Conexion: x: [np.float64(-10.733668341708537), np.float64(15.899705014749259)], y: [np.float64(-51. 1608040201005), np.float64(-56.90265486725664)], z: [np.float64(11.32663316582915), np.float64(11.7 22713864306783)] Conexion: x: [np.float64(-3.8631178707224336), np.float64(-7.233480176211458)], y: [np.float64(-68. 83650190114068), np.float64(-75.13656387665199)], z: [np.float64(41.4144866920152), np.float64(44. 25550660792952)] Conexion: x: [np.float64(-3.8631178707224336), np.float64(-4.382113821138205)], y: [np.float64(-68. 83650190114068), np.float64(-61.8780487804878)], z: [np.float64(41.4144866920152), np.float64(50.3 2520325203252)] Conexion: x: [np.float64(-3.8631178707224336), np.float64(10.775510204081627)], y: [np.float64(-68. 83650190114068), np.float64(-69.04489795918367)], z: [np.float64(41.41444866920152), np.float64(37.

31428571428572)]

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864406779661), np.float64(-70.86538461538461)], z: [np.float64(60.05084745762713), np.float64(54.74 038461538461) Conexion: x: [np.float64(9.229508196721312), np.float64(7.095435684647299)], y: [np.float64(-60.688 52459016394), np.float64(-53.82572614107883)], z: [np.float64(40.88524590163935), np.float64(45.468

879668049794)] Conexion: x: [np.float64(7.707317073170728), np.float64(10.355769230769226)], y: [np.float64(-71.17

073170731707), np.float64(-70.86538461538461)], z: [np.float64(47.86178861788618), np.float64(54.74 038461538461)]

Conexion: x: [np.float64(7.095435684647299), np.float64(9.263157894736835)], y: [np.float64(-53.825 72614107883), np.float64(-45.705263157894734)], z: [np.float64(45.468879668049794), np.float64(45.9 2982456140351)]

Conexion: x: [np.float64(13.460396039603964), np.float64(15.899705014749259)], y: [np.float64(-48.0 69306930693074), np.float64(-56.90265486725664)], z: [np.float64(11.13366336634), np.float64(1 1.722713864306783)]

Conexion: x: [np.float64(-24.06037735849057), np.float64(-26.297709923664115)], y: [np.float64(4.77 735849056603), np.float64(2.015267175572518)], z: [np.float64(8.037735849056602), np.float64(-4.480 916030534345)1

Conexion: x: [np.float64(-24.06037735849057), np.float64(-18.97637795275591)], y: [np.float64(4.777 35849056603), np.float64(12.842519685039377)], z: [np.float64(8.037735849056602), np.float64(-3.055 118110236222)]

Conexion: x: [np.float64(-24.06037735849057), np.float64(-27.807017543859644)], y: [np.float64(4.77 735849056603), np.float64(-10.666666666666671)], z: [np.float64(8.037735849056602), np.float64(3.94 736842105263)]

Conexion: x: [np.float64(-24.06037735849057), np.float64(30.666666666666)], y: [np.float64(4.777 35849056603), np.float64(2.86597938144331)], z: [np.float64(8.037735849056602), np.float64(5.319587 628865975)]

Conexion: x: [np.float64(-24.06037735849057), np.float64(25.544117647058826)], y: [np.float64(4.777 35849056603), np.float64(5.330882352941188)], z: [np.float64(8.037735849056602), np.float64(2.28676

4705882348)] Conexion: x: [np.float64(-24.06037735849057), np.float64(-3.75)], y: [np.float64(4.77735849056603) np.float64(-2.146551724137936)], z: [np.float64(8.037735849056602), np.float64(62.758620689655174)] Conexion: x: [np.float64(-24.06037735849057), np.float64(-14.693140794223822)], y: [np.float64(4.77 735849056603), np.float64(-15.653429602888082)], z: [np.float64(8.037735849056602), np.float64(7.81

2274368231044)] Conexion: x: [np.float64(-26.297709923664115), np.float64(-18.97637795275591)], y: [np.float64(2.01 5267175572518), np.float64(12.842519685039377)], z: [np.float64(-4.480916030534345), np.float64(-3. 055118110236222)]

Conexion: x: [np.float64(-26.297709923664115), np.float64(-27.807017543859644)], y: [np.float64(2.0 15267175572518), np.float64(-10.66666666666671)], z: [np.float64(-4.480916030534345), np.float64 (3.94736842105263)]

 $5267175572518), \; \mathsf{np.float64} (14.335766423357654)], \; \mathsf{z:} \; [\mathsf{np.float64} (-4.480916030534345), \; \mathsf{np.float64} (-4.480916030534345)], \; \mathsf{np.float64} (-4.480916030534345)]$ 204379562043798)1

 ${\tt Conexion: x: [np.float64(-26.297709923664115), np.float64(23.021897810218974)], y: [np.float64(2.01897810218974)], y: [np.float64(2.0189810218974)], y: [np.float64(2.0189810218974)], y: [np.float64(2.0189810218974)], y: [np.float64(2.0189810218974)], y: [np.float64(2.0189810218974)], y: [np.float64(2.0189810218974)], y: [np.float64(2.0189810218991)], y: [np.float64(2.018981021891)], y: [np.float64(2.018981021891021891]], y: [np.float64(2.018981021891891)], y: [np.float64(2.01898102189180180101891]], y: [np.float6$

Conexion: x: [np.float64(-3.8631178707224336), np.float64(7.707317073170728)], y: [np.float64(-68.8 $3650190114068), \; \mathsf{np.float64}(-71.17073170731707)], \; \mathsf{z:} \; [\mathsf{np.float64}(41.41444866920152), \; \mathsf{np.float64}(47.8144866920152)], \; \mathsf{np.float64}(-71.17073170731707)], \; \mathsf{z:} \; [\mathsf{np.float64}(-71.17073170731707)], \; \mathsf{z:} \; [\mathsf{np.float64}(-71.170731707)], \; \mathsf{z:} \; [\mathsf{np.fl$ 6178861788618)] Conexion: x: [np.float64(-7.233480176211458), np.float64(7.707317073170728)], y: [np.float64(-75.13 656387665199), np.float64(-71.17073170731707)], z: [np.float64(44.25550660792952), np.float64(47.86

Conexion: x: [np.float64(-4.382113821138205), np.float64(-10.320610687022906)], y: [np.float64(-61. 8780487804878), np.float64(-62.09923664122137)], z: [np.float64(50.32520325203252), np.float64(62.1 145038167939)]

Conexion: x: [np.float64(-4.382113821138205), np.float64(7.707317073170728)], y: [np.float64(-61.87 80487804878), np.float64(-71.17073170731707)], z: [np.float64(50.32520325203252), np.float64(47.861 78861788618)] Conexion: x: [np.float64(-4.382113821138205), np.float64(7.095435684647299)], y: [np.float64(-61.87

80487804878), np.float64(-53.82572614107883)], z: [np.float64(50.32520325203252), np.float64(45.468 879668049794)1 Conexion: x: [np.float64(-10.320610687022906), np.float64(7.627118644067792)], y: [np.float64(-62.0

9923664122137), np.float64(-63.11864406779661)], z: [np.float64(62.1145038167939), np.float64(60.05 084745762713)]

Conexion: x: [np.float64(-7.268817204301072), np.float64(7.095435684647299)], y: [np.float64(-50.20 0716845878134), np.float64(-53.82572614107883)], z: [np.float64(41.096774193548384), np.float64(45. 468879668049794)]

Conexion: x: [np.float64(5.740585774058573), np.float64(7.904761904761898)], y: [np.float64(-48.401 67364016736), np.float64(-56.539682539682545)], z: [np.float64(58.987447698744774), np.float64(67.9 047619047619)]

Conexion: x: [np.float64(5.740585774058573), np.float64(8.51136363636364)], y: [np.float64(-48.4016 7364016736), np.float64(-48.02272727272726)], z: [np.float64(58.987447698744774), np.float64(68.

Conexion: x: [np.float64(5.740585774058573), np.float64(7.627118644067792)], y: [np.float64(-48.401 67364016736), np.float64(-63.11864406779661)], z: [np.float64(58.987447698744774), np.float64(60.05 084745762713)]

Conexion: x: [np.float64(7.904761904761898), np.float64(7.627118644067792)], y: [np.float64(-56.539 682539682545), np.float64(-63.11864406779661)], z: [np.float64(67.9047619047619), np.float64(60.050 84745762713)1

 ${\tt Conexion: x: [np.float64(10.775510204081627), np.float64(9.229508196721312)], y: [np.float64(-69.0481627), np.float64(-69.0481627), np.float6$ 489795918367), np.float64(-60.68852459016394)], z: [np.float64(37.31428571428572), np.float64(40.88 524590163935)]

Conexion: x: [np.float64(14.458181818181814), np.float64(9.978339350180505)], y: [np.float64(-61.18 5454545455), np.float64(-55.277978339350184)], z: [np.float64(24.35636363636364), np.float64(27.5 3068592057761)]

Conexion: x: [np.float64(14.458181818181814), np.float64(15.899705014749259)], y: [np.float64(-61.1 85454545455), np.float64(-56.90265486725664)], z: [np.float64(24.35636363636364), np.float64(11.7 22713864306783)1

Conexion: x: [np.float64(7.627118644067792), np.float64(10.355769230769226)], y: [np.float64(-63.11

Conexion: x: [np.float64(-26.297709923664115), np.float64(25.544117647058826)], y: [np.float64(2.01 5267175572518), np.float64(5.330882352941188)], z: [np.float64(-4.480916030534345), np.float64(2.28 6764705882348)1

Conexion: x: [np.float64(-26.297709923664115), np.float64(-5.765957446808514)], y: [np.float64(2.01 5267175572518), np.float64(-1.9716312056737593)], z: [np.float64(-4.480916030534345), np.float64(5

Conexion: x: [np.float64(-26.297709923664115), np.float64(-7.2290909090914)], y: [np.float64(2.01 5267175572518), np.float64(-22.81454545454545453)], z: [np.float64(-4.480916030534345), np.float64(4. 4654545454545485)1

Conexion: x: [np.float64(-26.297709923664115), np.float64(-14.693140794223822)], y: [np.float64(2.0 15267175572518), np.float64(-15.653429602888082)], z: [np.float64(-4.480916030534345), np.float64 (7.812274368231044)]

Conexion: x: [np.float64(-18.97637795275591), np.float64(23.021897810218974)], y: [np.float64(12.84 2519685039377), np.float64(14.335766423357654)], z: [np.float64(-3.055118110236222), np.float64(-4. 204379562043798)]

Conexion: x: [np.float64(-18.97637795275591), np.float64(25.544117647058826)], y: [np.float64(12.84 2519685039377), np.float64(5.330882352941188)], z: [np.float64(-3.055118110236222), np.float64(2.28 6764705882348)]

Conexion: x: [np.float64(-18.97637795275591), np.float64(-7.402390438247011)], y: [np.float64(12.84 2519685039377), np.float64(14.446215139442245)], z: [np.float64(-3.055118110236222), np.float64(-4. 5179282868525945)]

Conexion: x: [np.float64(-18.97637795275591), np.float64(-11.224137931034477)], y: [np.float64(12.8 42519685039377), np.float64(10.09482758620689)], z: [np.float64(-3.055118110236222), np.float64(7.5 34482758620683)]

Conexion: x: [np.float64(-18.97637795275591), np.float64(15.160784313725486)], y: [np.float64(12.84 2519685039377), np.float64(20.60392156862744)], z: [np.float64(-3.055118110236222), np.float64(-0.6 66666666666714)]

Conexion: x: [np.float64(-18.97637795275591), np.float64(9.24897959183673)], y: [np.float64(12.8425 19685039377), np.float64(11.983673469387753)], z: [np.float64(-3.055118110236222), np.float64(1.363

2653061224431)] Conexion: x: [np.float64(-18.97637795275591), np.float64(8.902255639097746)], y: [np.float64(12.842

519685039377), np.float64(-11.94736842105263)], z: [np.float64(-3.055118110236222), np.float64(3.74 4360902255636)1 Conexion: x: [np.float64(-27.807017543859644), np.float64(31.118942731277535)], y: [np.float64(-10.

6666666666671), np.float64(-10.12334801762114)], z: [np.float64(3.94736842105263), np.float64(1.1 101321585903037)]

Conexion: x: [np.float64(-27.807017543859644), np.float64(30.66666666666664)], y: [np.float64(-10. 6666666666671), np.float64(2.86597938144331)], z: [np.float64(3.94736842105263), np.float64(5.319

Conexion: x: [np.float64(-27.807017543859644), np.float64(25.544117647058826)], y: [np.float64(-10. 66666666666671), np.float64(5.330882352941188)], z: [np.float64(3.94736842105263), np.float64(2.28 6764705882348)1

Conexion: x: [np.float64(-27.807017543859644), np.float64(-14.693140794223822)], y: [np.float64(-1

ProyectoF_Zaira 0.6666666666671), np.float64(-15.653429602888082)], z: [np.float64(3.94736842105263), np.float64 (7.812274368231044)] Conexion: x: [np.float64(15.899705014749259), np.float64(19.481707317073173)], y: [np.float64(-56.9 $0265486725664), \; np.float \\ 64(-63.11585365853658)], \; z: \; [np.float \\ 64(11.722713864306783), \; np.float \\ 64(9.81536464), \; np.float \\ 64(11.722713864306783), \; np.float \\ 64(11.722713800783), \; np.float \\ 64(11.722713000780), \; np.float \\ 64(11.722713000780), \; np.float \\ 64(11.722713000780), \; np.f$ 10975609756099)] Conexion: x: [np.float64(11.1958041958042), np.float64(13.447204968944106)], y: [np.float64(-85.104 8951048951), np.float64(-72.24844720496895)], z: [np.float64(10.272727272727266), np.float64(11.434 782608695656)] Conexion: x: [np.float64(11.1958041958042), np.float64(16.34042553191489)], y: [np.float64(-85.1048 951048951), np.float64(-79.55623100303951)], z: [np.float64(10.272727272727266), np.float64(3.92097 2644376903)1 Conexion: x: [np.float64(13.447204968944106), np.float64(19.481707317073173)], y: [np.float64(-72.2 4844720496895), np.float64(-63.11585365853658)], z: [np.float64(11.434782608695656), np.float64(9.8 Conexion: x: [np.float64(31.118942731277535), np.float64(30.66666666666664)], y: [np.float64(-10.1 2334801762114), np.float64(2.86597938144331)], z: [np.float64(1.1101321585903037), np.float64(5.319 587628865975)1 Conexion: x: [np.float64(30.666666666666664), np.float64(25.544117647058826)], y: [np.float64(2.865 97938144331), np.float64(5.330882352941188)], z: [np.float64(5.319587628865975), np.float64(2.28676 4705882348)] Conexion: x: [np.float64(30.66666666666664), np.float64(17.184905660377353)], y: [np.float64(2.865 97938144331), np.float64(-16.06037735849057)], z: [np.float64(5.319587628865975), np.float64(6.7018 86792452825)1 Conexion: x: [np.float64(23.021897810218974), np.float64(25.544117647058826)], y: [np.float64(14.33

Conexion: x: [np.float64(23.021897810218974), np.float64(25.544117647058826)], y: [np.float64(14.33
576642357654), np.float64(5.330882352941188)], z: [np.float64(-4.204379562043798), np.float64(2.28
6764705882348)]
Conexion: x: [np.float64(23.021897810218974), np.float64(15.160784313725486)], y: [np.float64(14.33
576642357654). np.float64(20.60392156867744)]. z: [np.float64(-4.04379562043798). np.float64(-6.60392156867744)].

Conexion: x: [np.float64(20.60392156862744)], z: [np.float64(-4.204379562043798), np.float64(-0.66666666666714)]

Conexion: x: [np.float64(23.021897810218974), np.float64(8.902255639097746)], y: [np.float64(14.335

766423357654), np.float64(-11.94736842105263)], z: [np.float64(-4.204379562043798), np.float64(3.74 4360902255636)]
Conexion: x: [np.float64(25.544117647058826), np.float64(-3.75)], y: [np.float64(5.33088235294118

12274368231044)]
Conexion: x: [np.float64(25.544117647058826), np.float64(16.889763779527556)], y: [np.float64(5.330

882352941188), np.float64(12.99212598425197)], z: [np.float64(2.286764705882348), np.float64(12.488 188976377955)]

Conexion: x: [np.float64(25.544117647058826), np.float64(17.184905660377353)], y: [np.float64(5.330882352941188), np.float64(-16.06037735849057)], z: [np.float64(2.286764705882348), np.float64(6.701

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ProyectoF_Zai

Conexion: x: [np.float64(-48.415430267062305), np.float64(-58.40466926070039)], y: [np.float64(-15.821958456973292), np.float64(-26.210116731517516)], z: [np.float64(14.492581602373889), np.float64(22.264591439688715)]

Conexion: x: [np.float64(-48.415430267062305), np.float64(-52.10788381742739)], y: [np.float64(-15.821958456973292), np.float64(-22.43983402489627)], z: [np.float64(14.492581602373889), np.float64(1

Conexion: x: [np.float64(-48.415430267062305), np.float64(57.080882352941174)], y: [np.float64(-15.821958456973292), np.float64(-27.183823529411768)], z: [np.float64(14.492581602373889), np.float64(12.55147058823529)]

Conexion: x: [np.float64(-48.571428571428584), np.float64(-47.27516778523491)], y: [np.float64(0.67 3469387755091), np.float64(-0.6577181208053702)], z: [np.float64(13.132653061224488), np.float64(8.053691275167779)]

Conexion: x: [np.float64(53.19557195571956), np.float64(57.5108359133127)], y: [np.float64(-11.2915129147), np.float64(-13.708978328173373)], z: [np.float64(16.678966789667896), np.float64(13.87616099071208)]

Conexion: x: [np.float64(53.19557195571956), np.float64(49.80377358490566)], y: [np.float64(-11.291 512915129147), np.float64(-6.8452830188679314)], z: [np.float64(16.6789667896678966), np.float64(11.607547169811326)]

Conexion: x: [np.float64(53.19557195571956), np.float64(48.87248322147651)], y: [np.float64(-11.291 512915129147), np.float64(-4.919463087248317)], z: [np.float64(16.678966789667896), np.float64(15.8 32214765108673)]

Conexion: x: [np.float64(57.5108359133127), np.float64(-58.40466926070039)], y: [np.float64(-13.708
978328173373), np.float64(-26.210116731517516)], z: [np.float64(13.87616099071208), np.float64(22.2
64591439688715)]

Conexion: x: [np.float64(57.5108359133127), np.float64(61.65853658536585)], y: [np.float64(-13.7089
78328173373), np.float64(-24.512195121951223)], z: [np.float64(13.87616099071208), np.float64(22.91
056910591053)]

