

TUGAS PRATIUM METODE NUMERIK



Disusun Oleh :

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Kelas TF3A6

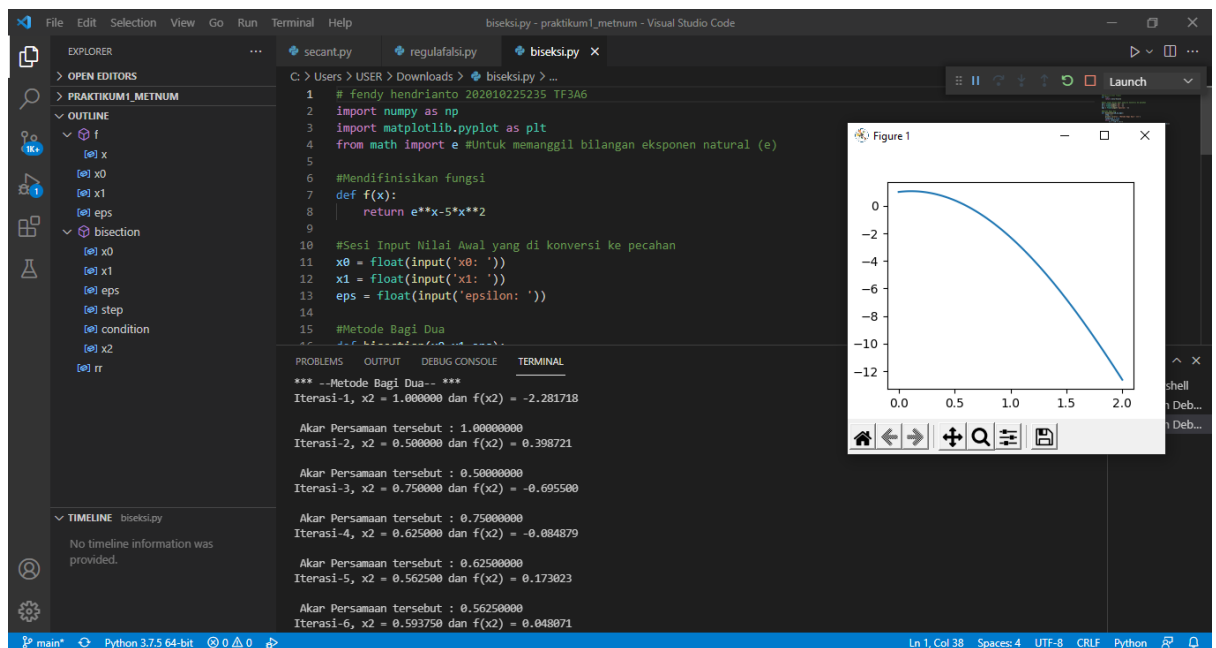
JURUSAN INFORMATIKA

