

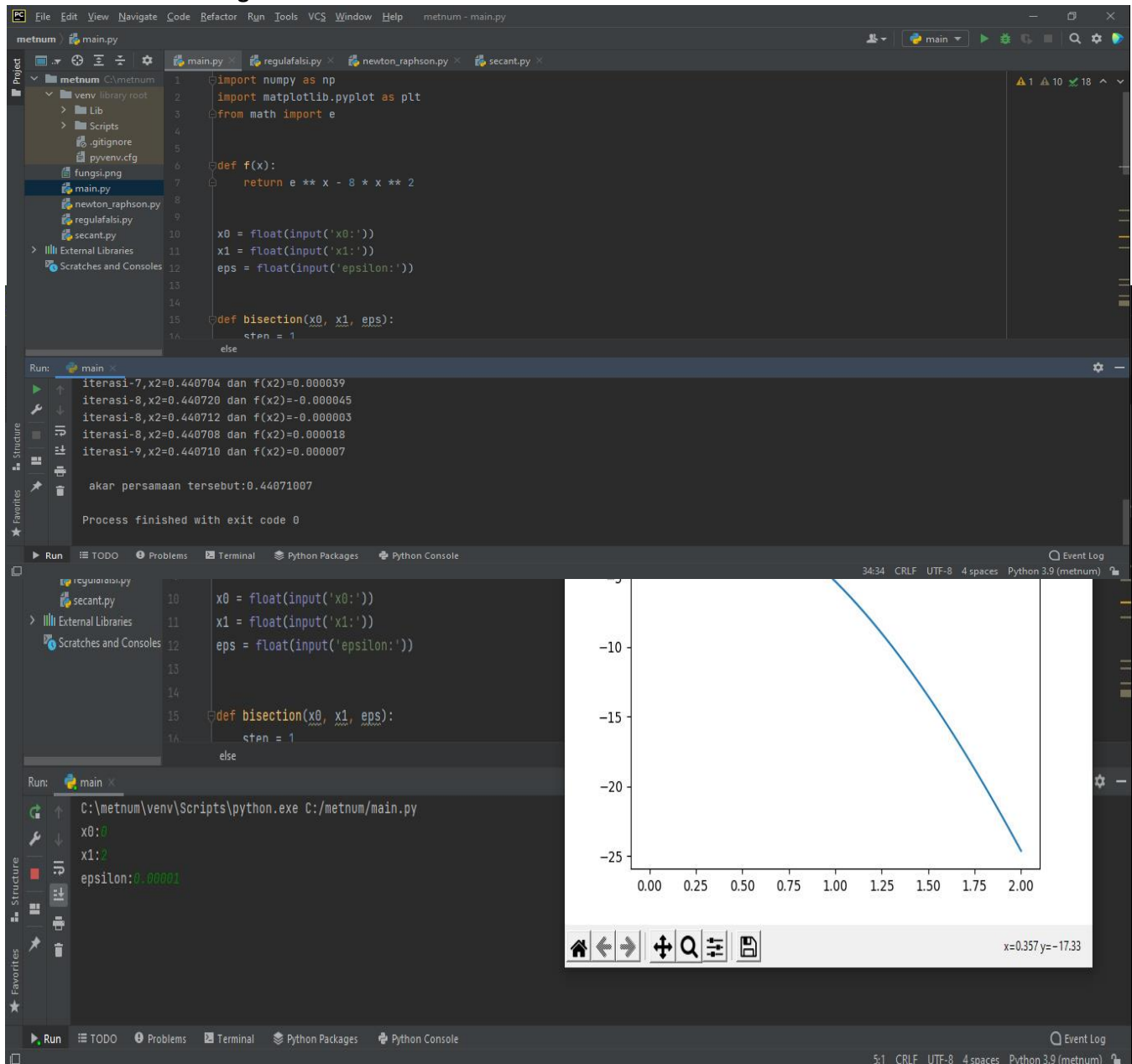
NAMA : OZZI ARDHIYANTO