Conexion: x: [np.float64(57.5108359133127), np.float64(-52.10788381742739)], y: [np.float64(-13.708 978328173373), np.float64(-22.43983402489627)], z: [np.float64(13.87616099071208), np.float64(10.04 0705313232)]

Conexion: x: [np.float64(57.5108359133127), np.float64(57.080882352941174)], y: [np.float64(-13.708
978328173373), np.float64(-27.183823529411768)], z: [np.float64(13.87616099071208), np.float64(12.5
5147058823529]]

Conexion: x: [np.float64(57.5108359133127), np.float64(57.832699619771866)], y: [np.float64(-13.708
978328173373), np.float64(-20.00760456273764)], z: [np.float64(13.87616099071208), np.float64(9.140
684410646386)]

Conexion: x: [np.float64(49.80377358490566), np.float64(48.87248322147651)], y: [np.float64(-6.8452
830188679314), np.float64(-4.919463087248317)], z: [np.float64(11.607547169811326), np.float64(15.8
32214765100673)]

Conexion: x: [np.float64(49.80377358490566), np.float64(51.52873563218391)], y: [np.float64(-6.8452
830188679314), np.float64(4.22988505747125)], z: [np.float64(11.607547169811326), np.float64(5.4367
81609195407)]

Conexion: x: [np.float64(48.87248322147651), np.float64(51.52873563218391)], y: [np.float64(-4.9194

886792452825)]

Conexion: x: [np.float64(-4.392452830188674), np.float64(-4.782608695652172)], y: [np.float64(49.16 981132075472), np.float64(39.565217391304344)], z: [np.float64(-17.932075471698113), np.float64(-2 1.762845849802375)]

Conexion: x: [np.float64(-4.392452830188674), np.float64(7.361216730038024)], y: [np.float64(49.169
81132075472), np.float64(31.787072243346017)], z: [np.float64(-17.932075471698113), np.float64(-18.
235741444866918)]

Conexion: x: [np.float64(-4.392452830188674), np.float64(6.67619047619047)], y: [np.float64(49.1698 1132075472), np.float64(50.9047619047619)], z: [np.float64(-17.932075471698113), np.float64(-18.742 85714285714)]

Conexion: x: [np.float64(-4.782608695652172), np.float64(7.361216730038024)], y: [np.float64(39.565 217391304344), np.float64(31.787072243346017)], z: [np.float64(-21.762845849802375), np.float64(-1 8.235741444866918)]

Conexion: x: [np.float64(-4.782608695652172), np.float64(6.67619047619047)], y: [np.float64(39.5652 17391304344), np.float64(50.9047619047619)], z: [np.float64(-21.762845849802375), np.float64(-18.74 285714285714)]

Conexion: x: [np.float64(9.647058823529406), np.float64(7.361216730038024)], y: [np.float64(24.3235 29411764696), np.float64(31.787072243346017)], z: [np.float64(-21.13235294117647), np.float64(-18.2 35741444866918)]

Conexion: x: [np.float64(7.361216730038024), np.float64(6.67619047619047)], y: [np.float64(31.78707
2243346017), np.float64(50.9047619047619)], z: [np.float64(-18.235741444866918), np.float64(-18.742
85714285714)]

Conexion: x: [np.float64(-45.52287581699346), np.float64(-48.415430267062305)], y: [np.float64(-14.
169934640522882), np.float64(-15.821958456973292)], z: [np.float64(12.503267973856211), np.float64
(14.492581602373889)]

Conexion: x: [np.float64(-45.52287581699346), np.float64(-47.27516778523491)], y: [np.float64(-14.1
69934640522882), np.float64(-0.6577181208053702)], z: [np.float64(12.503267973856211), np.float64
(8.053691275167779)]

Conexion: x: [np.float64(-45.52287581699346), np.float64(49.80377358490566)], y: [np.float64(-14.16
9934640522882), np.float64(-6.8452830188679314)], z: [np.float64(12.503267973856211), np.float64(1
1.607547169811326)]

Conexion: x: [np.float64(-45.52287581699346), np.float64(-58.40466926070039)], y: [np.float64(-14.1
69934640522882), np.float64(-26.210116731517516)], z: [np.float64(12.503267973856211), np.float64(2
2.264591439688715)]

Conexion: x: [np.float64(-48.415430267062305), np.float64(-48.571428571428584)], y: [np.float64(-1
5.821958456973292), np.float64(0.673469387755091)], z: [np.float64(14.492581602373889), np.float64
(13.13653061224488)]

Conexion: x: [np.float64(-48.415430267062305), np.float64(-47.27516778523491)], y: [np.float64(-15.821958456973329), np.float64(-0.6577181208053702)], z: [np.float64(14.492581602373889), np.float64 (8.053691275167779)]

Conexion: x: [np.float64(-48.415430267062305), np.float64(57.5108359133127)], y: [np.float64(-15.82 1958456973292), np.float64(-13.708978328173373)], z: [np.float64(14.492581602373889), np.float64(1 3.87616099071208)]

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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ProyectoF_

63087248317), np.float64(4.22988505747125)], z: [np.float64(15.832214765100673), np.float64(5.43678 1609195407)]

Conexion: x: [np.float64(48.87248322147651), np.float64(8.006622516556291)], y: [np.float64(-4.9194
63087248317), np.float64(-2.4635761589403984)], z: [np.float64(15.832214765100673), np.float64(52.0
9933774834437)]

Conexion: x: [np.float64(51.52873563218391), np.float64(58.77922077922078)], y: [np.float64(4.22988
505747125), np.float64(5.748917748917762)], z: [np.float64(5.436781609195407), np.float64(-5.792207
79220779)]

Conexion: x: [np.float64(-5.765957446808514), np.float64(-2.606837606837601)], y: [np.float64(-1.97
16312056737593), np.float64(12.0)], z: [np.float64(50.99290780141844), np.float64(55.2735042735042
7)]

Conexion: x: [np.float64(-5.765957446808514), np.float64(-5.4444444444443)], y: [np.float64(-1.97 16312056737593), np.float64(-15.230158730158735)], z: [np.float64(50.99290780141844), np.float64(5 6.0952380952381)]

Conexion: x: [np.float64(-5.765957446808514), np.float64(-3.75)], y: [np.float64(-1.971631205673759 3), np.float64(-2.146551724137936)], z: [np.float64(50.99290780141844), np.float64(62.7586206896551 74)]

Conexion: x: [np.float64(-5.765957446808514), np.float64(8.006622516556291)], y: [np.float64(-1.971 6312056737593), np.float64(-2.4635761589403984)], z: [np.float64(50.99290780141844), np.float64(52. 09933774834437)]

Conexion: x: [np.float64(-5.765957446808514), np.float64(-7.229090909090914)], y: [np.float64(-1.97 16312056737593), np.float64(-22.81454545454545453)], z: [np.float64(50.99290780141844), np.float64(4. 465454545454545485)]

Conexion: x: [np.float64(-5.765957446808514), np.float64(-14.693140794223822)], y: [np.float64(-1.9716312056737593), np.float64(-15.653429602888082)], z: [np.float64(50.99290780141844), np.float64(7.812274368231044)]

Conexion: x: [np.float64(-2.606837606837601), np.float64(-4.55230125523012)], y: [np.float64(12.0), np.float64(17.054393305439334)], z: [np.float64(55.27350427350427), np.float64(47.84937238493724)] Conexion: x: [np.float64(-2.606837606837601), np.float64(-3.75)], y: [np.float64(12.0), np.float64

Conexion: x: [np.float64(-2.06083/60083/601), np.float64(-3./5)], y: [np.float64(12.0), np.float64(-2.46551724137936)], z: [np.float64(55.27350427350427), np.float64(62.758620689655174)]
Conexion: x: [np.float64(-2.606837606837601), np.float64(7.942446043165461)], y: [np.float64(12.0), np.float64(14.050359712230204)], z: [np.float64(55.27350427350427), np.float64(49.99280575539568)]
Conexion: x: [np.float64(-2.606837606837601), np.float64(6.018018018018012)], y: [np.float64(12.0), np.float64(9.360360360360360374)], z: [np.float64(55.27350427350427), np.float64(59.297297297297297)]
Conexion: x: [np.float64(-6.9795918367346985), np.float64(-5.66666666666671)], y: [np.float64(12.3

Conexion: x: [np.float64(-6.9795918367346985), np.float64(-5.6666666666671)], y: [np.float64(12.3 75510204081621), np.float64(20.91397849462365)], z: [np.float64(66.64489795918368), np.float64(62.0 3225806451613)]

Conexion: x: [np.float64(-6.9795918367346985), np.float64(-8.33777777777777)], y: [np.float64(12.3 75510204081621), np.float64(2.3733333333333)], z: [np.float64(66.64489795918368), np.float64(69.6 53333333333334)]

Conexion: x: [np.float64(-6.9795918367346985), np.float64(7.577889447236174)], y: [np.float64(12.375510204081621), np.float64(12.050251256281399)], z: [np.float64(66.64489795918368), np.float64(64.

0)]

Conexion: x: [np.float64(-4.55230125523012), np.float64(7.942446043165461)], y: [np.float64(17.0543 93305439334), np.float64(14.050359712230204)], z: [np.float64(47.84937238493724), np.float64(49.992 80575539568)1

Conexion: x: [np.float64(-7.984126984126988), np.float64(-3.75)], y: [np.float64(-7.24603174603174 7), np.float64(-2.146551724137936)], z: [np.float64(71.32539682539684), np.float64(62.7586206896551

Conexion: x: [np.float64(-7.984126984126988), np.float64(-8.3377777777777)], y: [np.float64(-7.24 6031746031747), np.float64(2.37333333333333)], z: [np.float64(71.32539682539684), np.float64(69.65 333333333331)

Conexion: x: [np.float64(-7.984126984126988), np.float64(7.629893238434164)], y: [np.float64(-7.246 031746031747), np.float64(-14.313167259786482)], z: [np.float64(71.32539682539684), np.float64(71.1 9572953736656)]

Conexion: x: [np.float64(-7.984126984126988), np.float64(6.11888111888112)], y: [np.float64(-7.2460 31746031747), np.float64(-11.258741258741253)], z: [np.float64(71.32539682539684), np.float64(60.93 706293706293)1

Conexion: x: [np.float64(-5.44444444444444), np.float64(6.11888111888112)], y: [np.float64(-15.230 158730158735), np.float64(-11.258741258741253)], z: [np.float64(56.0952380952381), np.float64(60.93 706293706293)]

Conexion: x: [np.float64(-3.75), np.float64(-8.3377777777777)], y: [np.float64(-2.14655172413793 6), np.float64(2.3733333333333)], z: [np.float64(62.758620689655174), np.float64(69.6533333333333 4)1

Conexion: x: [np.float64(-3.75), np.float64(6.01801801801801)], y: [np.float64(-2.14655172413793 6), np.float64(9.360360360360374)], z: [np.float64(62.758620689655174), np.float64(59.2972972972 9)]

Conexion: x: [np.float64(-3.75), np.float64(6.11888111888112)], y: [np.float64(-2.146551724137936), np.float64(-11.258741258741253)], z: [np.float64(62.758620689655174), np.float64(60.9370629370629 3)1

Conexion: x: [np.float64(-3.75), np.float64(8.006622516556291)], y: [np.float64(-2.14655172413793 6), np.float64(-2.4635761589403984)], z: [np.float64(62.758620689655174), np.float64(52.09933774834 437)]

Conexion: x: [np.float64(-3.75), np.float64(9.450980392156865)], y: [np.float64(-2.14655172413793 6), np.float64(-1.1450980392156822)], z: [np.float64(62.758620689655174), np.float64(70.34509803921 569)1

Conexion: x: [np.float64(7.629893238434164), np.float64(9.450980392156865)], y: [np.float64(-14.313 167259786482), np.float64(-1.1450980392156822)], z: [np.float64(71.19572953736656), np.float64(70.3 4509803921569)]

Conexion: x: [np.float64(7.942446043165461), np.float64(6.018018018018012)], y: [np.float64(14.0503 59712230204), np.float64(9.360360360360374)], z: [np.float64(49.99280575539568), np.float64(59.2972

Conexion: x: [np.float64(7.942446043165461), np.float64(8.006622516556291)], y: [np.float64(14.0503 59712230204), np.float64(-2.4635761589403984)], z: [np.float64(49.99280575539568), np.float64(52.09 933774834437)1

Conexion: x: [np.float64(12.732283464566933), np.float64(7.577889447236174)], y: [np.float64(14.204

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Conexion: x: [np.float64(-55.79919678714859), np.float64(-55.14960629921259)], y: [np.float64(-43.1 64658634538156), np.float64(-36.7244094488189)], z: [np.float64(25.510040160642575), np.float64(19. 039370078740163)]

Conexion: x: [np.float64(-55.671875), np.float64(-56.669387755102036)], y: [np.float64(-25.625), n p.float64(-34.02448979591837)], z: [np.float64(34.265625), np.float64(32.734693877551024)]

Conexion: x: [np.float64(-55.671875), np.float64(54.384313725490195)], y: [np.float64(-25.625), np. float64(-28.031372549019608)], z: [np.float64(34.265625), np.float64(38.831372549019605)]

Conexion: x: [np.float64(-56.669387755102036), np.float64(61.65853658536585)], y: [np.float64(-34.0 2448979591837), np.float64(-24.512195121951223)], z: [np.float64(32.734693877551024), np.float64(2 2,910569105691053)1

Conexion: x: [np.float64(-56.669387755102036), np.float64(58.20083682008368)], y: [np.float64(-34.0 2448979591837), np.float64(-32.32635983263599)], z: [np.float64(32.734693877551024), np.float64(30.

Conexion: x: [np.float64(59.506726457399104), np.float64(56.66914498141264)], y: [np.float64(-38.84 3049327354265), np.float64(-44.75836431226766)], z: [np.float64(26.896860986547082), np.float64(31. 36059479553903)1

Conexion: x: [np.float64(59.506726457399104), np.float64(58.20083682008368)], y: [np.float64(-38.84 3049327354265), np.float64(-32.32635983263599)], z: [np.float64(26.896860986547082), np.float64(30. 35146443514644)]

Conexion: x: [np.float64(59.506726457399104), np.float64(55.2129963898917)], y: [np.float64(-38.843 049327354265), np.float64(-47.068592057761734)], z: [np.float64(26.896860986547082), np.float64(18.

Conexion: x: [np.float64(59.506726457399104), np.float64(58.30711610486891)], y: [np.float64(-38.84 3049327354265), np.float64(-37.752808988764045)], z: [np.float64(26.896860986547082), np.float64(1 9.101123595505612)]

Conexion: x: [np.float64(61.65853658536585), np.float64(61.24229074889868)], y: [np.float64(-24.512 195121951223), np.float64(-20.22026431718062)], z: [np.float64(22.910569105691053), np.float64(28.9 51541850220266)]

Conexion: x: [np.float64(61.65853658536585), np.float64(58.20083682008368)], y: [np.float64(-24.512 195121951223), np.float64(-32.32635983263599)], z: [np.float64(22.910569105691053), np.float64(30.3 5146443514644)]

Conexion: x: [np.float64(61.65853658536585), np.float64(57.080882352941174)], y: [np.float64(-24.51 2195121951223), np.float64(-27.183823529411768)], z: [np.float64(22.910569105691053), np.float64(1 2,55147058823529)1

Conexion: x: [np.float64(61.24229074889868), np.float64(58.20083682008368)], y: [np.float64(-20.220 26431718062), np.float64(-32.32635983263599)], z: [np.float64(28.951541850220266), np.float64(30.35 146443514644)]

Conexion: x: [np.float64(54.384313725490195), np.float64(58.20083682008368)], y: [np.float64(-28.03 1372549019608), np.float64(-32.32635983263599)], z: [np.float64(38.831372549019605), np.float64(30. 35146443514644)]

Conexion: x: [np.float64(54.384313725490195), np.float64(51.72363636363636)], y: [np.float64(-28.0 31372549019608), np.float64(-32.5454545454545455)], z: [np.float64(38.831372549019605), np.float64(4

72440944883), np.float64(12.050251256281399)], z: [np.float64(64.78740157480314), np.float64(64.0)] Conexion: x: [np.float64(7.577889447236174), np.float64(6.018018018018012)], y: [np.float64(12.050251256281399), np.float64(9.360360360360374)], z: [np.float64(64.0), np.float64(59.2972972972972)] Conexion: x: [np.float64(6.018018018018012), np.float64(8.006622516556291)], y: [np.float64(9.36036 0360360374), np.float64(-2.4635761589403984)], z: [np.float64(59.29729729729729), np.float64(52.099 33774834437)]

Conexion: x: [np.float64(6.11888111888112), np.float64(8.006622516556291)], y: [np.float64(-11.2587 41258741253), np.float64(-2.4635761589403984)], z: [np.float64(60.93706293706293), np.float64(52.09 933774834437)1

Conexion: x: [np.float64(6.11888111888112), np.float64(9.450980392156865)], y: [np.float64(-11.2587 41258741253), np.float64(-1.1450980392156822)], z: [np.float64(60.93706293706293), np.float64(70.34 509803921569)]

Conexion: x: [np.float64(-54.13654618473896), np.float64(-55.79919678714859)], y: [np.float64(-46.1 8473895582329), np.float64(-43.164658634538156)], z: [np.float64(30.955823293172685), np.float64(2 5,510040160642575)]

Conexion: x: [np.float64(-54.13654618473896), np.float64(-56.669387755102036)], y: [np.float64(-46. 18473895582329), np.float64(-34.02448979591837)], z: [np.float64(30.955823293172685), np.float64(3 2.734693877551024)1

Conexion: x: [np.float64(-58.40466926070039), np.float64(-55.671875)], y: [np.float64(-26.210116731 517516), np.float64(-25.625)], z: [np.float64(22.264591439688715), np.float64(34.265625)]

Conexion: x: [np.float64(-58.40466926070039), np.float64(-56.669387755102036)], y: [np.float64(-26. 210116731517516), np.float64(-34.02448979591837)], z: [np.float64(22.264591439688715), np.float64(3 2,734693877551024)1

Conexion: x: [np.float64(-58.40466926070039), np.float64(61.65853658536585)], y: [np.float64(-26.21 0116731517516), np.float64(-24.512195121951223)], z: [np.float64(22.264591439688715), np.float64(2 2.910569105691053)]

Conexion: x: [np.float64(-58.40466926070039), np.float64(61.24229074889868)], y: [np.float64(-26.21 0116731517516), np.float64(-20.22026431718062)], z: [np.float64(22.264591439688715), np.float64(28. 951541850220266)]

Conexion: x: [np.float64(-58.40466926070039), np.float64(58.20083682008368)], y: [np.float64(-26.21 0116731517516), np.float64(-32.32635983263599)], z: [np.float64(22.264591439688715), np.float64(30. 35146443514644)]