FAKULTAS ILMU KOMPUTER

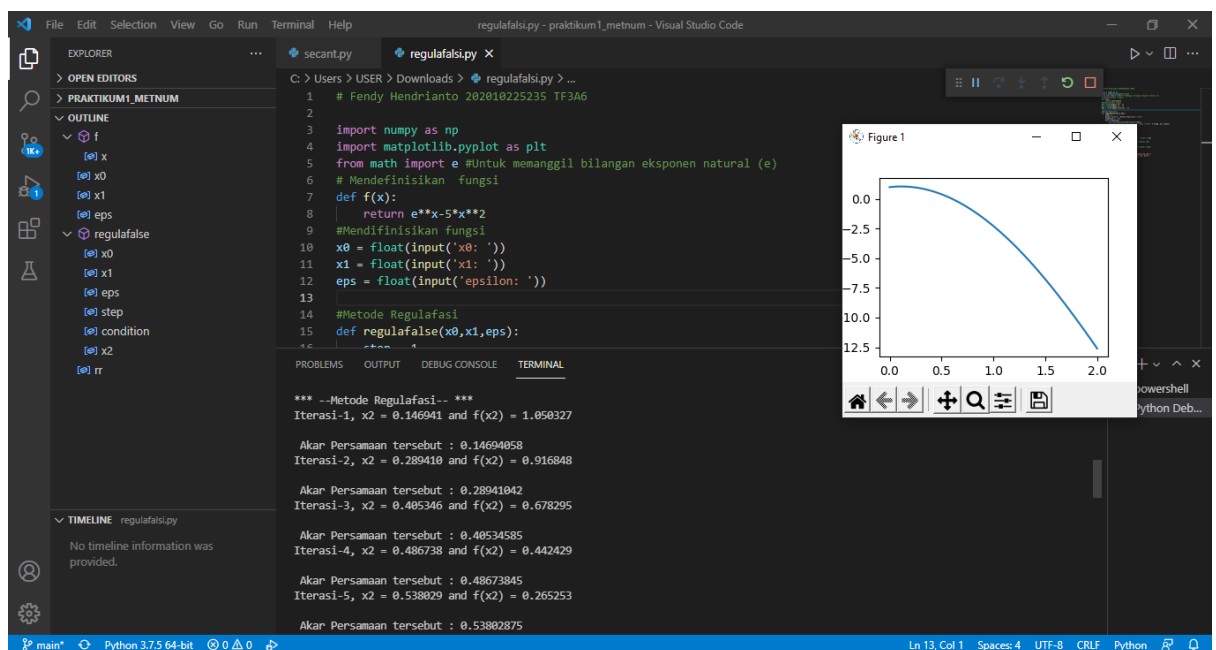
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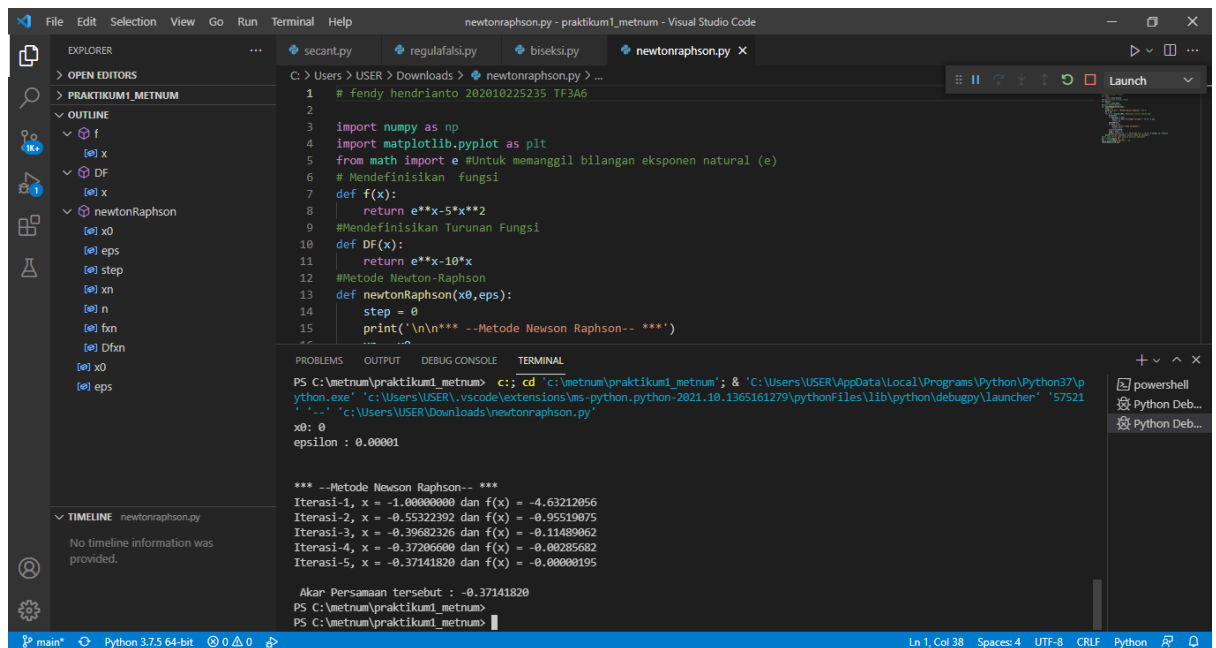
1. Metode Bagi Dua (Biseksi.py)



