



In [ ]:



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1  from tkinter import * p
2  from tkinter import ttk
3  from tkinter import messagebox
4  import pandas as pd
5  import operator
6
7  raiz = Tk()
8
9
10 def analizar():
11     newWindows = Tk()
12     newWindows.title("Calidad Vino Tinto")
13     rojo = pd.read_csv('rojo.csv', sep=";")
14     lista = [list(row) for row in rojo.values]
15     similares = {}
16     valores = [float(acidezF.get()), float(acidezV.get()), float(acidezC.get()), float
17                 float(totalSu.get()), float(densidad.get()), float(ph.get()), float(sulfato.
18 mini = [4.6, 0.12, 0, 0.9, 0.012, 1, 6, 0.99, 2.74, 0.33, 8.4]
19 maxi = [15.9, 1.58, 1.0, 13.9, 0.611, 72.0, 289.0, 1.0, 4.01, 2.0, 14.9]
20 weight = [float(CanTotal_acidezF.get()), float(CanTotal_acidezV.get()), float(CanT
21             float(CanTotal_sulfuro.get()),
22             float(CanTotal_totalSu.get()), float(CanTotal_densidad.get()), float(Can
23 def similitud(similares):
24     valor = 0
25     for i in range(len(mini)):
26         valor += weight[i] * (1 - ((abs(similares[i] - valores[i])) / (maxi[i] - m
27     return valor / sum(weight)
28
29
30
31
32 for i in range(len(lista)):
33     fila = []
34     fila = lista[i]
35     x = similitud(fila)
36     similares.update({str(i): round(x, 3)})
37
38 ordenados = dict(sorted(similares.items(), key=operator.itemgetter(1)))
39 cols = (
40     "#Wine", "Fixed Acidity", "Volatile Acidity", "Citric Acid", "Residual Sugar", "Ch
41     "Total Sulfure Dioxide", "Density", "pH", "Sulphates", "Alcohol", "Quality", "Simi
42 tree = ttk.Treeview(newWindows, columns=cols, show='headings')
43 vsb = ttk.Scrollbar(newWindows, orient="vertical", command=tree.yview)
44 vsb.pack(side=RIGHT, fill=BOTH)
45
46 tree.configure(yscrollcommand=vsb.set)
47 for i in range(len(cols)):
48     tree.heading(cols[i], text=cols[i])
49     tree.column(cols[i], minwidth=0, width=50)
50 tree.pack(expand=YES, fill=BOTH)
51 tam = len(ordenados)
52 for i in range(tam):
53     pos = int(list(ordenados.items())[i][0])
54     colum1 = lista[int(pos)][0]
55     colum2 = lista[int(pos)][1]
56     colum3 = lista[int(pos)][2]
57     colum4 = lista[int(pos)][3]
58     colum5 = lista[int(pos)][4]
59     colum6 = lista[int(pos)][5]