Conexion: x: [np.float64(-58.40466926070039), np.float64(-55.14960629921259)], y: [np.float64(-26.2 10116731517516), np.float64(-36.7244094488189)], z: [np.float64(22.264591439688715), np.float64(19. 039370078740163)1

Conexion: x: [np.float64(-58.40466926070039), np.float64(57.080882352941174)], y: [np.float64(-26.2 10116731517516), np.float64(-27.183823529411768)], z: [np.float64(22.264591439688715), np.float64(1 2.55147058823529)]

Conexion: x: [np.float64(-55.79919678714859), np.float64(-56.669387755102036)], y: [np.float64(-43. 164658634538156), np.float64(-34.02448979591837)], z: [np.float64(25.510040160642575), np.float64(3 2.734693877551024)1

Conexion: x: [np.float64(-55.79919678714859), np.float64(-53.82517482517483)], y: [np.float64(-43.1 64658634538156), np.float64(-44.328671328671334)], z: [np.float64(25.510040160642575), np.float64(1

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Conexion: x: [np.float64(56.66914498141264), np.float64(56.04166666666664)], y: [np.float64(-44.75 836431226766), np.float64(-40.150000000000000)], z: [np.float64(31.36059479553903), np.float64(40.4 583333333333)]

Conexion: x: [np.float64(56.66914498141264), np.float64(55.2129963898917)], y: [np.float64(-44.7583 6431226766), np.float64(-47.068592057761734)], z: [np.float64(31.36059479553903), np.float64(18.122

Conexion: x: [np.float64(56.04166666666664), np.float64(51.72363636363636)], y: [np.float64(-40.1 5000000000000), np.float64(-32.54545454545455)], z: [np.float64(40.4583333333333), np.float64(43. 272727272727266)1

Conexion: x: [np.float64(-45.30000000000001), np.float64(-38.61044176706827)], y: [np.float64(0.390 90909090910486), np.float64(-7.5421686746988)], z: [np.float64(-38.31818181818182), np.float64(-37. 53413654618474)]

Conexion: x: [np.float64(-45.30000000000001), np.float64(-47.09473684210528)], y: [np.float64(0.390 90909090910486), np.float64(-15.315789473684205)], z: [np.float64(-38.318181818181812), np.float64(-30.252631578947366)]

Conexion: x: [np.float64(-45.30000000000001), np.float64(-54.042735042735046)], y: [np.float64(0.39 (-30,24786324786325)]

Conexion: x: [np.float64(-45.30000000000001), np.float64(-42.39603960396039)], y: [np.float64(0.390 909090910486), np.float64(5.069306930693074)], z: [np.float64(-38.31818181818182), np.float64(-3 6.71287128712871)]

Conexion: x: [np.float64(-45.30000000000001), np.float64(50.0722891566265)], y: [np.float64(0.39090 909090910486), np.float64(4.204819277108442)], z: [np.float64(-38.318181818182), np.float64(-40.9 8795180722892)]

Conexion: x: [np.float64(-54.32075471698113), np.float64(-56.61290322580646)], y: [np.float64(-59.5 7232704402516), np.float64(-49.5241935483871)], z: [np.float64(-10.3333333333333333), np.float64(-1 4.975806451612904)]

Conexion: x: [np.float64(-54.32075471698113), np.float64(-50.9469964664311)], y: [np.float64(-59.57 232704402516), np.float64(-53.90106007067138)], z: [np.float64(-10.3333333333333), np.float64(-1

9,32862190812721)1 Conexion: x: [np.float64(-54.32075471698113), np.float64(50.76086956521739)], y: [np.float64(-59.57

232704402516), np.float64(-63.91847826086956)], z: [np.float64(-10.3333333333333), np.float64(-1 3.570652173913047)] Conexion: x: [np.float64(-54.32075471698113), np.float64(54.70918367346939)], y: [np.float64(-59.57

232704402516), np.float64(-57.95408163265306)], z: [np.float64(-10.33333333333333), np.float64(-8. 25)1

Conexion: x: [np.float64(-54.32075471698113), np.float64(-54.33600000000001)], y: [np.float64(-59.5 7232704402516), np.float64(-57.592)], z: [np.float64(-10.3333333333333), np.float64(-0.9440000000 000026)1

Conexion: x: [np.float64(-56.61290322580646), np.float64(-57.94354838709677)], y: [np.float64(-49.5 241935483871), np.float64(-41.016129032258064)], z: [np.float64(-14.975806451612904), np.float64(-1 8,33064516129032)1

Conexion: x: [np.float64(-56.61290322580646), np.float64(-50.9469964664311)], y: [np.float64(-49.52 $41935483871), \; np. \; float 64 (-53.90106007067138)], \; z: \; [np. \; float 64 (-14.975806451612904), \; np. \; float 64 (-19.875806451612904), \; np. \; float 64 (-19.87$ 32862190812721)]

Conexion: x: [np.float64(-56.61290322580646), np.float64(-57.41176470588235)], y: [np.float64(-49.5 241935483871), np.float64(-46.78151260504201)], z: [np.float64(-14.975806451612904), np.float64(-7. 17647058823529)]

Conexion: x: [np.float64(-57.94354838709677), np.float64(-57.11587982832617)], y: [np.float64(-41.0 16129032258064), np.float64(-34.86695278969957)], z: [np.float64(-18.33064516129032), np.float64(-2 2.858369098712444)]

Conexion: x: [np.float64(-57.94354838709677), np.float64(-45.3333333333333)], y: [np.float64(-41.0 16129032258064), np.float64(-38.586956521739125)], z: [np.float64(-18.33064516129032), np.float64(-22.014492753623188)]

Conexion: x: [np.float64(-57.94354838709677), np.float64(56.62015503875969)], y: [np.float64(-41.01 6129032258064), np.float64(-37.13953488372093)], z: [np.float64(-18.33064516129032), np.float64(-2 3.02325581395349)]

Conexion: x: [np.float64(-38.61044176706827), np.float64(-43.029629629629625)], y: [np.float64(-7.5 421686746988), np.float64(-26.1037037037037)], z: [np.float64(-37.53413654618474), np.float64(-23.8 37037037037035)]

Conexion: x: [np.float64(-38.61044176706827), np.float64(-47.09473684210528)], y: [np.float64(-7.54 21686746988), np.float64(-15.315789473684205)], z: [np.float64(-37.53413654618474), np.float64(-30. 252631578947366)]

Conexion: x: [np.float64(-43.029629629629629), np.float64(-47.09473684210528)], y: [np.float64(-26. 1037037037037), np.float64(-15.315789473684205)], z: [np.float64(-23.837037037037037), np.float64(-30.252631578947366)]

 $1037037037037), \; np.float \\ 64(-38.586956521739125)], \; z: \; [np.float \\ 64(-23.837037037037035), \; np.float \\ 64(-38.586956521739125)], \; z: \; [np.float \\ 64(-23.837037037037035), \; np.float \\ 64(-38.586956521739125)], \; z: \; [np.float \\ 64(-$ 22,014492753623188)1

Conexion: x: [np.float64(-43.029629629629625), np.float64(-56.061135371179034)], y: [np.float64(-2 6.1037037037037), np.float64(-22.585152838427945)], z: [np.float64(-23.837037037037035), np.float64 (-24.41048034934498)]

Conexion: x: [np.float64(-54.042735042735046), np.float64(-52.90836653386455)], y: [np.float64(-10. 299145299145295), np.float64(-3.04382470119522)], z: [np.float64(-30.24786324786325), np.float64(-2 6,677290836653384)1

Conexion: x: [np.float64(-54.042735042735046), np.float64(-59.29966329966331)], y: [np.float64(-10. 2991452991, np.float64(-15.91919191919191)], z: [np.float64(-30.24786324786325), np.float64 (-18.96969696969697)]

86695278969957), np.float64(-37.30038022813689)], z: [np.float64(-22.858369098712444), np.float64(-

Conexion: x: [np.float64(-50.9469964664311), np.float64(-45.3333333333333)], y: [np.float64(-53.90 106007067138), np.float64(-38.586956521739125)], z: [np.float64(-19.32862190812721), np.float64(-2 2.014492753623188)]

Conexion: x: [np.float64(-42.39603960396), np.float64(-48.079681274900395)], y: [np.float64(5.06

1,516483516483518)]

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6631016042793), np.float64(-4.752475247524757)], z: [np.float64(-36.780748663101605), np.float64(-4 0.17821782178218)]

Conexion: x: [np.float64(52.20320855614973), np.float64(56.84137931034483)], y: [np.float64(-2.7486 631016042793), np.float64(-3.4758620689655118)], z: [np.float64(-36.780748663101605), np.float64(-2 5,172413793103445)1

Conexion: x: [np.float64(50.76086956521739), np.float64(54.70918367346939)], y: [np.float64(-63.918 47826086956), np.float64(-57.95408163265306)], z: [np.float64(-13.570652173913047), np.float64(-8.2

Conexion: x: [np.float64(50.76086956521739), np.float64(55.02013422818792)], y: [np.float64(-63.918 65771812080537)]

Conexion: x: [np.float64(50.76086956521739), np.float64(47.43873517786561)], y: [np.float64(-63.918 47826086956), np.float64(-69.77075098814228)], z: [np.float64(-13.570652173913047), np.float64(5.01 1857707509876)]

 ${\tt Conexion: x: [np.float64(37.74324324324), np.float64(50.0722891566265)], y: [np.float64(4.7027021324324)] and {\tt conexion: x: [np.float64(37.74324324324)] and {\tt conexion: x: [np.float64(37.74324324)] and {\tt conexion: x: [np.float64(37.74324)] and {\tt c$ 702702709), np.float64(4.204819277108442)], z: [np.float64(-41.87837837837838), np.float64(-40.9879 5180722892)1

Conexion: x: [np.float64(37.74324324324324), np.float64(42.63366336634)], y: [np.float64(4.7027 02702702709), np.float64(-4.752475247524751)], z: [np.float64(-41.87837837837838), np.float64(-40.1 7821782178218)]

Conexion: x: [np.float64(37.74324324324324), np.float64(28.80916030534351)], y: [np.float64(4.70270 2702702709), np.float64(12.297709923664115)], z: [np.float64(-41.87837837837838), np.float64(-38.93 893129770992)1

Conexion: x: [np.float64(63.38541666666667), np.float64(56.62015503875969)], y: [np.float64(-28.614 5833333333), np.float64(-37.13953488372093)], z: [np.float64(-21.114583333333336), np.float64(-23. 02325581395349)]

Conexion: x: [np.float64(63.3854166666667), np.float64(62.82527881040892)], y: [np.float64(-28.614 5833333333), np.float64(-27.992565055762086)], z: [np.float64(-21.11458333333333), np.float64(-1 1.278810408921935)]

Conexion: x: [np.float64(50.0722891566265), np.float64(42.63366336634)], y: [np.float64(4.20481 9277108442), np.float64(-4.752475247524757)], z: [np.float64(-40.98795180722892), np.float64(-40.17 821782178218)]

Conexion: x: [np.float64(54.70918367346939), np.float64(55.02013422818792)], y: [np.float64(-57.954 08163265306), np.float64(-49.61744966442953)], z: [np.float64(-8.25), np.float64(-16.6577181208053

Conexion: x: [np.float64(54.70918367346939), np.float64(56.48484848484848)], y: [np.float64(-57.95 9)1

Conexion: x: [np.float64(54.70918367346939), np.float64(52.00892857142857)], y: [np.float64(-57.954 $08163265306), \; \mathsf{np.float64(-62.49107142857143)]}, \; \mathsf{z:} \; \; [\mathsf{np.float64(-8.25)}, \; \mathsf{np.float64(1.446428571428569)}], \; \mathsf{np.float64(-8.25)}, \; \mathsf{np.float64(1.446428571428569)}]$

9306930693074), np.float64(12.621513944223096)], z: [np.float64(-36.71287128712871), np.float64(-3 1.322709163346616)]

Conexion: x: [np.float64(-42.39603960396), np.float64(-37.208163265306126)], y: [np.float64(5.06 9306930693074), np.float64(17.03673469387755)], z: [np.float64(-36.71287128712871), np.float64(-35. 926530612244896)]

Conexion: x: [np.float64(-56.061135371179034), np.float64(-59.29966329966331)], y: [np.float64(-22. 585152838427945), np.float64(-15.919191919191917)], z: [np.float64(-24.41048034934498), np.float64 (-18.96969696969697)]

Conexion: x: [np.float64(-13.68503937007874), np.float64(-11.224137931034477)], y: [np.float64(17.2 2834645669292), np.float64(10.09482758620689)], z: [np.float64(10.228346456692918), np.float64(7.53 4482758620683)1

Conexion: x: [np.float64(-7.402390438247011), np.float64(-11.224137931034477)], y: [np.float64(14.4 46215139442245), np.float64(10.09482758620689)], z: [np.float64(-4.5179282868525945), np.float64(7. 534482758620683)]

Conexion: x: [np.float64(-7.402390438247011), np.float64(15.160784313725486)], y: [np.float64(14.44 6215139442245), np.float64(20.60392156862744)], z: [np.float64(-4.5179282868525945), np.float64(-0. 666666666666714)]

Conexion: x: [np.float64(-7.402390438247011), np.float64(9.24897959183673)], y: [np.float64(14.4462 15139442245), np.float64(11.983673469387753)], z: [np.float64(-4.5179282868525945), np.float64(1.36 32653061224431)]

Conexion: x: [np.float64(-15.0311111111111116), np.float64(-11.224137931034477)], y: [np.float64(-4. 40000000000000), np.float64(10.09482758620689)], z: [np.float64(20.2311111111111105), np.float64(7.

Conexion: x: [np.float64(-15.0311111111111116), np.float64(16.60833333333333)], y: [np.float64(-4.40000000000000), np.float64(-3.241666666666)], z: [np.float64(20.2311111111111105), np.float64(19.

Conexion: x: [np.float64(-11.224137931034477), np.float64(16.889763779527556)], y: [np.float64(10.0 9482758620689), np.float64(12.99212598425197)], z: [np.float64(7.534482758620683), np.float64(12.48 8188976377955)]

Conexion: x: [np.float64(-11.224137931034477), np.float64(15.160784313725486)], y: [np.float64(10.0 9482758620689), np.float64(20.60392156862744)], z: [np.float64(7.534482758620683), np.float64(-0.66 6666666666714)]

Conexion: x: [np.float64(-11.224137931034477), np.float64(9.24897959183673)], y: [np.float64(10.094 82758620689), np.float64(11.983673469387753)], z: [np.float64(7.534482758620683), np.float64(1.3632 653061224431)]

Conexion: x: [np.float64(59.5), np.float64(48.87586206896552)], y: [np.float64(-19.75), np.float64 (-16.944827586206898)], z: [np.float64(-25.9090909090907), np.float64(-29.420689655172417)] Conexion: x: [np.float64(59.5), np.float64(63.38541666666667)], y: [np.float64(-19.75), np.float64 (-28.6145833333333)], z: [np.float64(-25.909090909090907), np.float64(-21.114583333333336)] $\hbox{Conexion: x: [np.float64(59.5), np.float64(62.890625)], y: [np.float64(-19.75), np.float64(-14.37)] } \\$

5)], z: [np.float64(-25.909090909090907), np.float64(-19.515625)] Conexion: x: [np.float64(52.20320855614973), np.float64(58.08791208791209)], y: [np.float64(-2.7486

631016042793), np.float64(-8.769230769230774)], z: [np.float64(-36.780748663101605), np.float64(-3

Conexion: x: [np.float64(51.55425219941349), np.float64(55.02013422818792)], y: [np.float64(-43.648 09384164222), np.float64(-49.61744966442953)], z: [np.float64(-24.18181818181818), np.float64(-16.6 5771812080537)]

Conexion: x: [np.float64(51.55425219941349), np.float64(56.62015503875969)], y: [np.float64(-43.648 09384164222), np.float64(-37.13953488372093)], z: [np.float64(-24.18181818181818), np.float64(-23.0 2325581395349)1

Conexion: x: [np.float64(60.498141263940525), np.float64(55.02013422818792)], y: [np.float64(-42.85 501858736059), np.float64(-49.61744966442953)], z: [np.float64(-14.401486988847587), np.float64(-1 6,65771812080537)]

Conexion: x: [np.float64(60.498141263940525), np.float64(56.62015503875969)], y: [np.float64(-42.85 501858736059), np.float64(-37.13953488372093)], z: [np.float64(-14.401486988847587), np.float64(-2 3.02325581395349)]

Conexion: x: [np.float64(60.498141263940525), np.float64(61.048780487804876)], y: [np.float64(-42.8 5501858736059), np.float64(-39.08943089430895)], z: [np.float64(-14.401486988847587), np.float64(-9.22764227642277)]

501858736059), np.float64(-46.43333333333333)], z: [np.float64(-14.401486988847587), np.float64(-4. 158333333333331)]

Conexion: x: [np.float64(58.08791208791209), np.float64(56.84137931034483)], y: [np.float64(-8.7692 $30769230774), \; np. \; float64(-3.4758620689655118)], \; z: \; [np. float64(-31.516483516483518), \; np. float64(-21.516483518)], \; rp. float64(-21.516483518)]$ 5.172413793103445)]

Conexion: x: [np.float64(-60.91970802919707), np.float64(-59.12863070539419)], y: [np.float64(-26.9 70802919708035), np.float64(-18.116182572614107)], z: [np.float64(-10.248175182481752), np.float64 (-11.219917012448136)]

Conexion: x: [np.float64(-60.91970802919707), np.float64(-61.74429223744292)], y: [np.float64(-26.9 70802919708035), np.float64(-33.98173515981735)], z: [np.float64(-10.248175182481752), np.float64(-3,4520547945205493)1

Conexion: x: [np.float64(-60.91970802919707), np.float64(-60.692015209125486)], y: [np.float64(-26. 970802919708035), np.float64(-37.30038022813689)], z: [np.float64(-10.248175182481752), np.float64 (-12.136882129277566)]

Conexion: x: [np.float64(-60.83703703703705), np.float64(-57.5490909090909)], y: [np.float64(-42.1 55555555555), np.float64(-44.42181818181818)], z: [np.float64(-0.8888888888888887), np.float64(6. 530909090909091)]

Conexion: x: [np.float64(-60.83703703703705), np.float64(-57.41176470588235)], y: [np.float64(-42.1 55555555555), np.float64(-46.78151260504201)], z: [np.float64(-0.8888888888888887), np.float64(-7.17647058823529)]

Conexion: x: [np.float64(-60.83703703703705), np.float64(-62.16788321167883)], y: [np.float64(-42.1 55555555555), np.float64(-29.890510948905103)], z: [np.float64(-0.8888888888888887), np.float64

Conexion: x: [np.float64(-60.83703703703705), np.float64(-61.74429223744292)], y: [np.float64(-42.1 5555555555), np.float64(-33.98173515981735)], z: [np.float64(-0.88888888888887), np.float64(-3.4520547945205493)1

