

~\Desktop\Nível 5\trabalho nível 5.py

```
1 import time
2
3 nome_arquivo = 'my note'
4
5
6 dados = """Perna Braço mao orelha"""
7
8
9 with open(nome_arquivo, 'w') as arquivo:
10     arquivo.write(dados)
11
12 print(f"Arquivo '{nome_arquivo}' criado e dados escritos com sucesso.")
13
14
15
16
17 def bubble_sort(arr):
18     n = len(arr)
19     for i in range(n):
20         for j in range(0, n-i-1):
21             if arr[j] > arr[j+1]:
22                 arr[j], arr[j+1] = arr[j+1], arr[j]
23
24
25 def selection_sort(arr):
26     n = len(arr)
27     for i in range(n):
28         min_idx = i
29         for j in range(i+1, n):
30             if arr[j] < arr[min_idx]:
31                 min_idx = j
32         arr[i], arr[min_idx] = arr[min_idx], arr[i]
33
34
35 def read_words_from_file(file_path):
36     words = []
37     try:
38         with open(file_path, 'r') as file:
39             for line in file:
40                 words.extend(line.split())
41     if not words:
42         print("O arquivo está vazio ou não contém palavras.")
43     except FileNotFoundError:
44         print(f"Arquivo '{file_path}' não encontrado.")
45     return words
46
47
48 def measure_time(sort_function, arr):
49     start_time = time.time()
50     sort_function(arr)
51     end_time = time.time()
52     return end_time - start_time
53
54
55 def main():
56     file_path = 'my note'
57     words = read_words_from_file(file_path)
58
59     if not words:
60         return
61
62
63     words_bubble_sort = words.copy()
64     bubble_sort_time = measure_time(bubble_sort, words_bubble_sort)
65     print(f"Bubble Sort - Tempo de execução: {bubble_sort_time:.6f} segundos")
66
67
68     words_selection_sort = words.copy()
69     selection_sort_time = measure_time(selection_sort, words_selection_sort)
70     print(f"Selection Sort - Tempo de execução: {selection_sort_time:.6f} segundos")
71
72
73     words_native_sort = words.copy()
74     start_time = time.time()
75     words_native_sort.sort()
76     end_time = time.time()
77     native_sort_time = end_time - start_time
78     print(f"Sort Nativo - Tempo de execução: {native_sort_time:.6f} segundos")
79
80
```

```
81 print(f"Exemplo de palavras ordenadas (nativo): {words_native_sort[:10]}...")
82
83
84 output_file_path = 'sorted_words.txt'
85 try:
86     with open(output_file_path, 'w') as file:
87         file.write('\n'.join(words_native_sort))
88         print(f"Palavras ordenadas salvas em {output_file_path}")
89 except Exception as e:
90     print(f"Erro ao salvar o arquivo: {e}")
91
92 if __name__ == "__main__":
93     main()
94
```