KELAS : TF 3B

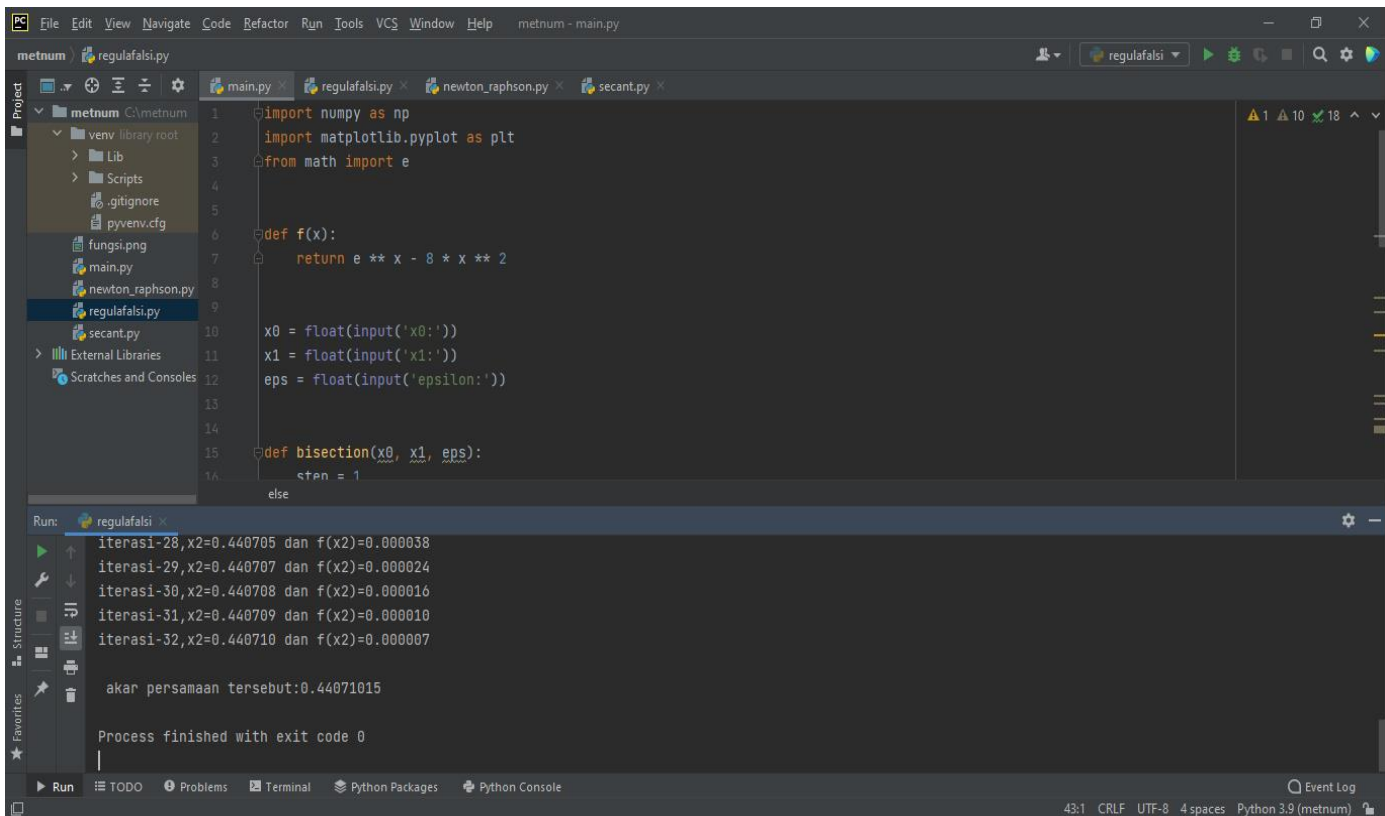