Conexion: x: [np.float64(-47.20187793427229), np.float64(-53.52678571428572)], y: [np.float64(-57.4

ProyectoF_Zaira 36619718309856), np.float64(-51.21428571428571)], z: [np.float64(17.981220657276992), np.float64(1 5.580357142857139)] Conexion: x: [np.float64(-47.20187793427229), np.float64(-49.939086294416256)], y: [np.float64(-57. 1.17766497461929)] Conexion: x: [np.float64(-47.20187793427229), np.float64(-44.478048780487796)], y: [np.float64(-57. 436619718309856), np.float64(-66.79024390243902)], z: [np.float64(17.981220657276992), np.float64(1 7.014634146341464)] Conexion: x: [np.float64(-54.6778523489933), np.float64(-52.90836653386455)], y: [np.float64(-5.429530201342288), np.float64(-3.04382470119522)], z: [np.float64(-15.583892617449663), np.float64(-26. 677290836653384)1 Conexion: x: [np.float64(-54.6778523489933), np.float64(-59.12863070539419)], y: [np.float64(-5.429 530201342288), np.float64(-18.116182572614107)], z: [np.float64(-15.583892617449663), np.float64(-1 Conexion: x: [np.float64(-54.6778523489933), np.float64(-59.29966329966331)], y: [np.float64(-5.429 530201342288), np.float64(-15.9191919191919191)], z: [np.float64(-15.583892617449663), np.float64(-1 8,96969696969697)] 4.42194092827004)] Conexion: x: [np.float64(-54.6778523489933), np.float64(-50.021052631578954)], y: [np.float64(-5.42 9530201342288), np.float64(-1.431578947368422)], z: [np.float64(-15.583892617449663), np.float64(-1

0.260/017435900)] Conexion: x: [np.float64(-52.90836653386455), np.float64(-51.60337552742615)], y: [np.float64(-3.04 382470119522), np.float64(1.7974683544303787)], z: [np.float64(-26.677290836653384), np.float64(-2 4.42194092827004)]

Conexion: x: [np.float64(-52.90836653386455), np.float64(-48.079681274900395)], y: [np.float64(-3.0
4382470119522), np.float64(12.621513944223096)], z: [np.float64(-26.677290836653384), np.float64(-3
1.322709163346616)]

Conexion: x: [np.float64(-52.90836653386455), np.float64(-37.208163265396126)], y: [np.float64(-3.04382470119522), np.float64(17.03673469387755)], z: [np.float64(-26.677290836653384), np.float64(-35.926530612244896)]

Conexion: x: [np.float64(-59.12863070539419), np.float64(-59.5655172413793)], y: [np.float64(-18.11 6182572614107), np.float64(-16.868965517241378)], z: [np.float64(-11.219917012448136), np.float64(-33.737931034482756)]

Conexion: x: [np.float64(-59.12863070539419), np.float64(-59.29966329966331)], y: [np.float64(-18.1 16182572614107), np.float64(-15.919191919191917)], z: [np.float64(-11.219917012448136), np.float64 (-18.96969696969697)]

Conexion: x: [np.float64(-57.54999090909992), np.float64(-62.16788321167883)], y: [np.float64(-44.4
2181818181818), np.float64(-29.890510948905103)], z: [np.float64(6.530909090909091), np.float64(2.6
715328467153228)]

Conexion: x: [np.float64(-57.54909090909092), np.float64(-53.52678571428572)], y: [np.float64(-44.4 218181818181), np.float64(-51.21428571428571)], z: [np.float64(6.530909090909091), np.float64(15.5

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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ProyectoF_Zair

Conexion: x: [np.float64(-59.5655172413793), np.float64(57.991379310344826)], y: [np.float64(-16.86
8965517241378), np.float64(-4.09482758620689)], z: [np.float64(-3.737931034482756), np.float64(-5.2
06896551724142)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(56.44843049327354)], y: [np.float64(-16.868
965517241378), np.float64(-17.38116591928251)], z: [np.float64(-3.737931034482756), np.float64(2.18
92409071749919)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(58.86852589641434)], y: [np.float64(-16.868
965517241378), np.float64(-15.81673306772909)], z: [np.float64(-3.737931034482756), np.float64(-3.6
414342629482093)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(57.53310104529617)], y: [np.float64(-16.868
965517241378), np.float64(-25.54703832752614)], z: [np.float64(-3.737931034482756), np.float64(1.17
77003484320545)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(-61.74429223744292)], y: [np.float64(-29.8 90510948905103), np.float64(-33.98173515981735)], z: [np.float64(2.6715328467153228), np.float64(-33.4520547945205493)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(64.15899581589957)], y: [np.float64(-29.89 0510948905103), np.float64(-24.26778242677824)], z: [np.float64(2.6715328467153228), np.float64(-8. 31799163179916)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(-55.94238683127571)], y: [np.float64(-29.8 90510948905103), np.float64(-27.588477366255148)], z: [np.float64(2.6715328467153228), np.float64 (8.156378600823047)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(-53.0749999999999)], y: [np.float64(-29.8
90510948905103), np.float64(-18.299999999999)], z: [np.float64(2.6715328467153228), np.float64
(3.191666666666666)]

%00378053780537805378054717 Conexion: x: [np.float64(-62.16788321167883), np.float64(-55.87179487179486)], y: [np.float64(-29.8 90510948905103), np.float64(-33.91452991452991)], z: [np.float64(2.6715328467153228), np.float64(1 2.7777777777777)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(59.86865573770492)], y: [np.float64(-29.89 0510948905103), np.float64(-32.786885245901644)], z: [np.float64(2.6715328467153228), np.float64(7.729508196721312)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(56.44843049327354)], y: [np.float64(-29.89 0510948905103), np.float64(-17.38116591928251)], z: [np.float64(2.6715328467153228), np.float64(2.1 883408071748818)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(58.86852589641434)], y: [np.float64(-29.89 0510948905103), np.float64(-15.81673306772909)], z: [np.float64(2.6715328467153228), np.float64(-3.6414342629482093)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(56.56677524429968)], y: [np.float64(-29.89

80357142857139)1

Conexion: x: [np.float64(-57.54909090909092), np.float64(-52.994818652849744)], y: [np.float64(-44.
4218181818181), np.float64(-54.73575129533678)], z: [np.float64(6.530909090909091), np.float64(6.1
86528497449337)]

Conexion: x: [np.float64(-57.54909090909092), np.float64(59.3416666666667)], y: [np.float64(-44.42
181818181818), np.float64(-39.1833333333333)], z: [np.float64(6.5309090909090)], np.float64(4.275
000000000000)]

Conexion: x: [np.float64(-57.54909090909092), np.float64(-53.82517482517483)], y: [np.float64(-44.4
2181818181818), np.float64(-44.328671328671334)], z: [np.float64(6.5309090909091), np.float64(16.
27972027972028)]

Conexion: x: [np.float64(-57.54909090909092), np.float64(-55.87179487179486)], y: [np.float64(-44.4
2181818181818), np.float64(-33.91452991452991)], z: [np.float64(6.53090909090909)], np.float64(12.7
7777777777771)]

Conexion: x: [np.float64(-57.41176470588235), np.float64(-60.692015209125486)], y: [np.float64(-46.78151260504201), np.float64(-37.30038022813689)], z: [np.float64(-7.17647058823529), np.float64(-1 2.136882129277566)]

Conexion: x: [np.float64(-48.180257510729604), np.float64(-49.939086294416256)], y: [np.float64(-65.76824034334764), np.float64(-59.4010152284264)], z: [np.float64(4.472103004291839), np.float64(1 1.17766497461929)]

Conexion: x: [np.float64(-48.180257510729604), np.float64(-54.33600000000001)], y: [np.float64(-65.76824034334764), np.float64(-57.592)], z: [np.float64(4.472103004291839), np.float64(-0.944000000000000000000)]

Conexion: x: [np.float64(-48.180257510729604), np.float64(52.00892857142857)], y: [np.float64(-65.7 6824034334764), np.float64(-62.49107142857143)], z: [np.float64(4.472103004291839), np.float64(1.44 64285714285694)]

Conexion: x: [np.float64(-48.180257510729604), np.float64(47.43873517786561)], y: [np.float64(-65.7
6824034334764), np.float64(-69.77075098814228)], z: [np.float64(4.472103004291839), np.float64(5.01
1857707509876)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(-62.16788321167883)], y: [np.float64(-16.86
8965517241378), np.float64(-29.890510948905103)], z: [np.float64(-3.737931034482756), np.float64(2.6715328467153228)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(-53.291338582677156)], y: [np.float64(-16.8 68965517241378), np.float64(-3.3622047244094517)], z: [np.float64(-3.737931034482756), np.float64(-4.314960629921259)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(-55.94238683127571)], y: [np.float64(-16.86 8965517241378), np.float64(-27.588477366255148)], z: [np.float64(-3.737931034482756), np.float64(8.156378600823047)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(-53.07499999999999)], y: [np.float64(-16.86
8965517241378), np.float64(-18.299999999999)], z: [np.float64(-3.737931034482756), np.float64(3.
191666666666663)]

Conexion: x: [np.float64(-59.5655172413793), np.float64(-52.23938223938225)], y: [np.float64(-16.86
8965517241378), np.float64(-10.91119691119691)], z: [np.float64(-3.737931034482756), np.float64(-0.8339768339768339768341)]

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Proyecto

0510948905103), np.float64(-5.433224755700323)], z: [np.float64(2.6715328467153228), np.float64(-1 0.54071661237785)]

Conexion: x: [np.float64(-62.16788321167883), np.float64(57.53310104529617)], y: [np.float64(-29.89 0510948905103), np.float64(-25.54703832752614)], z: [np.float64(2.6715328467153228), np.float64(1.1 777003484320545)]

Conexion: x: [np.float64(-53.52678571428572), np.float64(-52.994818652849744)], y: [np.float64(-51. 21428571428571), np.float64(-54.73575129533678)], z: [np.float64(15.580357142857139), np.float64(6. 186528497409327)]

Conexion: x: [np.float64(-53.52678571428572), np.float64(-53.82517482517483)], y: [np.float64(-51.2
1428571428571428571), np.float64(-44.328671328671334)], z: [np.float64(15.580357142857139), np.float64(1
6.27972027972028)]

Conexion: x: [np.float64(-61.74429223744292), np.float64(-60.692015209125486)], y: [np.float64(-33. 98173515981735), np.float64(-37.30038022813689)], z: [np.float64(-3.4520547945205493), np.float64(-12.136882129277566)]

Conexion: x: [np.float64(-49.939086294416256), np.float64(-44.478048780487796)], y: [np.float64(-5
9.4010152284264), np.float64(-66.79024390243902)], z: [np.float64(11.17766497461929), np.float64(1
7.014634146341464)]

Conexion: x: [np.float64(-49.939086294416256), np.float64(-52.994818652849744)], y: [np.float64(-5
9.4010152284264), np.float64(-54.73575129533678)], z: [np.float64(11.17766497461929), np.float64(6.
186528497409327)]

Conexion: x: [np.float64(-54.33600000000001), np.float64(-52.994818652849744)], y: [np.float64(-57.592), np.float64(-54.73575129533678)], z: [np.float64(-0.94400000000000026), np.float64(6.1865284974 09327)]

Conexion: x: [np.float64(-54.33600000000001), np.float64(56.48484848484848481), y: [np.float64(-57.5
92), np.float64(-54.343434343434343)], z: [np.float64(-0.94400000000000006), np.float64(1.444444444444444)]

Conexion: x: [np.float64(-44.478848788487796), np.float64(51.20987654320087)], y: [np.float64(-66.7 9024390243902), np.float64(-60.592592592592595)], z: [np.float64(17.0146341463414634), np.float64(1 8.288065843621396)]

Conexion: x: [np.float64(-44.478048780487796), np.float64(47.654901960784315)], y: [np.float64(-66.79024390243902), np.float64(-68.11764705882354)], z: [np.float64(17.014634146341464), np.float64(16.572549019607848)]

0.3/254901900/648]] Conexion: x: [np.float64(-51.60337552742615), np.float64(56.84137931034483)], y: [np.float64(1.7974 683544303787), np.float64(-3.4758620689655118)], z: [np.float64(-24.42194092827004), np.float64(-2

5.172413793103445)]
Conexion: x: [np.float64(-51.60337552742615), np.float64(-48.079681274900395)], y: [np.float64(1.79

74683544303787), np.float64(12.621513944223096)], z: [np.float64(-24.42194092827004), np.float64(-3 1.322709163346616)] conexion: x: [np.float64(-52.994818652849744), np.float64(59.133333333333)], y: [np.float64(-54.7 3575129533678), np.float64(-4.1 333333333334)], z: [np.float64(6.186528497409327), np.float64(-4.1

5833333333333)]
Conexion: x: [np.float64(62.57959183673469), np.float64(59.3416666666667)], y: [np.float64(-34.906

12244897959), np.float64(-39.1833333333334)], z: [np.float64(-3.395918367346937), np.float64(4.275

141414141412)]

949790794973)]

274368231047)1

970212765957449)]

78810408921935)]

4342629482093)]

003484320545)]

41414141412)]

7949790794973)1

64285714285694)]

5833333333331)1

3.6414342629482093)]

0.54071661237785)]

Conexion: x: [np.float64(54.94308943089431), np.float64(53.86610878661088)], y: [np.float64(-50.715

44715447155), np.float64(-58.89539748953975)], z: [np.float64(14.113821138211378), np.float64(9.907

Conexion: x: [np.float64(54.94308943089431), np.float64(55.2129963898917)], y: [np.float64(-50.7154

4715447155), np.float64(-47.068592057761734)], z: [np.float64(14.113821138211378), np.float64(18.12

Conexion: x: [np.float64(64.15899581589957), np.float64(62.170212765957444)], y: [np.float64(-24.26

 $778242677824), \; \mathsf{np.float64(-13.821276595744678)]}, \; \mathsf{z:} \; [\mathsf{np.float64(-8.31799163179916)}, \; \mathsf{np.float64(-12.31799163179916)}], \; \mathsf{np.float64(-12.31799163179916)}, \; \mathsf{np.float64(-12.31799163179916)}], \; \mathsf{np.float64(-13.821276595744678)}], \; \mathsf{np.float64(-13.82127659574678)}]$

Conexion: x: [np.float64(64.15899581589957), np.float64(62.82527881040892)], y: [np.float64(-24.267

78242677824), np.float64(-27.992565055762086)], z: [np.float64(-8.31799163179916), np.float64(-11.2

Conexion: x: [np.float64(64.15899581589957), np.float64(58.86852589641434)], y: [np.float64(-24.267

78242677824), np.float64(-15.81673306772909)], z: [np.float64(-8.31799163179916), np.float64(-3.641

Conexion: x: [np.float64(64.15899581589957), np.float64(57.53310104529617)], y: [np.float64(-24.267

78242677824), np.float64(-25.54703832752614)], z: [np.float64(-8.31799163179916), np.float64(1.1777

Conexion: x: [np.float64(56.48484848484848484), np.float64(56.23232323232323)], y: [np.float64(-54.34 3434343434), np.float64(-46.75757575757575)], z: [np.float64(1.44444444444429), np.float64(5.41

Conexion: x: [np.float64(56.48484848484848484), np.float64(53.86610878661088)], y: [np.float64(-54.34

3434343434), np.float64(-58.89539748953975)], z: [np.float64(1.444444444444429), np.float64(9.90

Conexion: x: [np.float64(56.48484848484848484), np.float64(52.00892857142857)], y: [np.float64(-54.34

3434343434), np.float64(-62.49107142857143)], z: [np.float64(1.44444444444449), np.float64(1.44

Conexion: x: [np.float64(56.484848484848484), np.float64(59.133333333333)], y: [np.float64(-54.34

3434343434), np.float64(-46.4333333333333)], z: [np.float64(1.44444444444444429), np.float64(-4.1

Conexion: x: [np.float64(62.170212765957444), np.float64(62.890625)], y: [np.float64(-13.8212765957

1276595744678), np.float64(-15.81673306772909)], z: [np.float64(-12.970212765957449), np.float64(-

Conexion: x: [np.float64(62.170212765957444), np.float64(56.56677524429968)], y: [np.float64(-13.82

44678), np.float64(-14.375)], z: [np.float64(-12.970212765957449), np.float64(-19.515625)]

ProyectoF_Zaira 0000000000006) Conexion: x: [np.float64(62.57959183673469), np.float64(64.15899581589957)], y: [np.float64(-34.906 12244897959), np.float64(-24.26778242677824)], z: [np.float64(-3.395918367346937), np.float64(-8.31 799163179916)] Conexion: x: [np.float64(62.57959183673469), np.float64(61.048780487804876)], y: [np.float64(-34.90 612244897959), np.float64(-39.08943089430895)], z: [np.float64(-3.395918367346937), np.float64(-9.2 2764227642277)] Conexion: x: [np.float64(62.57959183673469), np.float64(62.82527881040892)], y: [np.float64(-34.906 12244897959), np.float64(-27.992565055762086)], z: [np.float64(-3.395918367346937), np.float64(-11. 278810408921935)] Conexion: x: [np.float64(62.57959183673469), np.float64(57.53310104529617)], y: [np.float64(-34.906 12244897959), np.float64(-25.54703832752614)], z: [np.float64(-3.395918367346937), np.float64(1.177 7003484320545)] Conexion: x: [np.float64(59.3416666666667), np.float64(56.23232323232323)], y: [np.float64(-39.183 3333333334), np.float64(-46.7575757575757575)], z: [np.float64(4.275000000000006), np.float64(5.4141 41414141412)] Conexion: x: [np.float64(59.3416666666667), np.float64(59.1333333333333)], y: [np.float64(-39.183 $333333334), \; np. \; float64(-46.43333333333334)], \; z: \; [np. \; float64(4.27500000000000), \; np. \; float64(-4.158)], \; rp. \; float64(-4.158), \;$ 33333333331)1 Conexion: x: [np.float64(59.3416666666667), np.float64(59.86065573770492)], y: [np.float64(-39.183 3333333334), np.float64(-32.786885245901644)], z: [np.float64(4.27500000000000), np.float64(7.729 508196721312)] Conexion: x: [np.float64(57.508532423208194), np.float64(56.84137931034483)], y: [np.float64(0.8873 720136518841), np.float64(-3.4758620689655118)], z: [np.float64(-21.351535836177476), np.float64(-2 5,172413793103445)1 Conexion: x: [np.float64(57.508532423208194), np.float64(51.93162393162393)], y: [np.float64(0.8873 720136518841), np.float64(12.760683760683747)], z: [np.float64(-21.351535836177476), np.float64(-3 1.1111111111111111)] Conexion: x: [np.float64(57.508532423208194), np.float64(57.92825112107624)], y: [np.float64(0.8873 720136518841), np.float64(9.659192825112115)], z: [np.float64(-21.351535836177476), np.float64(-21. 98206278026906)] Conexion: x: [np.float64(57.508532423208194), np.float64(56.56677524429968)], y: [np.float64(0.8873 720136518841), np.float64(-5.433224755700323)], z: [np.float64(-21.351535836177476), np.float64(-1 0.54071661237785)] ${\tt Conexion: x: [np.float64(51.20987654320987), np.float64(54.94308943089431)], y: [np.float64(-60.59287), np.float64(-60.59287), np.fl$ 592592595), np.float64(-50.71544715447155)], z: [np.float64(18.288065843621396), np.float64(14.1 13821138211378)] Conexion: x: [np.float64(51.20987654320987), np.float64(47.654901960784315)], y: [np.float64(-60.59 2592592595), np.float64(-68.11764705882354)], z: [np.float64(18.288065843621396), np.float64(16. 572549019607848)] Conexion: x: [np.float64(51.20987654320987), np.float64(53.86610878661088)], y: [np.float64(-60.592