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60     colum7 = lista[int(pos)][6]
61     colum8 = lista[int(pos)][7]
62     colum9 = lista[int(pos)][8]
63     colum10 = lista[int(pos)][9]
64     colum11 = lista[int(pos)][10]
65     colum12 = lista[int(pos)][11]
66     simila = str(list(ordenados.items())[i][1])
67     tree.insert("", 0, i, values=(str(pos), colum1, colum2, colum3, colum4, c
68
69     # print("Item Mas Similar")
70     fpos = list(ordenados.items())[tam - 1][0]
71     fval = list(ordenados.items())[tam - 1][1]
72     res = lista[int(fpos)][11]
73     messagebox.showinfo(message="Calidad= " + str(res))
74
75
76 lista = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
77
78 raiz.geometry('600x270') # anchura x altura
79
80 raiz.title('Calidad de vinos')
81
82 Label(raiz, text="Análisis de calidad de vino").place(x=200, y=0)
83
84 Label(raiz, text="Fixed Acidity").place(x=0, y=25)
85 acidezF = Spinbox(raiz, from_=4.6, to=15.9, width=5, increment=0.1, font='TimesNewRoma
86 acidezF.place(x=150, y=25)
87 CanTotal_acidezF = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
88 CanTotal_acidezF.place(x=225, y=25)
89 CanTotal_acidezF.current(3)
90
91 Label(raiz, text="Volatily Acidity").place(x=308, y=25)
92 acidezV = Spinbox(raiz, from_=0.12, to=1.58, width=5, increment=0.01, font='TimesNewRo
93 acidezV.place(x=450, y=25)
94 CanTotal_acidezV = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
95 CanTotal_acidezV.place(x=525, y=25)
96 CanTotal_acidezV.current(3)
97
98 Label(raiz, text="Citric Acid").place(x=0, y=50)
99 acidezC = Spinbox(raiz, from_=0.0, to=1.0, width=5, increment=0.1, font='TimesNewRoman
100 acidezC.place(x=150, y=50)
101 CanTotal_acidezC = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
102 CanTotal_acidezC.place(x=225, y=50)
103 CanTotal_acidezC.current(3)
104
105 Label(raiz, text="Residual Sugar").place(x=308, y=50)
106 residuosA = Spinbox(raiz, from_=0.9, to=13.9, width=5, increment=0.1, font='TimesNewRo
107 residuosA.place(x=450, y=50)
108 CanTotal_residuosA = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
109 CanTotal_residuosA.place(x=525, y=50)
110 CanTotal_residuosA.current(5)
111
112 Label(raiz, text="Chlorides").place(x=0, y=75)
113 cloruro = Spinbox(raiz, from_=0.012, to=0.611, width=5, increment=0.001, font='TimesNe
114 cloruro.place(x=150, y=75)
115 CanTotal_cloruro = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
116 CanTotal_cloruro.place(x=225, y=75)
117 CanTotal_cloruro.current(1)
118
119 Label(raiz, text="Free Sulfur Dioxide").place(x=308, y=75)
120 sulfuro = Spinbox(raiz, from_=1.0, to=72.0, width=5, increment=1.0, font='TimesNewRoma

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121 sulfuro.place(x=450, y=75)
122 CanTotal_sulfuro = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
123 CanTotal_sulfuro.place(x=525, y=75)
124 CanTotal_sulfuro.current(1)
125
126 Label(raiz, text="Total Sulfure Dioxide").place(x=0, y=100)
127 totalSu = Spinbox(raiz, from_=6.0, to=289.0, width=5, increment=1, font='TimesNewRoman 12')
128 totalSu.place(x=150, y=100)
129 CanTotal_totalSu = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
130 CanTotal_totalSu.place(x=225, y=100)
131 CanTotal_totalSu.current(1)
132
133 Label(raiz, text="Density").place(x=308, y=100)
134 densidad = Spinbox(raiz, from_=0.9900, to=1.0000, width=6, increment=0.0001, font='TimesNewRoman 12')
135 densidad.place(x=450, y=100)
136 CanTotal_densidad = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
137 CanTotal_densidad.place(x=525, y=100)
138 CanTotal_densidad.current(1)
139
140 Label(raiz, text="pH").place(x=0, y=125)
141 ph = Spinbox(raiz, from_=2.74, to=4.01, width=5, increment=0.01, font='TimesNewRoman 12')
142 ph.place(x=150, y=125)
143 CanTotal_ph = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
144 CanTotal_ph.place(x=225, y=125)
145 CanTotal_ph.current(6)
146
147 Label(raiz, text="Sulphates").place(x=308, y=125)
148 sulfato = Spinbox(raiz, from_=0.33, to=2.0, width=5, increment=0.01, font='TimesNewRoman 12')
149 sulfato.place(x=450, y=125)
150 CanTotal_sulfato = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
151 CanTotal_sulfato.place(x=525, y=125)
152 CanTotal_sulfato.current(1)
153
154 Label(raiz, text="Alcohol").place(x=0, y=150)
155 alcohol = Spinbox(raiz, from_=8.4, to=14.9, width=5, increment=0.1, font='TimesNewRoman 12')
156 alcohol.place(x=150, y=150)
157 CanTotal_alcohol = ttk.Combobox(raiz, values=lista, width=5, font='TimesNewRoman 12')
158 CanTotal_alcohol.place(x=225, y=150)
159 CanTotal_alcohol.current(5)
160
161 ttk.Button(raiz, text='Analizar', command=analizar).place(x=275, y=200)
162 raiz.mainloop()
```