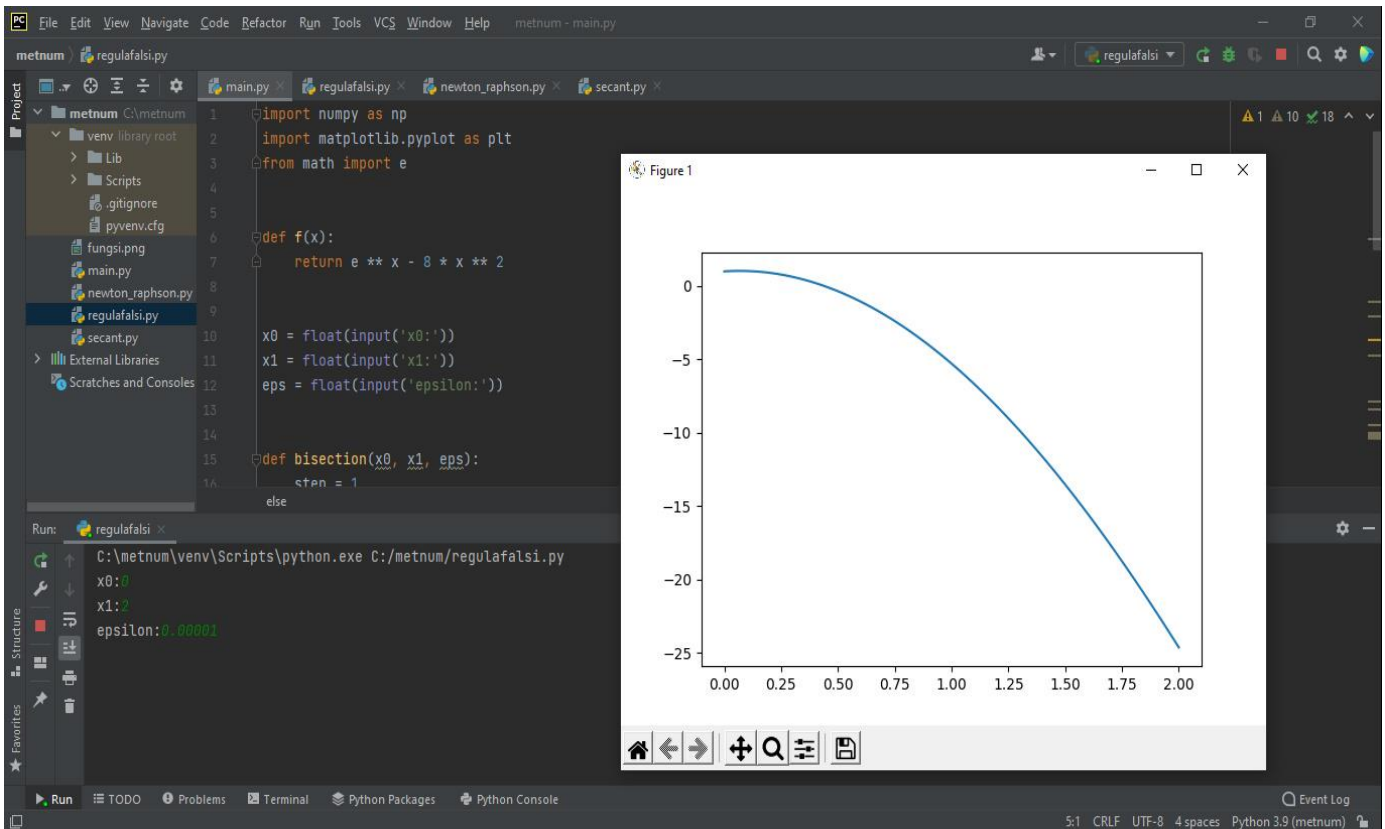
NPM 202010225030