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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29/11/24, 11:38 p.m 33333333331)1

7949790794973)1

Conexion: x: [np.float64(61.048780487804876), np.float64(59.1333333333333)], y: [np.float64(-39.08 943089430895), np.float64(-46.4333333333333)], z: [np.float64(-9.22764227642277), np.float64(-4.15 833333333331)]

5925925959), np.float64(-58.89539748953975)], z: [np.float64(18.288065843621396), np.float64(9.90

Conexion: x: [np.float64(62.890625), np.float64(56.84137931034483)], y: [np.float64(-14.375), np.fl oat64(-3.4758620689655118)], z: [np.float64(-19.515625), np.float64(-25.172413793103445)]

Conexion: x: [np.float64(53.86610878661088), np.float64(52.00892857142857)], y: [np.float64(-58.895 39748953975), np.float64(-62.49107142857143)], z: [np.float64(9.907949790794973), np.float64(1.4464 285714285694)1

Conexion: x: [np.float64(52.00892857142857), np.float64(47.43873517786561)], y: [np.float64(-62.491 07142857143), np.float64(-69.77075098814228)], z: [np.float64(1.4464285714285694), np.float64(5.011 857707509876)]

Conexion: x: [np.float64(-48.079681274900395), np.float64(-37.208163265306126)], y: [np.float64(12. 621513944223096), np.float64(17.03673469387755)], z: [np.float64(-31.322709163346616), np.float64(-35.926530612244896)]

Conexion: x: [np.float64(-37.208163265306126), np.float64(-25.32046332046332)], y: [np.float64(17.0 3673469387755), np.float64(10.424710424710412)], z: [np.float64(-35.926530612244896), np.float64(-3 8.75675675675676)]

Conexion: x: [np.float64(-37.208163265306126), np.float64(51.93162393162393)], y: [np.float64(17.03 $673469387755), \; np. float \\ 64(12.760683760683747)], \; z: \; [np. float \\ 64(-35.926530612244896), \; np. float \\ 64(-36.92631612244896), \; np. float \\ 64(-36.926316124896), \; np. float \\ 64(-36.9263161896), \; np. flo$

Conexion: x: [np.float64(-37.208163265306126), np.float64(-33.699604743083)], y: [np.float64(17.036 73469387755), np.float64(18.189723320158095)], z: [np.float64(-35.926530612244896), np.float64(-27. 73913043478261)]

Conexion: x: [np.float64(-25.32046332046332), np.float64(-25.04905660377358)], y: [np.float64(10.42 4710424710412), np.float64(11.418867924528314)], z: [np.float64(-38.7567567567567), np.float64(-2

9,10188679245283)] Conexion: x: [np.float64(51.93162393162393), np.float64(45.45528455284553)], y: [np.float64(12.7606

83760683747), np.float64(14.21951219512195)], z: [np.float64(-31.11111111111111), np.float64(-37.3 739837398374)]

Conexion: x: [np.float64(51.93162393162393), np.float64(57.92825112107624)], y: [np.float64(12.7606 83760683747), np.float64(9.659192825112115)], z: [np.float64(-31.111111111111111), np.float64(-21.9 8206278026906)1

Conexion: x: [np.float64(45.45528455284553), np.float64(38.18018018018018)], y: [np.float64(14.2195 1219512195), np.float64(17.405405405405405418)], z: [np.float64(-37.3739837398374), np.float64(-36.972 972972972975)]

Conexion: x: [np.float64(57.92825112107624), np.float64(55.50597609561753)], y: [np.float64(9.65919 2825112115), np.float64(12.239043824701184)], z: [np.float64(-21.98206278026906), np.float64(-16.98

Conexion: x: [np.float64(38.18018018018018), np.float64(33.267515923566876)], y: [np.float64(17.405 405405405418), np.float64(14.923566878980893)], z: [np.float64(-36.972972972972975), np.float64(-2 8.35031847133758)1

Conexion: x: [np.float64(-33.699604743083), np.float64(-25.04905660377358)], y: [np.float64(18.1897

23320158095), np.float64(11.418867924528314)], z: [np.float64(-27.73913043478261), np.float64(-29.1 0188679245283)]

Conexion: x: [np.float64(-33.699604743083), np.float64(-42.74380165289256)], y: [np.float64(18.1897 23320158095), np.float64(19.39669421487602)], z: [np.float64(-27.73913043478261), np.float64(-22.78 512396694215)]

Conexion: x: [np.float64(-51.652830188679246), np.float64(-47.699999999999)], y: [np.float64(7.99 2452830188682), np.float64(13.0)], z: [np.float64(-12.671698113207547), np.float64(-15.169230769230

Conexion: x: [np.float64(-51.652830188679246), np.float64(53.11372549019608)], y: [np.float64(7.992 $452830188682), \; np. float \\ 64(13.858823529411751)], \; z: \; [np. float \\ 64(-12.671698113207547), \; np. float \\ 64(-12.67169811207547), \; np. float \\ 64(-12.67169811207547), \; np. float \\ 64(-12.67169811207547), \; np. float \\ 64(-12.67169811207547),$

1,788235294117648)] Conexion: x: [np.float64(-51.652830188679246), np.float64(-50.021052631578954)], y: [np.float64(7.9

92452830188682), np.float64(-1.431578947368422)], z: [np.float64(-12.671698113207547), np.float64(-10.280701754385966)] Conexion: x: [np.float64(-47.699999999999), np.float64(-42.74380165289256)], y: [np.float64(13.

0), np.float64(19.39669421487602)], z: [np.float64(-15.169230769230772), np.float64(-22.78512396694 215)1

Conexion: x: [np.float64(-47.699999999999), np.float64(55.50597609561753)], y: [np.float64(13.0), np.float64(12.239043824701184)], z: [np.float64(-15.169230769230772), np.float64(-16.9880478087649

np.float64(13.858823529411751)], z: [np.float64(-15.169230769230772), np.float64(-11.78823529411764

Conexion: x: [np.float64(44.041811846689896), np.float64(33.267515923566876)], y: [np.float64(18.76 655052264809), np.float64(14.923566878980893)], z: [np.float64(-23.79094076655052), np.float64(-28. 35031847133758)]

Conexion: x: [np.float64(55.50597609561753), np.float64(53.11372549019608)], y: [np.float64(12.2390 43824701184), np.float64(13.858823529411751)], z: [np.float64(-16.98804780876494), np.float64(-11.7

88235294117648)] Conexion: x: [np.float64(53.11372549019608), np.float64(58.77922077922078)], y: [np.float64(13.8588

23529411751), np.float64(5.748917748917762)], z: [np.float64(-11.788235294117648), np.float64(-5.79 220779220779)]

Conexion: x: [np.float64(58.77922077922078), np.float64(-53.291338582677156)], y: [np.float64(5.748 917748917762), np.float64(-3.3622047244094517)], z: [np.float64(-5.79220779220779), np.float64(-4.3 14960629921259)]

Conexion: x: [np.float64(58.77922077922078), np.float64(-50.021052631578954)], y: [np.float64(5.748 917748917762), np.float64(-1.431578947368422)], z: [np.float64(-5.79220779220779), np.float64(-10.2

80701754385966)] Conexion: x: [np.float64(58.77922077922078), np.float64(57.991379310344826)], y: [np.float64(5.7489 17748917762), np.float64(-4.09482758620689)], z: [np.float64(-5.79220779220779), np.float64(-5.2068 96551724142)1

Conexion: x: [np.float64(-52.10788381742739), np.float64(-53.291338582677156)], y: [np.float64(-22. 43983402489627), np.float64(-3.3622047244094517)], z: [np.float64(10.049792531120332), np.float64(-

https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

1777003484320545)]

19166666666663)]

77777777777771)1

Conexion: x: [np.float64(-55.94238683127571), np.float64(-53.0749999999999)], y: [np.float64(-27.5

88477366255148), np.float64(-18.2999999999999)], z: [np.float64(8.156378600823047), np.float64(3.

Conexion: x: [np.float64(-55.94238683127571), np.float64(-55.87179487179486)], y: [np.float64(-27.5

88477366255148), np.float64(-33.91452991452991)], z: [np.float64(8.156378600823047), np.float64(12.

4.314960629921259)1 Conexion: x: [np.float64(-52.10788381742739), np.float64(-55.94238683127571)], y: [np.float64(-22.4 3983402489627), np.float64(-27.588477366255148)], z: [np.float64(10.049792531120332), np.float64(8. 156378600823047)] Conexion: x: [np.float64(-52.10788381742739), np.float64(-53.0749999999999)], y: [np.float64(-22.4 3983402489627), np.float64(-18.2999999999999)], z: [np.float64(10.049792531120332), np.float64(3. Conexion: x: [np.float64(-52.10788381742739), np.float64(-50.021052631578954)], y: [np.float64(-22. 43983402489627), np.float64(-1.431578947368422)], z: [np.float64(10.049792531120332), np.float64(-1 0.280701754385966)1 Conexion: x: [np.float64(-52.10788381742739), np.float64(-55.87179487179486)], y: [np.float64(-22.4 3983402489627), np.float64(-33.91452991452991)], z: [np.float64(10.049792531120332), np.float64(12. 77777777777771)] Conexion: x: [np.float64(-52.10788381742739), np.float64(59.86065573770492)], y: [np.float64(-22.43 983402489627), np.float64(-32.786885245901644)], z: [np.float64(10.049792531120332), np.float64(7.7 29508196721312)] Conexion: x: [np.float64(-52.10788381742739), np.float64(57.080882352941174)], y: [np.float64(-22.4 3983402489627), np.float64(-27.183823529411768)], z: [np.float64(10.049792531120332), np.float64(1 2,55147058823529)1 Conexion: x: [np.float64(-52.10788381742739), np.float64(57.991379310344826)], y: [np.float64(-22.4 3983402489627), np.float64(-4.09482758620689)], z: [np.float64(10.049792531120332), np.float64(-5.2 06896551724142)] Conexion: x: [np.float64(-52.10788381742739), np.float64(57.832699619771866)], y: [np.float64(-22.4 3983402489627), np.float64(-20.00760456273764)], z: [np.float64(10.049792531120332), np.float64(9.1

40684410646386)] Conexion: x: [np.float64(-52.10788381742739), np.float64(56.44843049327354)], y: [np.float64(-22.43 983402489627), np.float64(-17.38116591928251)], z: [np.float64(10.049792531120332), np.float64(2.18 83408071748818)]

Conexion: x: [np.float64(-52.10788381742739), np.float64(57.53310104529617)], y: [np.float64(-22.43 983402489627), np.float64(-25.54703832752614)], z: [np.float64(10.049792531120332), np.float64(1.17 77003484320545)1

Conexion: x: [np.float64(-53.291338582677156), np.float64(-50.021052631578954)], y: [np.float64(-3. 3622047244094517), np.float64(-1.431578947368422)], z: [np.float64(-4.314960629921259), np.float64 (-10.280701754385966)]

Conexion: x: [np.float64(-53.291338582677156), np.float64(-52.23938223938225)], y: [np.float64(-3.3 622047244094517), np.float64(-10.91119691119691)], z: [np.float64(-4.314960629921259), np.float64(-0.8339768339768341)1

Conexion: x: [np.float64(-53.291338582677156), np.float64(57.991379310344826)], y: [np.float64(-3.3 622047244094517), np.float64(-4.09482758620689)], z: [np.float64(-4.314960629921259), np.float64(-5.206896551724142)]

Conexion: x: [np.float64(-53.291338582677156). np.float64(56.56677524429968)]. v: [np.float64(-3.36 22047244094517), np.float64(-5.433224755700323)], z: [np.float64(-4.314960629921259), np.float64(-1 0.54071661237785)]

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99999999997), np.float64(-6.2878787878782)], z: [np.float64(3.1916666666663), np.float64(1.3 333333333333286)]

Conexion: x: [np.float64(-53.074999999999), np.float64(59.86065573770492)], y: [np.float64(-18.29 99999999997), np.float64(-32.786885245901644)], z: [np.float64(3.19166666666663), np.float64(7.7 29508196721312)]

Conexion: x: [np.float64(-53.0749999999999), np.float64(57.991379310344826)], y: [np.float64(-18.2 999999999997), np.float64(-4.09482758620689)], z: [np.float64(3.19166666666663), np.float64(-5.2 06896551724142)]

Conexion: x: [np.float64(-53.0749999999999), np.float64(57.832699619771866)], y: [np.float64(-18.2 999999999997), np.float64(-20.00760456273764)], z: [np.float64(3.19166666666663), np.float64(9.1 40684410646386)]

Conexion: x: [np.float64(-53.0749999999999), np.float64(56.44843049327354)], y: [np.float64(-18.29 99999999997), np.float64(-17.38116591928251)], z: [np.float64(3.19166666666663), np.float64(2.18

Conexion: x: [np.float64(-53.0749999999999), np.float64(58.86852589641434)], y: [np.float64(-18.29 99999999997), np.float64(-15.81673306772909)], z: [np.float64(3.19166666666663), np.float64(-3.6 414342629482093)1

Conexion: x: [np.float64(-53.0749999999999), np.float64(56.56677524429968)], y: [np.float64(-18.29 99999999997), np.float64(-5.433224755700323)], z: [np.float64(3.19166666666663), np.float64(-10. 54071661237785)]

Conexion: x: [np.float64(-53.074999999999), np.float64(57.53310104529617)], y: [np.float64(-18.29 99999999997), np.float64(-25.54703832752614)], z: [np.float64(3.19166666666663), np.float64(1.17

Conexion: x: [np.float64(-55.14960629921259), np.float64(-55.87179487179486)], y: [np.float64(-36.7 244094488189). np.float64(-33.91452991452991)]. z: [np.float64(19.039370078740163). np.float64(12.7 7777777777771)1

Conexion: x: [np.float64(-55.14960629921259), np.float64(58.30711610486891)], y: [np.float64(-36.72 44094488189), np.float64(-37.752808988764045)], z: [np.float64(19.039370078740163), np.float64(19.1 01123595505612)]

Conexion: x: [np.float64(-50.021052631578954), np.float64(57.991379310344826)], y: [np.float64(-1.4 31578947368422), np.float64(-4.09482758620689)], z: [np.float64(-10.280701754385966), np.float64(-5.206896551724142)]

Conexion: x: [np.float64(-52.23938223938225), np.float64(-55.87179487179486)], y: [np.float64(-10.9 2,7777777777771)1

Conexion: x: [np.float64(-52.23938223938225), np.float64(58.878787878787875)], y: [np.float64(-10.9 1119691119691), np.float64(-6.287878787878782)], z: [np.float64(-0.8339768339768341), np.float64(1. 333333333333286)]

Conexion: x: [np.float64(-52.23938223938225), np.float64(59.86065573770492)], y: [np.float64(-10.91 119691119691), np.float64(-32.786885245901644)], z: [np.float64(-0.8339768339768341), np.float64(7. 729508196721312)1

Conexion: x: [np.float64(-52.23938223938225), np.float64(57.991379310344826)], y: [np.float64(-10.9 1119691119691), np.float64(-4.09482758620689)], z: [np.float64(-0.8339768339768341), np.float64(-5.