2. Metode Regulasi (Regulafasy.py)

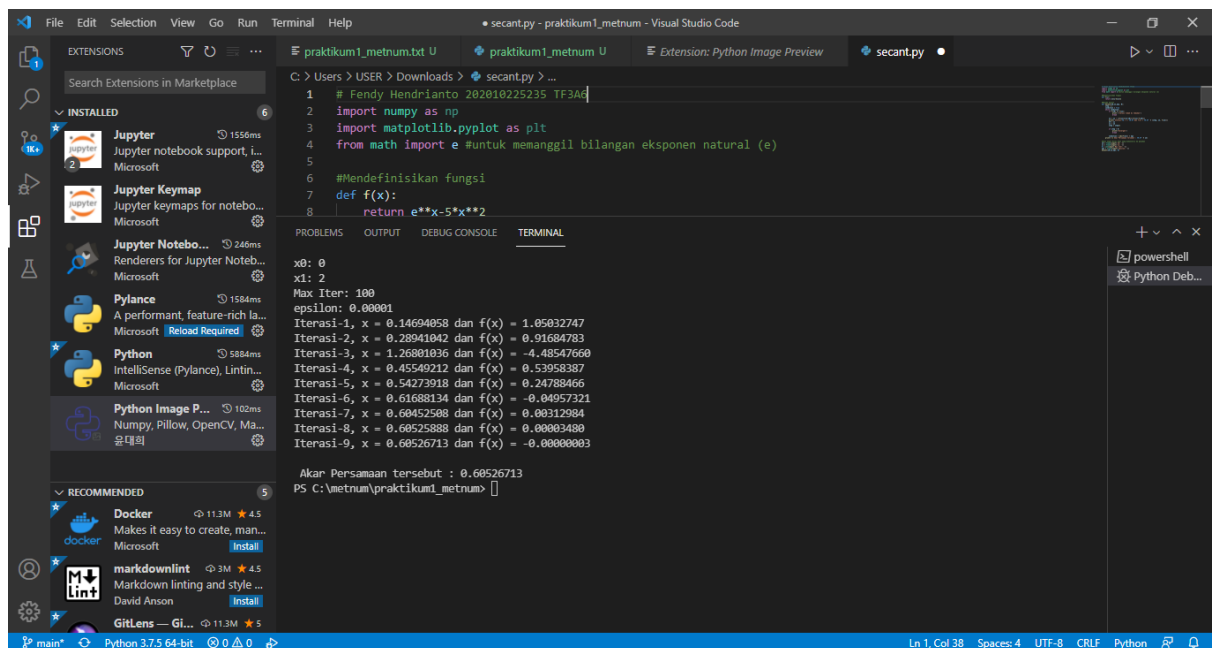


3. Metode Newton-Rapson (NewtonRapson.py)



```
1 # fendy hendrianto 202010225235 TF3A6
2
3 import numpy as np
4 import matplotlib.pyplot as plt
5 from math import e #Untuk memanggil bilangan eksponen natural (e)
6 # Mendefinisikan fungsi
7 def f(x):
8     return e**x-5*x**2
9 #Mendefinisikan Turunan Fungsi
10 def DF(x):
11     return e**x-10*x
12 #Metode Newton-Raphson
13 def newtonRaphson(x0,eps):
14     step = 0
15     print('\n\n*** --Metode Newton Raphson-- ***)
16
17 PS C:\metnum\praktikum1_metnum> c:\cd "c:\metnum\praktikum1_metnum"; & 'c:\Users\USER\AppData\Local\Programs\Python\Python37\python.exe' 'c:\Users\USER\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '57521'
18 -.-' 'c:\Users\USER\Downloads\newtonraphson.py'
19 x0: 0
20 epsilon : 0.00001
21
22 *** --Metode Newton Raphson-- ***
23 Iterasi-1, x = -1.00000000 dan f(x) = -4.63212056
24 Iterasi-2, x = -0.55322392 dan f(x) = -0.95519075
25 Iterasi-3, x = -0.39682326 dan f(x) = -0.11489062
26 Iterasi-4, x = -0.37206600 dan f(x) = -0.00285682
27 Iterasi-5, x = -0.37141820 dan f(x) = -0.00000195
28
29 Akan Persamaan tersebut : -0.37141820
30 PS C:\metnum\praktikum1_metnum>
31 PS C:\metnum\praktikum1_metnum>
```

4. Metode Secant (Secant.py)



```
1 # Fendy Hendrianto 202010225235 TF3A6
2
3 import numpy as np
4 import matplotlib.pyplot as plt
5 from math import e #Untuk memanggil bilangan eksponen natural (e)
6 #Mendefinisikan fungsi
7 def f(x):
8     return e**x-5*x**2
9
10 x0: 0
11 x1: 2
12 Max Iter: 100
13 epsilon: 0.00001
14 Iterasi-1, x = 0.14694058 dan f(x) = 1.05032747
15 Iterasi-2, x = 0.28941842 dan f(x) = 0.91684783
16 Iterasi-3, x = 1.26801036 dan f(x) = -4.48547660
17 Iterasi-4, x = 0.45540212 dan f(x) = -0.53958387
18 Iterasi-5, x = 0.54273918 dan f(x) = -0.24788466
19 Iterasi-6, x = 0.61688134 dan f(x) = -0.04957321
20 Iterasi-7, x = 0.60452508 dan f(x) = 0.00312984
21 Iterasi-8, x = 0.60525888 dan f(x) = 0.00003480
22 Iterasi-9, x = 0.60526713 dan f(x) = -0.00000003
23
24 Akan Persamaan tersebut : 0.60526713
25 PS C:\metnum\praktikum1_metnum>
```