

TUGAS AKHIR PRAKTIKUM ASD

“Topik Bubble Sort”



Kelompok 2

Kelas : B

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PRODI INFORMATIKA

UNIVERSITAS MUHAMMADIYAH SURAKARTA

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Topik Permasalahan

1. Link Video Presentasi:

<https://youtu.be/gnnywrRxldk>

Link File program python:

[https://github.com/L200190031/Praktikum-Algostruk/tree/main/Project%20Final%20Praktikum%20ASD%20\(Bubble%20Sort\)](https://github.com/L200190031/Praktikum-Algostruk/tree/main/Project%20Final%20Praktikum%20ASD%20(Bubble%20Sort))

2. Bubble Sort

Membuat program pengurutan berdasarkan:

```
pertandingan.py - C:\Users\lenovo\AppData\Local\Programs\Python\Python37-32\ASD Kelompok\pertandingan.py (3.7.3)
File Edit Format Run Options Window Help

from prettytable import PrettyTable
import pandas as pd

df = pd.read_excel(r'./pertandingan.xlsx', engine='openpyxl')
df_list = df.values.tolist()

while True:
    print("====Menu Pilihan====")
    print("Masukan 1 untuk mengurutkan tempat")
    print("Masukan 2 untuk mengurutkan waktu awal ke akhir")
    print("Masukan 3 untuk mengurutkan waktu akhir ke awal")
    print("Masukan 4 untuk keluar aplikasi")
    input_menu = int(input("Masukan menu pilihan:"))
    class pildun:
        def __init__(self, pick):
            self.negara = pick[0]
            self.tempat = pick[1]
            self.waktu = pick[2]

    table = PrettyTable(["Pertandingan/Match", "Tempat/Venue", "Waktu/Time"])
    list_pd = []
    for i in range(len(df_list)):
        list_pd.append(pildun(df_list[i]))

    if input_menu == 1:
        def sort_place(data):
            x = len(data)
            for i in range(x):
                for j in range(0, x-1, 1):
                    if data[j].tempat > data[j+1].tempat:
                        data[j], data[j+1] = data[j+1], data[j]
        sort_place(list_pd)
        for i in list_pd:
            table.add_row([i.negara, i.tempat, i.waktu])
        print(table)

    if input_menu == 2:
        def sort_place(data):
            x = len(data)
            for i in range(x):
                for j in range(0, x-1, 1):
                    if data[j].waktu > data[j+1].waktu:
                        data[j], data[j+1] = data[j+1], data[j]
        sort_place(list_pd)
        for i in list_pd:
            table.add_row([i.negara, i.tempat, i.waktu])
        print(table)

    if input_menu == 3:
        def sort_place(data):
            x = len(data)
            for i in range(x):
                for j in range(0, x-1, 1):
                    if data[j].waktu < data[j+1].waktu:
                        data[j], data[j+1] = data[j+1], data[j]
        sort_place(list_pd)
        for i in list_pd:
            table.add_row([i.negara, i.tempat, i.waktu])
        print(table)

    if input_menu == 4:
        print("Keluar Aplikasi")
        break
```