Conexion: x: [np.float64(-55.94238683127571), np.float64(58.8787878787878787)], y: [np.float64(-27.5 88477366255148), np.float64(-6.287878787878782)], z: [np.float64(8.156378600823047), np.float64(1.3 33333333333286)]

Conexion: x: [np.float64(-55.94238683127571), np.float64(57.991379310344826)], y: [np.float64(-27.5 88477366255148), np.float64(-4.09482758620689)], z: [np.float64(8.156378600823047), np.float64(-5.2

06896551724142)] Conexion: x: [np.float64(-55.94238683127571), np.float64(57.832699619771866)], y: [np.float64(-27.5 88477366255148), np.float64(-20.00760456273764)], z: [np.float64(8.156378600823047), np.float64(9.1

40684410646386)] Conexion: x: [np.float64(-55.94238683127571), np.float64(56.44843049327354)], y: [np.float64(-27.58

8477366255148), np.float64(-17.38116591928251)], z: [np.float64(8.156378600823047), np.float64(2.18 83408071748818)] Conexion: x: [np.float64(-55.94238683127571), np.float64(58.86852589641434)], y: [np.float64(-27.58

8477366255148), np.float64(-15.81673306772909)], z: [np.float64(8.156378600823047), np.float64(-3.6 414342629482093)] Conexion: x: [np.float64(-55.94238683127571), np.float64(56.56677524429968)], y: [np.float64(-27.58

8477366255148), np.float64(-5.433224755700323)], z: [np.float64(8.156378600823047), np.float64(-10. 54071661237785)] Conexion: x: [np.float64(-55.94238683127571), np.float64(57.53310104529617)], y: [np.float64(-27.58

8477366255148), np.float64(-25.54703832752614)], z: [np.float64(8.156378600823047), np.float64(1.17 77003484320545)] Conexion: x: [np.float64(-53.82517482517483), np.float64(-55.14960629921259)], y: [np.float64(-44.3

28671328671334), np.float64(-36.7244094488189)], z: [np.float64(16.27972027972028), np.float64(19.0 39370078740163)1

Conexion: x: [np.float64(-53.82517482517483), np.float64(-55.87179487179486)], y: [np.float64(-44.3 77777777777771)]

Conexion: x: [np.float64(-53.0749999999999), np.float64(-52.23938223938225)], y: [np.float64(-18.2 999999999997), np.float64(-10.91119691119691)], z: [np.float64(3.19166666666663), np.float64(-0.91119691119691)]

Conexion: x: [np.float64(-53.0749999999999), np.float64(-55.87179487179486)], y: [np.float64(-18.2 999999999997), np.float64(-33.91452991452991)], z: [np.float64(3.1916666666663), np.float64(12. 77777777777771)1

Conexion: x: [np.float64(-53.0749999999999), np.float64(58.878787878787875)], y: [np.float64(-18.2

206896551724142)1

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Conexion: x: [np.float64(-52.23938223938225), np.float64(56.44843049327354)], y: [np.float64(-10.91 119691119691), np.float64(-17.38116591928251)], z: [np.float64(-0.8339768339768341), np.float64(2.1 883408071748818)]

Conexion: x: [np.float64(-52.23938223938225), np.float64(58.86852589641434)], y: [np.float64(-10.91 119691119691), np.float64(-15.81673306772909)], z: [np.float64(-0.8339768339768341), np.float64(-3. 6414342629482093)1

Conexion: x: [np.float64(-52.23938223938225), np.float64(56.56677524429968)], y: [np.float64(-10.91 119691119691), np.float64(-5.433224755700323)], z: [np.float64(-0.8339768339768341), np.float64(-1 0.54071661237785)]

Conexion: x: [np.float64(-52.23938223938225), np.float64(57.53310104529617)], y: [np.float64(-10.91 119691119691), np.float64(-25.54703832752614)], z: [np.float64(-0.8339768339768341), np.float64(1.1 777003484320545)]

Conexion: x: [np.float64(-55.87179487179486), np.float64(59.86065573770492)], y: [np.float64(-33.91 452991452991), np.float64(-32.786885245901644)], z: [np.float64(12.777777777777), np.float64(7.7 29508196721312)]

Conexion: x: [np.float64(-55.87179487179486), np.float64(57.080882352941174)], y: [np.float64(-33.9 1452991452991), np.float64(-27.183823529411768)], z: [np.float64(12.777777777771), np.float64(1 2,55147058823529)]

Conexion: x: [np.float64(-55.87179487179486), np.float64(56.44843049327354)], y: [np.float64(-33.91 452991452991), np.float64(-17.38116591928251)], z: [np.float64(12.7777777777771), np.float64(2.18 83408071748818)]

Conexion: x: [np.float64(58.878787878787875), np.float64(57.991379310344826)], y: [np.float64(-6.28 7878787878782), np.float64(-4.09482758620689)], z: [np.float64(1.333333333333333333366), np.float64(-5.2 06896551724142)]

Conexion: x: [np.float64(58.878787878787875), np.float64(57.832699619771866)], y: [np.float64(-6.28 7878787878782), np.float64(-20.00760456273764)], z: [np.float64(1.33333333333333386), np.float64(9.1 40684410646386)]

Conexion: x: [np.float64(58.878787878787875), np.float64(56.44843049327354)], y: [np.float64(-6.287 878787878782), np.float64(-17.38116591928251)], z: [np.float64(1.333333333333333286), np.float64(2.18 83408071748818)]

Conexion: x: [np.float64(58.878787878787875), np.float64(58.86852589641434)], y: [np.float64(-6.287 87878787878), np.float64(-15.81673306772909)], z: [np.float64(1.33333333333333286), np.float64(-3.6 414342629482093)]

Conexion: x: [np.float64(55.2129963898917), np.float64(58.30711610486891)], y: [np.float64(-47.0685 92057761734), np.float64(-37.752808988764045)], z: [np.float64(18.12274368231047), np.float64(19.10 1123595505612)]

Conexion: x: [np.float64(59.83399209486166), np.float64(59.86065573770492)], y: [np.float64(-35.707 50988142292), np.float64(-32.786885245901644)], z: [np.float64(13.296442687747032), np.float64(7.72 9508196721312)]

Conexion: x: [np.float64(59.83399209486166), np.float64(57.080882352941174)], y: [np.float64(-35.70 750988142292), np.float64(-27.183823529411768)], z: [np.float64(13.296442687747032), np.float64(12. 55147058823529)1

Conexion: x: [np.float64(59.83399209486166), np.float64(58.30711610486891)], y: [np.float64(-35.707 $50988142292), \; np.float64(-37.752808988764045)], \; z: \; [np.float64(13.296442687747032), \; np.float64(19.1288142292)], \; np.float64(19.1288142922)], \; np.float64(19.1288142922)]$ 01123595505612)

Conexion: x: [np.float64(59.86065573770492), np.float64(57.080882352941174)], y: [np.float64(-32.78 6885245901644), np.float64(-27.183823529411768)], z: [np.float64(7.729508196721312), np.float64(12. 55147058823529)]

Conexion: x: [np.float64(59.86065573770492), np.float64(57.53310104529617)], y: [np.float64(-32.786 885245901644), np.float64(-25.54703832752614)], z: [np.float64(7.729508196721312), np.float64(1.177 7003484320545)1

Conexion: x: [np.float64(57.080882352941174), np.float64(58.30711610486891)], y: [np.float64(-27.18 3823529411768), np.float64(-37.752808988764045)], z: [np.float64(12.55147058823529), np.float64(19. 101123595505612)]

Conexion: x: [np.float64(57.080882352941174), np.float64(57.832699619771866)], y: [np.float64(-27.1 83823529411768), np.float64(-20.00760456273764)], z: [np.float64(12.55147058823529), np.float64(9.1 40684410646386)]

Conexion: x: [np.float64(57.991379310344826), np.float64(58.86852589641434)], y: [np.float64(-4.094 82758620689), np.float64(-15.81673306772909)], z: [np.float64(-5.206896551724142), np.float64(-3.64 14342629482093)]

Conexion: x: [np.float64(57.991379310344826), np.float64(56.56677524429968)], y: [np.float64(-4.094 82758620689), np.float64(-5.433224755700323)], z: [np.float64(-5.206896551724142), np.float64(-10.5 4071661237785)]

Conexion: x: [np.float64(57.991379310344826), np.float64(57.53310104529617)], y: [np.float64(-4.094 82758620689), np.float64(-25.54703832752614)], z: [np.float64(-5.206896551724142), np.float64(1.177 7003484320545)]

Conexion: x: [np.float64(57.832699619771866), np.float64(56.44843049327354)], y: [np.float64(-20.00 760456273764), np.float64(-17.38116591928251)], z: [np.float64(9.140684410646386), np.float64(2.188 3408071748818)]

Conexion: x: [np.float64(57.832699619771866), np.float64(57.53310104529617)], y: [np.float64(-20.00 760456273764), np.float64(-25.54703832752614)], z: [np.float64(9.140684410646386), np.float64(1.177 7003484320545)]

Conexion: x: [np.float64(56.44843049327354), np.float64(58.86852589641434)], y: [np.float64(-17.381 16591928251), np.float64(-15.81673306772909)], z: [np.float64(2.1883408071748818), np.float64(-3.64 14342629482093)1

Conexion: x: [np.float64(56.44843049327354), np.float64(57.53310104529617)], y: [np.float64(-17.381 16591928251), np.float64(-25.54703832752614)], z: [np.float64(2.1883408071748818), np.float64(1.177 7003484320545)]

Conexion: x: [np.float64(58.86852589641434), np.float64(56.56677524429968)], y: [np.float64(-15.816 73306772909), np.float64(-5.433224755700323)], z: [np.float64(-3.6414342629482093), np.float64(-10.

Conexion: x: [np.float64(58.86852589641434), np.float64(57.53310104529617)], y: [np.float64(-15.816 73306772909), np.float64(-25.54703832752614)], z: [np.float64(-3.6414342629482093), np.float64(1.17 77003484320545)

Conexion: x: [np.float64(56.56677524429968), np.float64(57.53310104529617)], y: [np.float64(-5.4332

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29/11/24, 11:38 p.m (4.461538461538467)]

Conexion: x: [np.float64(-7.268656716417908), np.float64(11.120300751879697)], y: [np.float64(-11.0 07462686567166), np.float64(-20.21052631578948)], z: [np.float64(5.597014925373131), np.float64(11. 954887218045116)]

Conexion: x: [np.float64(-7.268656716417908), np.float64(8.902255639097746)], y: [np.float64(-11.00 7462686567166), np.float64(-11.94736842105263)], z: [np.float64(5.597014925373131), np.float64(3.74

Conexion: x: [np.float64(-7.268656716417908), np.float64(17.184905660377353)], y: [np.float64(-11.0 07462686567166). np.float64(-16.06037735849057)]. z: [np.float64(5.597014925373131). np.float64(6.7 01886792452825)]

Conexion: x: [np.float64(16.60833333333333), np.float64(16.889763779527556)], y: [np.float64(-3.24 16666666666), np.float64(12.99212598425197)], z: [np.float64(19.849999999999), np.float64(12.48 8188976377955)]

Conexion: x: [np.float64(16.889763779527556), np.float64(9.24897959183673)], y: [np.float64(12.9921 2598425197), np.float64(11.983673469387753)], z: [np.float64(12.488188976377955), np.float64(1.3632 653061224431)]

Conexion: x: [np.float64(15.160784313725486). np.float64(9.24897959183673)]. v: [np.float64(20.6039 2653061224431)1

Conexion: x: [np.float64(11.120300751879697), np.float64(8.902255639097746)], y: [np.float64(-20.21 052631578948), np.float64(-11.94736842105263)], z: [np.float64(11.954887218045116), np.float64(3.74 4360902255636)]

Conexion: x: [np.float64(11.120300751879697), np.float64(17.184905660377353)], y: [np.float64(-20.2 1052631578948), np.float64(-16.06037735849057)], z: [np.float64(11.954887218045116), np.float64(6.7 01886792452825)1

Conexion: x: [np.float64(11.120300751879697), np.float64(13.646153846153851)], y: [np.float64(-20.2 1052631578948), np.float64(-27.030769230769238)], z: [np.float64(11.954887218045116), np.float64(4. 461538461538467)]

Conexion: x: [np.float64(8.902255639097746), np.float64(17.184905660377353)], y: [np.float64(-11.94 736842105263), np.float64(-16.06037735849057)], z: [np.float64(3.744360902255636), np.float64(6.701 886792452825)]

Conexion: x: [np.float64(17.184905660377353), np.float64(13.646153846153851)], y: [np.float64(-16.0 6037735849057), np.float64(-27.030769230769238)], z: [np.float64(6.701886792452825), np.float64(4.4 61538461538467)]

Conexion: x: [np.float64(-3.418604651162795), np.float64(-4.538745387453872)], y: [np.float64(39.92 248062015503), np.float64(46.53874538745387)], z: [np.float64(10.170542635658919), np.float64(3.062 73062730628)]

Conexion: x: [np.float64(-4.040485829959508), np.float64(-3.03000000000001)], y: [np.float64(34.68 825910931173), np.float64(27.49000000000001)], z: [np.float64(23.603238866396765), np.float64(19.79 00000000000000)]

Conexion: x: [np.float64(-4.040485829959508), np.float64(-4.923857868020306)], y: [np.float64(34.68 825910931173), np.float64(15.319796954314711)], z: [np.float64(23.603238866396765), np.float64(27.7 3604060913705)1

29/11/24, 11:38 p.m ProyectoF_Zaira 24755700323), np.float64(-25.54703832752614)], z: [np.float64(-10.54071661237785), np.float64(1.177

7003484320545)] Conexion: x: [np.float64(-15.4000000000000000), np.float64(-7.2290909090914)], y: [np.float64(-25. 599999999994), np.float64(-22.8145454545453)], z: [np.float64(8.48571428571428), np.float64(4. 4654545454545485)1

Conexion: x: [np.float64(-15.4000000000000000), np.float64(-14.693140794223822)], y: [np.float64(-2 5.599999999999), np.float64(-15.653429602888082)], z: [np.float64(8.48571428571428), np.float64 (7.812274368231044)]

Conexion: x: [np.float64(-15.400000000000000), np.float64(11.120300751879697)], v: [np.float64(-25. 599999999994), np.float64(-20.21052631578948)], z: [np.float64(8.48571428571428), np.float64(11. 954887218045116)1

Conexion: x: [np.float64(-7.229090909090914), np.float64(-14.693140794223822)], y: [np.float64(-22. 8145454545453), np.float64(-15.653429602888082)], z: [np.float64(4.465454545454545), np.float64 (7.812274368231044)]

Conexion: x: [np.float64(-7.229090909090914), np.float64(-7.268656716417908)], y: [np.float64(-22.8 14545454545453), np.float64(-11.007462686567166)], z: [np.float64(4.46545454545454545), np.float64 (5.597014925373131)]

Conexion: x: [np.float64(-7.229090909090914), np.float64(11.120300751879697)], y: [np.float64(-22.8 14545454545453), np.float64(-20.21052631578948)], z: [np.float64(4.46545454545454545), np.float64(1 1.954887218045116)]

Conexion: x: [np.float64(-7.229090909090914), np.float64(8.902255639097746)], y: [np.float64(-22.81 45454545453), np.float64(-11.94736842105263)], z: [np.float64(4.465454545454545), np.float64(3.7 44360902255636)1

Conexion: x: [np.float64(-7.229090909090914), np.float64(17.184905660377353)], y: [np.float64(-22.8 145454545453), np.float64(-16.06037735849057)], z: [np.float64(4.46545454545454545), np.float64(6. 701886792452825)]

Conexion: x: [np.float64(-7.229090909090914), np.float64(13.646153846153851)], y: [np.float64(-22.8 145454545453), np.float64(-27.030769230769238)], z: [np.float64(4.465454545454545454), np.float64 (4.461538461538467)]

Conexion: x: [np.float64(-14.693140794223822), np.float64(-7.268656716417908)], y: [np.float64(-15. 653429602888082), np.float64(-11.007462686567166)], z: [np.float64(7.812274368231044), np.float64 (5.597014925373131)]

Conexion: x: [np.float64(-14.693140794223822). np.float64(11.120300751879697)], v: [np.float64(-15. 1,954887218045116)1

Conexion: x: [np.float64(-14.693140794223822), np.float64(8.902255639097746)], y: [np.float64(-15.6 53429602888082), np.float64(-11.94736842105263)], z: [np.float64(7.812274368231044), np.float64(3.7 44360902255636)]

Conexion: x: [np.float64(-14.693140794223822), np.float64(17.184905660377353)], y: [np.float64(-15. 653429602888082), np.float64(-16.06037735849057)], z: [np.float64(7.812274368231044), np.float64(6. 701886792452825)1

Conexion: x: [np.float64(-14.693140794223822), np.float64(13.646153846153851)], y: [np.float64(-15. 653429602888082), np.float64(-27.030769230769230)], z: [np.float64(7.812274368231044), np.float64

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Conexion: x: [np.float64(-3.030000000000001), np.float64(-4.923857868020306)], y: [np.float64(27.49 00000000001), np.float64(15.319796954314711)], z: [np.float64(19.79000000000000), np.float64(27.7 3604060913705)]

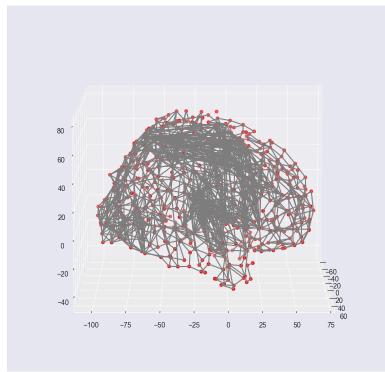
Conexion: x: [np.float64(-6.273127753303967), np.float64(-4.538745387453872)], y: [np.float64(34.70 484581497797), np.float64(46.53874538745387)], z: [np.float64(-5.092511013215855), np.float64(3.062 73062730628)]

Out[241]: <IPython.core.display.Image object>

ProyectoF_Zaira

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ProyectoF_Zaira



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ProyectoF_Zaira

3

• Encontrar los hubs del grafo, y establecer el tamaño del nodo proporcional al valor del grado

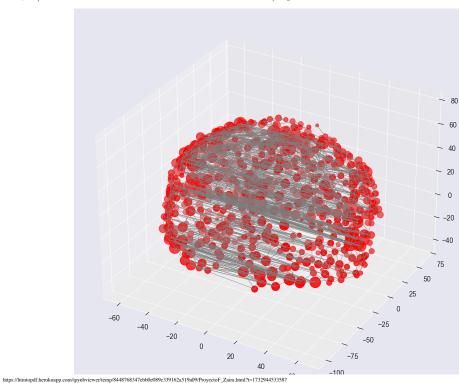
```
In [242]: pos = {node: coordinates[node] for node in graph.nodes()}

degree_dict = dict(graph.degree(graph.nodes()))
    nx.set_node_attributes(graph, degree_dict, 'degree')
    node_size = [degree * 20 for degree in degree_dict.values()]

fig = plt.figure(figsize=(10, 10))
    ax = fig.add_subplot(111, projection='3d')

nodes = np.array(list(pos.values()))
    ax.scatter(nodes[:, 0], nodes[:, 1], nodes[:, 2], c='red', s=node_size)
    for edge in graph.edges():
        start, end = pos[edge[0]], pos[edge[1]]
        ax.plot([start[0], end[0]], [start[1], end[1]], [start[2], end[2]], c='gray', linewidth=0.5)

plt.show()
```



https://htmtopdf.herokuapp.com/ipynbviewer/temp/8448768347ebb0e089e339162a519a09/ProyectoF_Zaira.html?t=1732944533587

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```
In [243]: hubs = sorted(degree_dict.items(), key=lambda x: x[1], reverse=True)[:5]
    print("Hubs del grafo (nodos con mayor grado):")
    for hub in hubs:
        print(f"Nodo: {hub[0]}, Grado: {hub[1]}")

    total_hub_nodes = len(hubs)
    total_hub_edges = sum([hub[1] for hub in hubs])
    print(f"Total de nodos de los hubs: {total_hub_nodes}")
    print(f"Total de conexiones de los hubs: {total_hub_edges}")

Hubs del grafo (nodos con mayor grado):
    Nodo: 400, Grado: 24
    Nodo: 235, Grado: 23
    Nodo: 330, Grado: 21
    Nodo: 485, Grado: 21
    Nodo: 485, Grado: 21
    Total de nodos de los hubs: 5
    Total de conexiones de los hubs: 111
```

4

 En función de la matriz de emparejamiento (correlación de la matriz de adyacencia), establecer una partición de los nodos en módulos. Escoger el número de módulos que creas conveniente y justificar por qué escogiste ese número.

