

Nama : Danang Adityo Nugroho

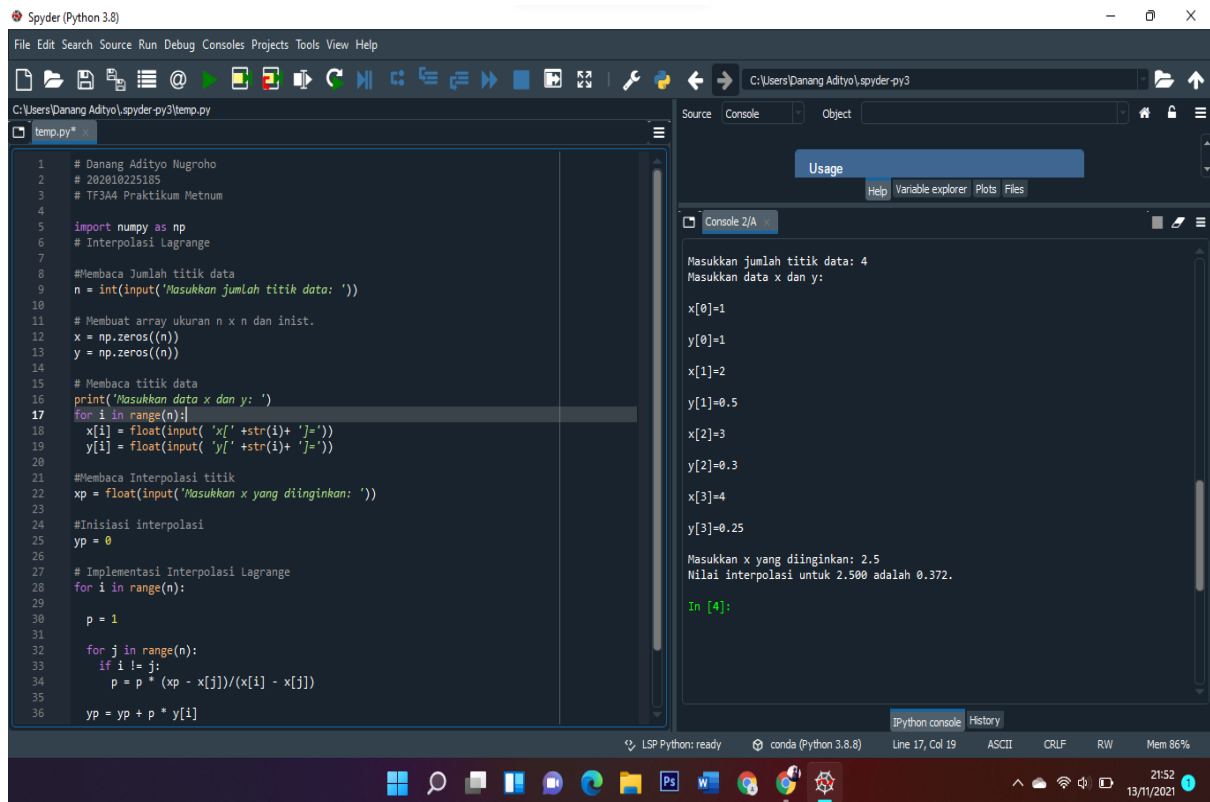
Kelas : TIF 3A4

Npm : 202010225185

Tugas praktikum3

Metnum

➤ Lagrange.py



The screenshot shows the Spyder Python IDE interface. The main editor displays a Python script named 'temp.py' implementing Lagrange interpolation. The script prompts the user for the number of data points (n=4), then for each point's x and y values. It then prompts for a specific x value (2.5) and calculates the interpolated y value (0.372).

```
1 # Danang Adityo Nugroho
2 # 202010225185
3 # TF3A4 Praktikum Metnum
4
5 import numpy as np
6 # Interpolasi Lagrange
7
8 #Membaca Jumlah titik data
9 n = int(input('Masukkan jumlah titik data: '))
10
11 # Membuat array ukuran n x n dan inist.
12 x = np.zeros((n))
13 y = np.zeros((n))
14
15 # Membaca titik data
16 print('Masukkan data x dan y: ')
17 for i in range(n):
18     x[i] = float(input('x[' + str(i) + ']='))
19     y[i] = float(input('y[' + str(i) + ']='))
20
21 #Membaca Interpolasi titik
22 xp = float(input('Masukkan x yang diinginkan: '))
23
24 #Inisiasi interpolasi
25 yp = 0
26
27 # Implementasi Interpolasi Lagrange
28 for i in range(n):
29
30     p = 1
31
32     for j in range(n):
33         if i != j:
34             p = p * (xp - x[j]) / (x[i] - x[j])
35
36     yp = yp + p * y[i]
```

The console output shows the following sequence of inputs and results:

```
Masukkan jumlah titik data: 4
Masukkan data x dan y:

x[0]=1
y[0]=1
x[1]=2
y[1]=0.5
x[2]=3
y[2]=0.3
x[3]=4
y[3]=0.25

Masukkan x yang diinginkan: 2.5
Nilai interpolasi untuk 2.500 adalah 0.372.

In [4]:
```

➤ Regresi.py