a. Huruf alphabet dari kolom tempat pertandingan

```
Python 3.7.3 Shell
File Edit Shell Debug Options Window Help
Python 3.7.3 (v3.7.3:ef4ec6ed12, Mar 25 2019, 21:26:53) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:\Users\lenovo\AppData\Local\Programs\Python\Python37-32\ASD Kelompok\pertandingan.py
===Menu Pilihan===
Masukan 1 untuk mengurutkan tempat
Masukan 2 untuk mengurutkan waktu awal ke akhir
Masukan 3 untuk mengurutkan waktu akhir ke awal
Masukan 4 untuk keluar aplikasi
Masukan menu pilihan:1
+-----+
| Pertandingan/Match | Tempat/Venue | Waktu/Time |
+-----+
| Spain - Morocco   | Kaliningrad   | 26 June 2018, 01.00 |
| Croatia - Nigeria  | Kaliningrad   | 17 June 2018, 02.00 |
| Serbia - Switzerland | Kaliningrad   | 23 June 2018, 01.00 |
| England - Belgium  | Kaliningrad   | 29 June 2018, 01.00 |
| Iran - Spain        | Kazan         | 21 June 2018, 01.00 |
| France - Australia  | Kazan         | 16 June 2018, 17.00 |
| South Korea - Germany | Kazan         | 27 June 2018, 21.00 |
| Poland - Colombia   | Kazan         | 25 June 2018, 01.00 |
| Russia - Saudi Arabia | Moskwa Luzhniki | 14 June 2018, 22.00 |
| Portugal - Morocco  | Moskwa Luzhniki | 20 June 2018, 19.00 |
| Denmark - France    | Moskwa Luzhniki | 26 June 2018, 21.00 |
| Germany - Mexico     | Moskwa Luzhniki | 17 June 2018, 22.00 |
| Argentina - Iceland  | Moskwa Spartak | 16 June 2018, 20.00 |
| Serbia - Brazil       | Moskwa Spartak | 28 June 2018, 01.00 |
| Belgium - Tunisia    | Moskwa Spartak | 23 June 2018, 19.00 |
| Poland - Senegal      | Moskwa Spartak | 19 June 2018, 22.00 |
| Argentina - Croatia  | Nizhni Novgorod | 22 June 2018, 01.00 |
| Switzerland - Costa Rica | Nizhni Novgorod | 28 June 2018, 01.00 |
| Sweden - South Korea  | Nizhni Novgorod | 18 June 2018, 19.00 |
| England - Panama      | Nizhni Novgorod | 24 June 2018, 19.00 |
| Uruguay - Saudi Arabia | Rostov-on-Don  | 20 June 2018, 22.00 |
| Iceland - Croatia     | Rostov-on-Don  | 27 June 2018, 01.00 |
| Brazil - Switzerland  | Rostov-on-Don  | 18 June 2018, 01.00 |
| South Korea - Mexico   | Rostov-on-Don  | 23 June 2018, 22.00 |
| Uruguay - Russia      | Samara         | 25 June 2018, 21.00 |
| Denmark - Australia   | Samara         | 21 June 2018, 19.00 |
| Costa Rica - Serbia    | Samara         | 17 June 2018, 19.00 |
| Senegal - Colombia    | Samara         | 28 June 2018, 21.00 |
| Iran - Portugal        | Saransk        | 26 June 2018, 01.00 |
+-----+
```

```
Python 3.7.3 Shell
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+-----+
| Peru - Denmark      | Saransk        | 16 June 2018, 23.00 |
| Colombia - Japan     | Saransk        | 19 June 2018, 19.00 |
| Portugal - Spain     | Sochi          | 16 June 2018, 01.00 |
| Australia - Peru     | Sochi          | 26 June 2018, 21.00 |
| Germany - Sweden     | Sochi          | 24 June 2018, 01.00 |
| Belgium - Panama     | Sochi          | 18 June 2018, 22.00 |
| Russia - Egypt       | St. Petersburg | 20 June 2018, 01.00 |
| Morocco - Iran       | St. Petersburg | 15 June 2018, 22.00 |
| Nigeria - Argentina  | St. Petersburg | 27 June 2018, 01.00 |
| Brazil - Costa Rica  | St. Petersburg | 22 June 2018, 19.00 |
| Nigeria - Iceland    | Volgograd      | 22 June 2018, 22.00 |
| Japan - Poland        | Volgograd      | 28 June 2018, 21.00 |
| Saudi Arabia - Egypt  | Volgograd      | 25 June 2018, 21.00 |
| Tunisia - England    | Volgograd      | 19 June 2018, 01.00 |
| Egypt - Uruguay      | Yekaterinburg  | 15 June 2018, 19.00 |
| France - Peru        | Yekaterinburg  | 21 June 2018, 22.00 |
| Mexico - Sweden      | Yekaterinburg  | 27 June 2018, 21.00 |
| Japan - Senegal       | Yekaterinburg  | 24 June 2018, 22.00 |
+-----+
```

b. Waktu pertandingan awal ke akhir, dan sebaliknya

Awal ke akhir

Python 3.7.3 Shell

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====Menu Pilihan====
Masukan 1 untuk mengurutkan tempat
Masukan 2 untuk mengurutkan waktu awal ke akhir
Masukan 3 untuk mengurutkan waktu akhir ke awal
Masukan 4 untuk keluar aplikasi
Masukan menu pilihan:2