```
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                                                                   ProyectoF_Zaira
     In [244]: | x, y, z = coordinates[:, 0], coordinates[:, 1], coordinates[:, 2]
                 min_value = np.min(coactivation_matrix)
                 max_value = np.max(coactivation_matrix)
                print("Valor minimo:", min_value)
print("Valor maximo:", max_value)
                 matriz_fil = np.where(coactivation_matrix >= 0.08, coactivation_matrix, 0)
                 matriz_sfil = np.corrcoef(coactivation_matrix)
                 matriz_correlacion = np.corrcoef(matriz_fil)
                 plt.figure(figsize=(15, 5))
                 plt.subplot(1, 2, 1)
                 sns.heatmap(coactivation_matrix, cmap='RdGy', vmin=min_value, vmax=max_value)
                 plt.title("Matriz de Correlación: Tipo Normal")
                 plt.subplot(1, 2, 2)
                 sns.heatmap(matriz_fil, cmap='RdGy', vmin=min_value, vmax=max_value)
                 plt.title("Matriz de Correlación: Tipo Filtrada")
                 plt.show()
```

ProyectoF_Zaira

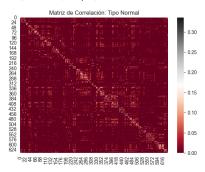
Valor mínimo: 0.0 Valor máximo: 0.3355263157894737

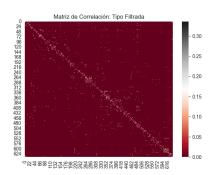
/Users/ZvalEnes/Library/Python/3.12/lib/python/site-packages/numpy/lib/_function_base_impl.py:2999: RuntimeWarning: invalid value encountered in divide

c /= stddev[:. None]

 $/Users/ZvalEnes/Library/Python/3.12/lib/python/site-packages/numpy/lib/_function_base_impl.py: 3000: 1.000 and 1.0$ RuntimeWarning: invalid value encountered in divide

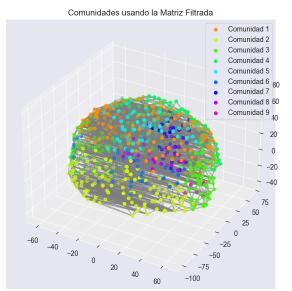
c /= stddev[None, :]





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```
In [245]: | G = nx.Graph()
           for i in range(matriz_fil.shape[0]):
               for j in range(i + 1, matriz_fil.shape[1]):
    if matriz_fil[i, j] > 0:
                        G.add_edge(i, j, weight=matriz_fil[i, j])
           # greedy_modularity_communities para detectar comunidades
           communities = list(nx.algorithms.community.greedy_modularity_communities(G))
           pos = {i: (x[i], y[i], z[i]) for i in range(matriz_fil.shape[0])}
           colors = sns.color_palette("hsv", len(communities))
           fig = plt.figure(figsize=(10, 7))
           ax = fig.add_subplot(111, projection='3d')
           for i, community in enumerate(communities):
               community_nodes = list(community)
               ax.scatter(x[community_nodes], y[community_nodes], z[community_nodes], color=colors[i], label=
           f'Comunidad {i+1}')
           for edge in G.edges():
               x_{coords} = [pos[edge[0]][0], pos[edge[1]][0]]
               y_coords = [pos[edge[0]][1], pos[edge[1]][1]]
z_coords = [pos[edge[0]][2], pos[edge[1]][2]]
               ax.plot(x_coords, y_coords, z_coords, color='gray', alpha=0.5)
           ax.set_title("Comunidades usando la Matriz Filtrada")
           ax.legend()
           plt.show()
           for i, community in enumerate(communities):
               print(f'Comunidad {i+1}: {list(community)}')
```

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```
Comunidad 1: [7, 16, 19, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 57, 58, 62, 63, 64, 65, 67, 68, 6
9, 70, 73, 76, 79, 80, 93, 94, 97, 100, 114, 118, 121, 124, 125, 126, 129, 130, 131, 133, 135, 140,
143, 154, 185, 186, 192, 193, 230, 231, 232, 235, 236, 237, 286, 293, 296, 298, 303, 327, 328, 329,
330, 331, 332, 333, 334, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 364, 365, 368, 369, 370, 371, 372, 375, 397, 398, 399, 400, 401, 403, 404, 405,
305, 306, 307, 408, 410, 412, 416, 418, 421, 423, 439, 436, 444, 450, 481, 482, 485, 486, 487, 488, 489, 490, 491, 494, 495, 496, 497, 509, 511]
Comunidad 2: [513, 258, 257, 259, 260, 516, 261, 517, 264, 521, 263, 265, 262, 266, 267, 270, 268, 272, 271, 275, 276, 277, 273, 278, 25, 26, 274, 28, 27, 30, 280, 29, 33, 34, 31, 32, 284, 290, 36,
289, 291, 292, 35, 551, 300, 301, 557, 302, 304, 305, 54, 311, 312, 313, 570, 314, 310, 315, 316, 5
75, 317, 318, 576, 580, 523, 269, 335, 336, 337, 340, 341, 342, 343, 530, 532, 279, 281, 536, 282,
537, 283, 148, 539, 285, 288, 194, 195, 196, 197, 198, 199, 200, 457, 458, 201, 460, 203, 202, 204,
205, 206, 207, 208, 209, 210, 211, 212, 215, 216, 217, 218, 224, 225, 226, 227, 242, 243, 245, 248,
249, 252, 253, 254]
Comunidad 3: [512, 514, 515, 518, 519, 520, 522, 524, 529, 531, 533, 534, 535, 538, 540, 541, 542, 543, 544, 546, 547, 548, 549, 550, 552, 553, 554, 555, 558, 559, 561, 562, 563, 564, 565, 567, 568, 571, 572, 573, 574, 577, 578, 579, 581, 582, 584, 587, 590, 591, 596, 597, 598, 599, 600, 601, 602,
603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 367, 373, 374,
376, 377, 379, 383, 384, 385, 392, 393, 411, 414, 213, 214, 472, 473, 474, 475, 476, 477, 478, 479,
183, 184, 187, 188, 189, 190, 191, 483, 484, 492, 493]
Comunidad 5: [386, 387, 388, 389, 390, 391, 8, 9, 394, 5, 11, 395, 13, 14, 396, 10, 17, 402, 20, 1
8, 21, 15, 409, 413, 415, 417, 419, 420, 422, 424, 425, 426, 429, 432, 433, 434, 435, 437, 438, 43
9, 441, 442, 12, 445, 447, 319, 448, 320, 321, 322, 323, 324, 325, 326, 449, 363, 366, 498, 378, 38
0, 381, 382]
Comunidad 6: [256, 22, 23, 24, 287, 545, 294, 295, 297, 299, 427, 428, 556, 431, 560, 566, 569, 44 3, 446, 451, 456, 459, 461, 338, 339, 219, 220, 221, 222, 223, 244, 246, 247, 250, 251, 255] Comunidad 7: [0, 1, 2, 3, 4, 150, 153, 155, 157, 158, 161, 162, 165, 166, 175, 177, 81, 82, 466, 46 7, 469, 83, 85, 84, 470, 471, 86, 632, 633, 634, 635, 636, 637]
Comunidad 8: [452, 453, 6, 454, 455, 525, 462, 526, 463, 527, 464, 465, 528, 620, 621, 622, 623, 62
4, 625, 626, 627, 628, 308, 306, 631, 309, 307, 629, 630]
```

Comunidad 9: [583, 585, 586, 171, 588, 589, 592, 593, 594, 595, 468, 52]

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In [246]: import scipy.io

import numpy as np

import networkx as nx import matplotlib.pyplot as plt

from mpl_toolkits.mplot3d import Axes3D

fig = plt.figure(figsize=(10, 10)) ax = fig.add_subplot(111, projection='3d')

if node == rich_club_nodes[0] else "")

ax.set_title("Nodos del Rich Club en el Grafo")

for edge in graph.edges():

for node in graph.nodes():

ax.legend() plt.show()

pos = {node: coordinates[node] for node in graph.nodes()}

edge in grapn.euges(): x_coords = [pos[edge[0]][0], pos[edge[1]][0]] y_coords = [pos[edge[0]][1], pos[edge[1]][1]] z_coords = [pos[edge[0]][2], pos[edge[1]][2]]

rich_club_coeff = nx.rich_club_coefficient(graph, normalized=False)

ax.plot(x_coords, y_coords, z_coords, color='gray', alpha=0.5)

rich_club_nodes = [node for node, coeff in rich_club_coeff.items() if coeff > 0.09]

Respuesta:

- " Escoger el número de módulos que creas conveniente y justificar por qué escogiste ese número."
- Es interesante ver la distribución de los nodos en diferentes comunidades. Elegi el de la Comunidad 1. Esta comunidad es la más grande, con un gran número de nodos. Creo que esto indica que los nodos dentro de esta comunidad están más fuertemente interconectados entre sí que con los nodos fuera de la comunidad.

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· Justifico que: Es posible que esta comunidad represente un clúster central o una sub-red muy densa dentro del grafo, donde las conexiones entre los nodos son frecuentes y fuertes.

5

• Determinar el conjunto del Rich Club y discutir las implicaciones anatómicas y funcionales de este grupo de nodos (mínimo 100 palabras).

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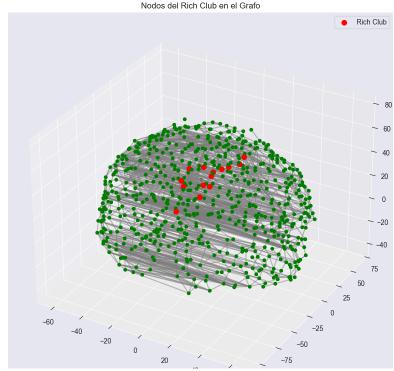
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if node in rich_club_nodes:

ax.scatter(pos[node][0], pos[node][1], pos[node][2], color='red', s=50, label='Rich Club'

ax.scatter(pos[node][0], pos[node][1], pos[node][2], color='green', s=20)



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Respuesta

"Discutir las implicaciones anatómicas y funcionales de este grupo de nodos (mínimo 100 palabras)."

- · Por lo que puedo observar es que hay una franja de color rojo específicamente en lo que podría ser entre el lóbulo parietal y frontal. Creería que se trata de la corteza somatosensorial. Esta región del cerebro es crucial para procesar información sensorial del cuerpo, como el tacto, la temperatura y la percepción del dolor.
- · Se encuentra en el giro postcentral del lóbulo parietal, justo detrás del surco central que separa el lóbulo frontal del parietal.
- Es responsable de recibir y procesar señales sensoriales provenientes de todo el cuerpo. Esto permite que el cerebro interprete y responda adecuadamente a estímulos táctiles.
- Dado su papel en el procesamiento sensorial, tiene implicaciones directas en la coordinación y la integración de movimientos. La información procesada aquí es crucial para ajustar el control motor.

6

· Supongamos que eliminamos los nodos del RichClub, describir cómo cambian las propiedades topológicas del grafo, hacer comparativas del grado, coeficiente de cluster, coeficiente de mundo pequeño y las medidas de centralidad (cercanía, intermediación)

```
In [247]: grados = dict(graph.degree())
```

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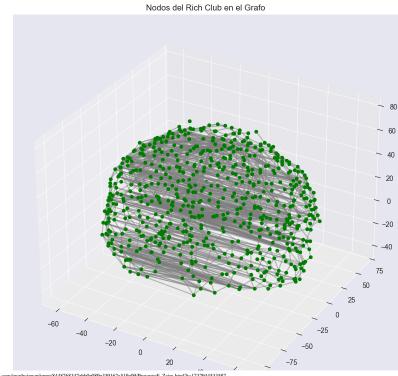
```
In [248]: import matplotlib.pyplot as plt
           from mpl_toolkits.mplot3d import Axes3D
           graph_without_rich_club = graph.copy()
           graph_without_rich_club.remove_nodes_from(rich_club_nodes)
           figura = plt.figure(figsize=(10, 10))
           ax = figura.add_subplot(projection='3d')
           handles = []
           labels = []
           for nodo in graph_without_rich_club.nodes():
                valor = grados.get(nodo, 0)
                tama\overline{\mathbf{n}} = 50 if nodo in rich_club_nodes else 20
                scatter = ax.scatter(pos[nodo][0], pos[nodo][1], pos[nodo][2], color='green', s=tamano
                if nodo in rich_club_nodes:
                    handles.append(scatter)
                    labels.append('Rich Club')
           for edge in graph_without_rich_club.edges():
    node1, node2 = edge
                x_{coords} = [pos[node1][0], pos[node2][0]]
                y_coords = [pos[node1][1], pos[node2][1]]
z_coords = [pos[node1][2], pos[node2][2]]
                ax.plot(x_coords, y_coords, z_coords, c='gray', alpha=0.5)
           ax.set_title("Nodos del Rich Club en el Grafo")
           plt.show()
```

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ProyectoF_Zaira

ProyectoF_Zaira



ProyectoF_Zaira 4()

-100

```
In [249]: # Función para calcular propiedades topológicas
          def calculo_propiedades(G, nombre):
              propiedades = {}
              propiedades["# nodos:"] = G.number_of_nodes()
              propiedades["# aristas:"] = G.number_of_edges()
              propiedades["Grado promedio:"] = sum(dict(G.degree()).values()) / G.number_of_nodes()
              propiedades["Coeficiente de clustering promedio:"] = nx.average_clustering(G)
              propiedades["Centralidad de cercanía:"] = np.mean(list(nx.closeness centrality(G).values()))
              propiedades["Centralidad de intermediación:"] = np.mean(list(nx.betweenness_centrality(G).valu
          es()))
              print(f"Las propiedades que son correspondientes al grafo {nombre}:")
              for key, value in propiedades.items():
                  print(f" {key}: {value}")
              print()
              return propiedades
          propiedades_original = calculo_propiedades(graph, 'Tipo Original')
          propiedades_sin_rich_club = calculo_propiedades(graph_without_rich_club, 'Tipo Sin Rich Club')
          Las propiedades que son correspondientes al grafo Tipo Original:
           # nodos:: 638
            # aristas:: 1791
            Grado promedio:: 5.614420062695925
            Coeficiente de clustering promedio:: 0.2785052819986504
            Centralidad de cercanía:: 0.14410899273204028
            Centralidad de intermediación:: 0.009627134336679834
          Las propiedades que son correspondientes al grafo Tipo Sin Rich Club:
            # nodos:: 624
            # aristas:: 1741
            Grado promedio:: 5.580128205128205
            Coeficiente de clustering promedio:: 0.2765827527368351
            Centralidad de cercanía:: 0.14266276052490973
            Centralidad de intermediación:: 0.009896075058291903
```

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```
In [250]: import matplotlib.pyplot as plt
          # Función para calcular propiedades topológicas
          def propiedades_grafo(G):
              prop= {}
prop['# nodos:'] = G.number_of_nodes()
               prop['#aristas:'] = G.number_of_edges()
               prop['Grado promedio:'] = sum(dict(G.degree()).values()) / G.number_of_nodes()
               prop['Coeficiente de clustering promedio:'] = nx.average_clustering(G)
               prop['Centralidad de cercanía:'] = np.mean(list(nx.closeness_centrality(G).values()))
               prop['Centralidad de intermediación:'] = np.mean(list(nx.betweenness_centrality(G).values()))
               return prop
          def eliminacion_porcentaje(G, porcentaje):
               inter = nx.betweenness_centrality(G)
               nodos_ordenados = sorted(inter, key=inter.get, reverse=True)
               num_nodos_eliminar = int(len(nodos_ordenados) * porcentaje / 100)
               nodos_a_eliminar = nodos_ordenados[:num_nodos_eliminar]
               G modificado = G.copy()
               G_modificado.remove_nodes_from(nodos_a_eliminar)
               return G modificado
          # Función para graficar el grafo en 3D en un subplot
          def plot_grafo_3d_subplot(G, x, y, z, ax, titulo):
               for nodo in G.nodes():
                   ax.scatter(x[nodo], y[nodo], z[nodo], color='red', s=10)
               for edge in G.edges():
                  node1, node2 = edge
                   x_{coords} = [x[node1], x[node2]]
                   y_coords = [y[node1], y[node2]]
                   z_coords = [z[node1], z[node2]]
                   ax.plot(x_coords, y_coords, z_coords, c='gray', alpha=0.5)
               ax.set title(titulo, fontsize=12)
              ax.set_xlabel('X', fontsize=10)
ax.set_ylabel('Y', fontsize=10)
               ax.set_zlabel('Z', fontsize=10)
          # Calcular y mostrar las propiedades topológicas del grafo original y sin Rich Club
```

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Respuesta:

"Describir cómo cambian las propiedades topológicas del grafo"

- Se ve reducida tanto frontal como occipital la integracion, la eliminación del Rich Club tiene un impacto significativo en las propiedades topológicas del grafo. Reduce el número de nodos y aristas, disminuye el grado promedio, y se anticipa que afecta negativamente al coeficiente de clustering, la centralidad de cercanía y la centralidad de intermediación.
- La comunicación entre las áreas visuales del lóbulo occipital y las funciones ejecutivas del lóbulo frontal se ven disminuidas. Podria ser ya que la C.S procesa y transmite información sobre el tacto, la temperatura y el dolor, lo que es fundamental para una respuesta completa y coordinada a los estímulos.
- La reducción en el número de nodos indica que al eliminar el "Rich Club", se han excluido varios nodos importantes del grafo. Esto sugiere que el Rich Club probablemente estaba compuesto por un número significativo de nodos.