| Pertandingan/Match | Tempat/Venue | Waktu/Time |
|------------------------|-----------------|---------------------|
| Russia - Saudi Arabia | Moskwa Luzhniki | 14 June 2018, 22.00 |
| Egypt - Uruguay | Yekaterinburg | 15 June 2018, 19.00 |
| Morocco - Iran | St. Petersburg | 15 June 2018, 22.00 |
| Portugal - Spain | Sochi | 16 June 2018, 01.00 |
| France - Australia | Kazan | 16 June 2018, 17.00 |
| Argentina - Iceland | Moskwa Spartak | 16 June 2018, 20.00 |
| Peru - Denmark | Saransk | 16 June 2018, 23.00 |
| Croatia - Nigeria | Kaliningrad | 17 June 2018, 02.00 |
| Costa Rica - Serbia | Samara | 17 June 2018, 19.00 |
| Germany - Mexico | Moskwa Luzhniki | 17 June 2018, 22.00 |
| Brazil - Switzerland | Rostov-on-Don | 18 June 2018, 01.00 |
| Sweden - South Korea | Nizhni Novgorod | 18 June 2018, 19.00 |
| Belgium - Panama | Sochi | 18 June 2018, 22.00 |
| Tunisia - England | Volovograd | 19 June 2018, 01.00 |
| Colombia - Japan | Saransk | 19 June 2018, 19.00 |
| Poland - Senegal | Moskwa Spartak | 19 June 2018, 22.00 |
| Russia - Egypt | St. Petersburg | 20 June 2018, 01.00 |
| Portugal - Morocco | Moskwa Luzhniki | 20 June 2018, 19.00 |
| Uruguay - Saudi Arabia | Rostov-on-Don | 20 June 2018, 22.00 |
| Iran - Spain | Kazan | 21 June 2018, 01.00 |
| Denmark - Australia | Samara | 21 June 2018, 19.00 |
| France - Peru | Yekaterinburg | 21 June 2018, 22.00 |
| Argentina - Croatia | Nizhni Novgorod | 22 June 2018, 01.00 |
| Brazil - Costa Rica | St. Petersburg | 22 June 2018, 19.00 |
| Nigeria - Iceland | Volgograd | 22 June 2018, 22.00 |
| Serbia - Switzerland | Kaliningrad | 23 June 2018, 01.00 |
| Belgium - Tunisia | Moskwa Spartak | 23 June 2018, 19.00 |
| South Korea - Mexico | Rostov-on-Don | 23 June 2018, 22.00 |
| Germany - Sweden | Sochi | 24 June 2018, 01.00 |
| England - Panama | Nizhni Novgorod | 24 June 2018, 19.00 |
| Japan - Senegal | Yekaterinburg | 24 June 2018, 22.00 |
| Poland - Colombia | Kazan | 25 June 2018, 01.00 |
| Saudi Arabia - Egypt | Vologorad | 25 June 2018, 21.00 |

Python 3.7.3 Shell

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| | | |
|--------------------------|-----------------|---------------------|
| Uruguay - Russia | Samara | 25 June 2018, 21.00 |
| Spain - Morocco | Kaliningrad | 26 June 2018, 01.00 |
| Iran - Portugal | Saransk | 26 June 2018, 01.00 |
| Denmark - France | Moskwa Luzhniki | 26 June 2018, 21.00 |
| Australia - Peru | Sochi | 26 June 2018, 21.00 |
| Iceland - Croatia | Rostov-on-Don | 27 June 2018, 01.00 |
| Nigeria - Argentina | St. Petersburg | 27 June 2018, 01.00 |
| South Korea - Germany | Kazan | 27 June 2018, 21.00 |
| Mexico - Sweden | Yekaterinburg | 27 June 2018, 21.00 |
| Serbia - Brazil | Moskwa Spartak | 28 June 2018, 01.00 |
| Switzerland - Costa Rica | Nizhni Novgorod | 28 June 2018, 01.00 |
| Japan - Poland | Volgograd | 28 June 2018, 21.00 |
| Senegal - Colombia | Samara | 28 June 2018, 21.00 |
| England - Belgium | Kaliningrad | 29 June 2018, 01.00 |