7

 Quitar 10%-50% de los nodos con mayor medida de intermediación y describir cómo cambian las propiedades topológicas del grafo, hacer comparativas del grado, coeficiente de cluster, coeficiente de mundo pequeño y las medidas de centralidad (cercanía, intermediación)

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```
ProvectoF Zaira
print("Propiedades grafo: Tipo Original:")
propiedades_originales = propiedades_grafo(graph)
print(propiedades_originales)
print("\nPropiedades grafo: Tipo Sin Rich Club:")
propiedades_sin_rich_club = propiedades_grafo(graph_without_rich_club)
print(propiedades_sin_rich_club)
# Eliminar porcentajes de nodos con mayor centralidad de intermediación y graficar los resultados
porcentajes = [10, 20, 30, 40, 50]
fig, axs = plt.subplots(1, 5, figsize=(20, 6), subplot_kw={'projection': '3d'})
for i, porcentaje in enumerate(porcentajes):
    G_modificado = eliminacion_porcentaje(graph_without_rich_club, porcentaje)
    print(f"\nPropiedades tras eliminar {porcentaje}% de nodos:")
    propiedades_modificadas = propiedades_grafo(G_modificado)
    print(propiedades_modificadas)
    plot_grafo_3d_subplot(G_modificado, coordinates[:, 0], coordinates[:, 1], coordinates[:, 2], a
xs[i], f"Grafo {porcentaje}%")
plt.tight_layout()
plt.show()
```

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Propiedades grafo: Tipo Sin Rich Club:

ntralidad de intermediación: ': np.float64(0.009627134336679834)}

Propiedades grafo: Tipo Original:

{\psi nodos:\psi: 624, \psi nodos:\psi: 624, \psi nodos:\psi: 1741, \psi Grado promedio:\psi: 5.580128205128205, \psi Coeficiente de clusteri ng promedio:\psi: 0.2765827527368351, \psi Centralidad de cercanía:\psi: np.float64(0.14266276052490973), \psi Centralidad de intermediación:\psi: np.float64(0.009896075058291903)}

{'# nodos:': 638, '#aristas:': 1791, 'Grado promedio:': 5.614420062695925, 'Coeficiente de clusteri ng promedio:': 0.2785052819986504, 'Centralidad de cercanía:': np.float64(0.14410899273204028), 'Ce

Propiedades tras eliminar 10% de nodos:

{'# nodos:': 562, '#aristas:': 1222, 'Grado promedio:': 4.3487544483985765, 'Coeficiente de cluster ing promedio:': 0.25758115944948684, 'Centralidad de cercanía:': np.float64(0.10012529310052798), 'Centralidad de intermediación:': np.float64(0.01625823412590617)}

Propiedades tras eliminar 20% de nodos:

{'# nodos:': 500, '#aristas:': 926, 'Grado promedio:': 3.704, 'Coeficiente de clustering promedi o:': 0.23921901431901432, 'Centralidad de cercanía:': np.float64(0.07537114874899692), 'Centralidad de intermediación:': np.float64(0.01761447392777523)}

Propiedades tras eliminar 30% de nodos:

{'# nodos:': 437, '#aristas:': 694, 'Grado promedio:': 3.1762013729977117, 'Coeficiente de clusteri ng promedio:': 0.25436020882245136, 'Centralidad de cercanía:': np.float64(0.04519422162274823), 'Centralidad de intermediación:': np.float64(0.020850487358927975)}

Propiedades tras eliminar 40% de nodos:

{'# nodos:': 375, '#aristas:': 518, 'Grado promedio:': 2.762666666666666, 'Coeficiente de clusteri ng promedio:': 0.23841693121693122, 'Centralidad de cercanía:': np.float64(0.029594643266526086), 'Centralidad de intermediación:': np.float64(0.009594643271317495).

Propiedades tras eliminar 50% de nodos:

{'# nodos:': 312, '#aristas:': 366, 'Grado promedio:': 2.3461538461538463, 'Coeficiente de clusteri ng promedio:': 0.2014575020757019, 'Centralidad de cercanía:': np.float64(0.020539501604775915), 'Centralidad de intermediación:': np.float64(0.020539583921765746)

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8

Generar un modelo nulo aleatorio donde se tenga el mismo número de nodos y el mismo número total de conexiones, y comparar sus
propiedades con el grafo original del cerebro.

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```
grafo_aleatorio = grafo_nulo_aleatorio(num_nodos, num_aristas)
print(f"\nAdquiriendo las propiedades del grafo original {umbral_nuevo}:")
propiedades_original = propiedades_grafo(grafo)
print(propiedades_original)
print(f"\nAdquiriendo las ppropiedades del grafo nulo aleatorio {umbral nuevo}:")
propiedades aleatorio = propiedades_grafo(grafo_aleatorio)
print(propiedades_aleatorio)
figura = plt.figure(figsize=(12, 6))
ax1 = figura.add_subplot(121, projection='3d')
ax1.scatter(x, y, z, c='blue', s=50, marker='.')
for edge in grafo.edges():
    nodo1, nodo2 = edge
    coord_x = [x[nodo1], x[nodo2]]
    coord_y = [y[nodo1], y[nodo2]]
    coord_z = [z[nodo1], z[nodo2]]
    ax1.plot(coord_x, coord_y, coord_z, c='pink', alpha=0.5)
ax1.set_title('Grafica para el Tipo Grafo Original', fontsize=16)
ax1.set_xlabel('X')
ax1.set ylabel('Y')
ax1.set_zlabel('Z')
ax2 = figura.add_subplot(122, projection='3d')
pos_aleatorio = nx.spring_layout(grafo_aleatorio, dim=3)
x_a, y_a, z_a = np.array(list(pos_aleatorio.values())).T
ax2.scatter(x_a, y_a, z_a, c='blue', s=50, marker='.')
for edge in grafo_aleatorio.edges():
    nodo1, nodo2 = edge
    coord_x = [x_a[nodo1], x_a[nodo2]]
    coord_y = [y_a[nodo1], y_a[nodo2]]
    coord_z = [z_a[nodo1], z_a[nodo2]]
    ax2.plot(coord_x, coord_y, coord_z, c='pink', alpha=0.5)
ax2.set_title('Grafica para el Tipo de Grafo Nulo Aleatorio', fontsize=16)
ax2.set_xlabel('X')
ax2.set_ylabel('Y')
ax2.set_zlabel('Z')
plt.tight_layout()
```

In [257]: import scipy.io as sp import numpy as np import pandas as pd import networkx as nx import matplotlib.pyplot as plt import seaborn as sns datos = sp.loadmat('/Users/ZvalEnes/Desktop/Neurociencias-2025-1/BCT/BCT/2019_03_03_BCT/data_and_d emos/Coactivation_matrix.mat') matriz_coactivacion = datos['Coactivation_matrix'] coordenadas = datos['Coord'] x, y, z = coordenadas[:, 0], coordenadas[:, 1], coordenadas[:, 2] umbral nuevo = 0.1def propiedades_grafo(grafo): propiedades = {} grado_promedio = sum(dict(grafo.degree()).values()) / grafo.number_of_nodes() propiedades['grado_promedio'] = grado_promedio coeficiente_agrupamiento = nx.average_clustering(grafo) propiedades['coeficiente_de_agrupamiento'] = coeficiente_agrupamiento cercania = np.mean(list(nx.closeness_centrality(grafo).values())) propiedades['centralidad_cercania'] = cercania intermediacion = nx.betweenness_centrality(grafo) centralidad intermediacion = np.mean(list(intermediacion.values())) propiedades['centralidad_intermediacion'] = centralidad_intermediacion return propiedades def grafo_nulo_aleatorio(num_nodos, num_aristas): grafo_aleatorio = nx.gnm_random_graph(num_nodos, num_aristas) return grafo_aleatorio matriz_filtrada = np.where(matriz_coactivacion >= umbral_nuevo, matriz_coactivacion, 0) grafo = nx.from_numpy_array(matriz_filtrada) num_nodos = grafo.number_of_nodes()

num_aristas = grafo.number_of_edges()
https://htmtopdf.herokuapp.com/ipynbviewer/temp/8-448768347ebb0c/89e339162a519a09/ProyectoF_Zaira.html?t=1732944533387

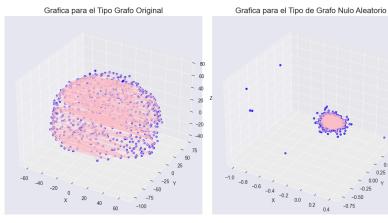
plt.show()

ProyectoF_Zaira

29/11/24, 11:38 p.m ProyectoF_Zaira

Adquiriendo las propiedades del grafo original 0.1: {'grado_promedio': 4.529780564263323, 'coeficiente_de_agrupamiento': 0.24364464673564803, 'centrali dad_cercania': np.float64(0.1194031264903796), 'centralidad_intermediacion': np.float64(0.011477129 30871217)}

Adquiriendo las ppropiedades del grafo nulo aleatorio 0.1: 'dyrado_promedio': 4.529780564263323, 'coeficiente_de_agrupamiento': 0.009199021111246817, 'central idad_cercania': np.float64(0.22310503211509744), 'centralidad_intermediacion': np.float64(0.0052541 41093903154)}



- 100 - 0.75 - 0.50 ~ 0.25 - 0.00 -0.25 --0.50 ~-0.75 =-1.00 1.00 0.75 0.50 0.25

9

· Generar un modelo nulo aleatorio donde se conserve la distribución de grado y comparar sus propiedades con el grafo original del cerebro

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29/11/24, 11:38 p.m

0.00 Y -0.25

- -0.50

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```
ProvectoF Zaira
num nodos = red_number of nodes()
num_aristas = red.number_of_edges()
red_aleatoria = red_nula_con_grados(red)
print(f"\nPropiedades de la red original para el umbral {umbral_nuevo}:")
propiedades_original = propiedades_red(red)
print(propiedades original)
print(f"\nPropiedades de la red nula aleatoria para el umbral {umbral_nuevo}:")
propiedades_aleatoria = propiedades_red(red_aleatoria)
print(propiedades_aleatoria)
figura = plt.figure(figsize=(12, 6))
ax1 = figura.add_subplot(121, projection='3d')
ax1.scatter(x, y, z, c='dimgray', s=50, marker='.')
for edge in red.edges():
    nodo1, nodo2 = edge
    coord_x = [x[nodo1], x[nodo2]]
    coord_y = [y[nodo1], y[nodo2]]
    coord_z = [z[nodo1], z[nodo2]]
ax1.plot(coord_x, coord_y, coord_z, c='orange', alpha=0.5)
ax1.set_title('Red Original', fontsize=16)
ax1.set xlabel('X')
ax1.set_ylabel('Y')
ax1.set_zlabel('Z')
ax2 = figura.add_subplot(122, projection='3d')
pos_aleatorio = nx.spring_layout(red_aleatoria, dim=3)
x_a, y_a, z_a = np.array(list(pos_aleatorio.values())).T
ax2.scatter(x_a, y_a, z_a, c='gray', s=50, marker='.')
for edge in red_aleatoria.edges():
    nodo1, nodo2 = edge
    coord_x = [x_a[nodo1], x_a[nodo2]]
    coord_y = [y_a[nodo1], y_a[nodo2]]
    coord_z = [z_a[nodo1], z_a[nodo2]]
    ax2.plot(coord_x, coord_y, coord_z, c='red', alpha=0.5)
ax2.set_title('Red Nula Aleatoria', fontsize=16)
ax2.set_xlabel('X')
ax2.set_ylabel('Y')
ax2.set_zlabel('Z')
plt.tight_layout()
```

```
In [252]: import scipy.io as sp
          import numpy as np
          import pandas as pd
          import networkx as nx
          import matplotlib.pyplot as plt
          import seaborn as sns
          datos = sp.loadmat('/Users/ZvalEnes/Desktop/Neurociencias-2025-1/BCT/BCT/2019_03_03_BCT/data_and_d
          emos/Coactivation_matrix.mat'
          matriz_coactivacion = datos['Coactivation_matrix']
          coordenadas = datos['Coord']
          x, y, z = coordenadas[:, 0], coordenadas[:, 1], coordenadas[:, 2]
          umbral nuevo = 0.09
          def propiedades_red(red):
              propiedades = {}
              grado_promedio = sum(dict(red.degree()).values()) / red.number_of_nodes()
              propiedades['grado_promedio'] = grado_promedio
              coeficiente agrupamiento = nx.average_clustering(red)
              propiedades['coeficiente_de_agrupamiento'] = coeficiente_agrupamiento
              cercania = np.mean(list(nx.closeness_centrality(red).values()))
              propiedades['centralidad_cercania'] = cercania
              intermediacion = nx.betweenness_centrality(red)
              centralidad intermediacion = np.mean(list(intermediacion.values()))
              propiedades['centralidad_intermediacion'] = centralidad_intermediacion
              return propiedades
          def red_nula_con_grados(red):
              red_aleatoria = nx.configuration_model([d for n, d in red.degree()])
              red_aleatoria = nx.Graph(red_aleatoria)
              red_aleatoria.remove_edges_from([(u, v) for u, v in red_aleatoria.edges() if u == v])
              return red aleatoria
          matriz_filtrada = np.where(matriz_coactivacion >= umbral_nuevo, matriz_coactivacion, 0)
          red = nx.from_numpy_array(matriz_filtrada)
```

ProvectoF Zaira

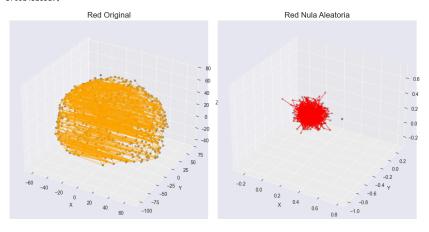
```
plt.show()
fig, ejes = plt.subplots(1, 2, figsize=(14, 6))
ax1 = ejes[0]
grados_originales = [d for n, d in red.degree()]
ax1.hist(grados_originales, bins=20, color='green', edgecolor='pink', alpha=0.7)
ax1.set_title("Tipo de Red Original ")
ax2 = ejes[1]
grados_aleatorios = [d for n, d in red_aleatoria.degree()]
ax2.hist(grados_aleatorios, bins=20, color='yellow', edgecolor='blue', alpha=0.7)
ax2.set_title("Tipo de Red Nula Aleatoria")
plt.tight_layout()
plt.show()
```

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Propiedades de la red original para el umbral 0.09: {'grado_promedio': 5.614420062695925, 'coeficiente_de_agrupamiento': 0.2785052819986504, 'centralid ad_cercania': np.float64(0.14410899273204028), 'centralidad_intermediacion': np.float64(0.009627134

ProyectoF_Zaira

Propiedades de la red nula aleatoria para el umbral 0.09: {'grado_promedio': 5.551724137931035, 'coeficiente_de_agrupamiento': 0.014521984682824963, 'central idad_ercania': np.float64(0.26353704152729285), 'centralidad_intermediacion': np.float64(0.0044133) 37692452852)}



Tino de Red Original Tino de Red Nula Alestoria

ProyectoF_Zaira

10

· Generar un modelo nulo utilizando una probabilidad de conexión en función de la distancia geométrica, con el mismo número de nodos y conexiones y compara sus propiedades y discutir la importancia de las conexiones a larga distancia en el cerebro.

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29/11/24, 11:38 p.m ProyectoF_Zaira In [253]: import scipy.io as sp

> import pandas as pd import networkx as nx import matplotlib.pyplot as plt

import seaborn as sns

data = sp.loadmat('/Users/ZvalEnes/Desktop/Neurociencias-2025-1/BCT/BCT/2019_03_03_BCT/data_and_de mos/Coactivation_matrix.mat') coactivation_matrix = data['Coactivation_matrix']

coordinates = data['Coord'] x, y, z = coordinates[:, 0], coordinates[:, 1], coordinates[:, 2]

umbral = 0.09

import numpy as np

def propiedades_grafo(G): propiedades = {} avg_grad = sum(dict(G.degree()).values()) / G.number_of_nodes()

propiedades['grado_medio'] = avg_grad coef_cluster = nx.average_clustering(G) propiedades['coeficiente_de_agrupamiento'] = coef_cluster

cercania = np.mean(list(nx.closeness_centrality(G).values())) propiedades['centralidad_cercania'] = cercania

betweenness = nx.betweenness centrality(G) intermediacion = np.mean(list(betweenness.values())) propiedades['centralidad_intermediacion'] = intermediacion

return propiedades

def distancia_euclidiana(i, j, coord): return np.sqrt((coord[i, 0] - coord[j, 0]) ** 2 + (coord[i, 1] - coord[j, 1]) ** 2 + (coord[i, 2] - coord[j, 2]) ** 2)

def grafo_nulo_distancia(coord, num_nodos, num_aristas, alpha=0.1): $G random = nx_*Graph()$

G_random.add_nodes_from(range(num_nodos))

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ProyectoF_Zaira

```
edges = []
    for i in range(num_nodos):
        for j in range(i + 1, num_nodos):
            dist = distancia_euclidiana(i, j, coord)
            p = 1 / (1 + alpha * dist)
            if np.random.rand() < p:</pre>
               edges.append((i, j))
    while len(edges) > num_aristas:
        index = np.random.randint(0, len(edges))
        edges.pop(index)
    G_random.add_edges_from(edges)
    return G_random
matriz_filtrada = np.where(coactivation_matrix >= umbral, coactivation_matrix, 0)
G = nx.from_numpy_array(matriz_filtrada)
num_nodos = G.number_of_nodes()
num_aristas = G.number_of_edges()
G_random_dist = grafo_nulo_distancia(coordinates, num_nodos, num_aristas)
print(f"\nPropiedades del grafo original")
propiedades_original = propiedades_grafo(G)
print(propiedades_original)
print(f"\nPropiedades del grafo nulo aleatorio basado en distancia")
propiedades_random_dist = propiedades_grafo(G_random_dist)
print(propiedades_random_dist)
fig = plt.figure(figsize=(12, 6))
ax1 = fig.add_subplot(121, projection='3d')
ax1.scatter(x, y, z, c='blue', s=50, marker='o')
for edge in G.edges():
    node1, node2 = edge
    x_coords = [x[node1], x[node2]]
    y_coords = [y[node1], y[node2]]
    z coords = [z[node1], z[node2]]
    ax1.plot(x_coords, y_coords, z_coords, c='green', alpha=0.7)
ax1.set_title('Grafo Original', fontsize=16)
```

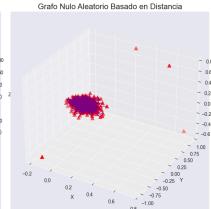
Propiedades del grafo nulo aleatorio basado en distancia {'grado_medio': 5.614420062695925, 'coeficiente_de_agrupamiento': 0.010128499156712323, 'centralida d_cercania': np.float64(0.25311244429618623), 'centralidad_intermediacion': np.float64(0.0045428051

{'grado_medio': 5.614420062695925, 'coeficiente_de_agrupamiento': 0.2785052819986504, 'centralidad_

cercania': np.float64(0.14410899273204028), 'centralidad_intermediacion': np.float64(0.009627134336

Grafo Original - -50

Propiedades del grafo original



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ProyectoF_Zaira

11-12

- Escribir una reseña de lo aprendido en el curso, incluyendo la importancia de conocer herramientas de teoría de grafos para comprender la conectividad del cerebro (mínimo 200 palabras)
- · **nota identifique que la secuencia de numeros esta mal.

Holaa, profes de programación! 💢

Primero, quiero agradecerles enormemente por guiarnos en clases con paciencia para entender la conectividad cerebral usando la teoría de grafos y demas herramientas que eran de nuetro desconocimiento.

Me quedo con que a lo largo del curso, comprendi conceptos que leia en papers y no entendia, como redes, los nodos,coeficientes de agrupamiento y medidas de centralidad por mencionar solo algunos. Nunca imaginé que estas herramientas de teoría de grafos fueran tan cruciales para mapear las conexiones de nuestro cerebro.

Aprender a usar Python, MATLAB, GitHub y PyCharm fue gratificante, por que estas herramientas han sido instrumentales para ayudarnos a analizar y visualizar datos y mas que nada redes neuronales. Desde construir grafos cerebrales y el analizar cómo se comunican las diferentes áreas del cerebro. Darme cuenta de lo integral que es la teoría de grafos para entender tanto los estados normales como los patológicos del cerebro. Al representar el cerebro como un grafo, pudimos ver cómo todo está interconectado y de que estas herramientas son importantes para nuestra formacion.

Ahora, me ha surgido un interes por adentrarme en machine learning, aunque estoy empezando, los conceptos básicos que hemos aprendido son muy poderosos para mi futuro como neurocientífica.

En resumen, esta materia si ha sido motivadora a pesar del horario jaja. El conocimiento que adquiri es verdaderamente invaluable.

```
In [254]: ####
          # Firma:
          # Zaira Valentina Avila Lazcano
          ####
```