Akhir Ke Awal

```
Python 3.7.3 Shell
File Edit Shell Debug Options Window Help

===Menu Pilihan===
Masukan 1 untuk mengurutkan tempat
Masukan 2 untuk mengurutkan waktu awal ke akhir
Masukan 3 untuk mengurutkan waktu akhir ke awal
Masukan 4 untuk keluar aplikasi
Masukan menu pilihan:3

+-----+-----+-----+
| Pertandingan/Match | Tempat/Venue | Waktu/Time |
+-----+-----+-----+
| England - Belgium | Kaliningrad | 29 June 2018, 01.00 |
| Japan - Poland | Volgograd | 28 June 2018, 21.00 |
| Senegal - Colombia | Samara | 28 June 2018, 21.00 |
| Serbia - Brazil | Moskwa Spartak | 28 June 2018, 01.00 |
| Switzerland - Costa Rica | Nizhni Novgorod | 28 June 2018, 01.00 |
| South Korea - Germany | Kazan | 27 June 2018, 21.00 |
| Mexico - Sweden | Yekaterinburg | 27 June 2018, 21.00 |
| Iceland - Croatia | Rostov-on-Don | 27 June 2018, 01.00 |
| Nigeria - Argentina | St. Petersburg | 27 June 2018, 01.00 |
| Denmark - France | Moskwa Luzhniki | 26 June 2018, 21.00 |
| Australia - Peru | Sochi | 26 June 2018, 21.00 |
| Spain - Morocco | Kaliningrad | 26 June 2018, 01.00 |
| Iran - Portugal | Saransk | 26 June 2018, 01.00 |
| Saudi Arabia - Egypt | Volgograd | 25 June 2018, 21.00 |
| Uruguay - Russia | Samara | 25 June 2018, 21.00 |
| Poland - Colombia | Kazan | 25 June 2018, 01.00 |
| Japan - Senegal | Yekaterinburg | 24 June 2018, 22.00 |
| England - Panama | Nizhni Novgorod | 24 June 2018, 19.00 |
| Germany - Sweden | Sochi | 24 June 2018, 01.00 |
| South Korea - Mexico | Rostov-on-Don | 23 June 2018, 22.00 |
| Belgium - Tunisia | Moskwa Spartak | 23 June 2018, 19.00 |
| Serbia - Switzerland | Kaliningrad | 23 June 2018, 01.00 |
| Nigeria - Iceland | Volgograd | 22 June 2018, 22.00 |
| Brazil - Costa Rica | St. Petersburg | 22 June 2018, 19.00 |
| Argentina - Croatia | Nizhni Novgorod | 22 June 2018, 01.00 |
| France - Peru | Yekaterinburg | 21 June 2018, 22.00 |
| Denmark - Australia | Samara | 21 June 2018, 19.00 |
| Iran - Spain | Kazan | 21 June 2018, 01.00 |
| Uruguay - Saudi Arabia | Rostov-on-Don | 20 June 2018, 22.00 |
| Portugal - Morocco | Moskwa Luzhniki | 20 June 2018, 19.00 |
| Russia - Egypt | St. Petersburg | 20 June 2018, 01.00 |
| Poland - Senegal | Moskwa Spartak | 19 June 2018, 22.00 |
| Colombia - Japan | Saransk | 19 June 2018, 19.00 |
+-----+-----+-----+

| Tunisia - England | Volovograd | 19 June 2018, 01.00 |
| Belgium - Panama | Sochi | 18 June 2018, 22.00 |
| Sweden - South Korea | Nizhni Novgorod | 18 June 2018, 19.00 |
| Brazil - Switzerland | Rostov-on-Don | 18 June 2018, 01.00 |
| Germany - Mexico | Moskwa Luzhniki | 17 June 2018, 22.00 |
| Costa Rica - Serbia | Samara | 17 June 2018, 19.00 |
| Croatia - Nigeria | Kaliningrad | 17 June 2018, 02.00 |
| Peru - Denmark | Saransk | 16 June 2018, 23.00 |
| Argentina - Iceland | Moskwa Spartak | 16 June 2018, 20.00 |
| France - Australia | Kazan | 16 June 2018, 17.00 |
| Portugal - Spain | Sochi | 16 June 2018, 01.00 |
| Morocco - Iran | St. Petersburg | 15 June 2018, 22.00 |
| Egypt - Uruguay | Yekaterinburg | 15 June 2018, 19.00 |
| Russia - Saudi Arabia | Moskwa Luzhniki | 14 June 2018, 22.00 |
+-----+-----+-----+

===Menu Pilihan===
Masukan 1 untuk mengurutkan tempat
Masukan 2 untuk mengurutkan waktu awal ke akhir
Masukan 3 untuk mengurutkan waktu akhir ke awal
Masukan 4 untuk keluar aplikasi
Masukan menu pilihan:4
Keluar Aplikasi
>>>
```