PRAKTIKUM METODE NUMERIK

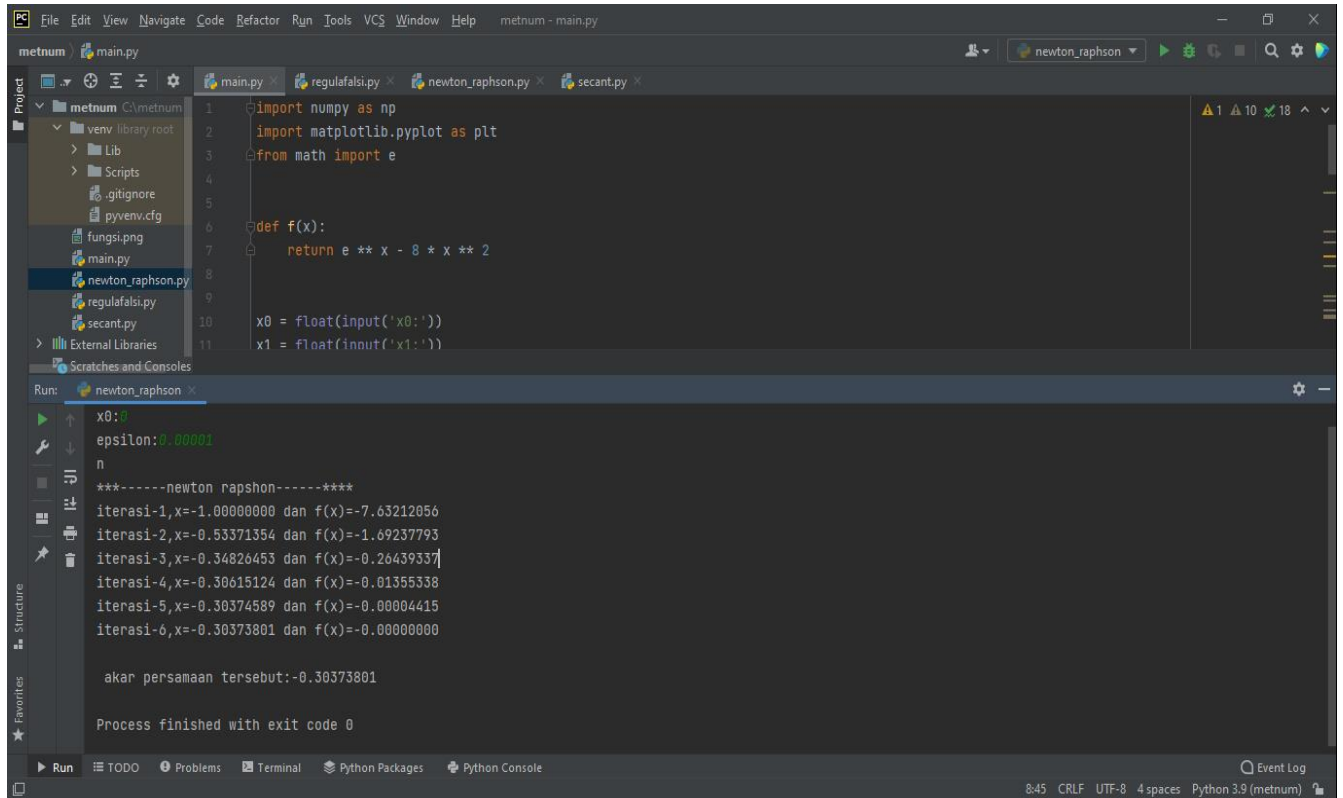
1. Metode bagi 2



2. Metode regulafalse



3. Newton raphson



The screenshot shows an IDE window titled 'metnum - main.py'. The editor displays a Python script for the Newton-Raphson method. The script imports numpy and matplotlib.pyplot, defines a function f(x) = e^x - 8x², and takes two inputs, x0 and x1. The Run console shows the execution results for x0=0 and epsilon=0.00001, displaying six iterations of the method and the final root value.

```
1 import numpy as np
2 import matplotlib.pyplot as plt
3 from math import e
4
5
6 def f(x):
7     return e ** x - 8 * x ** 2
8
9
10 x0 = float(input('x0:'))
11 x1 = float(input('x1:'))
```

Run: newton_raphson

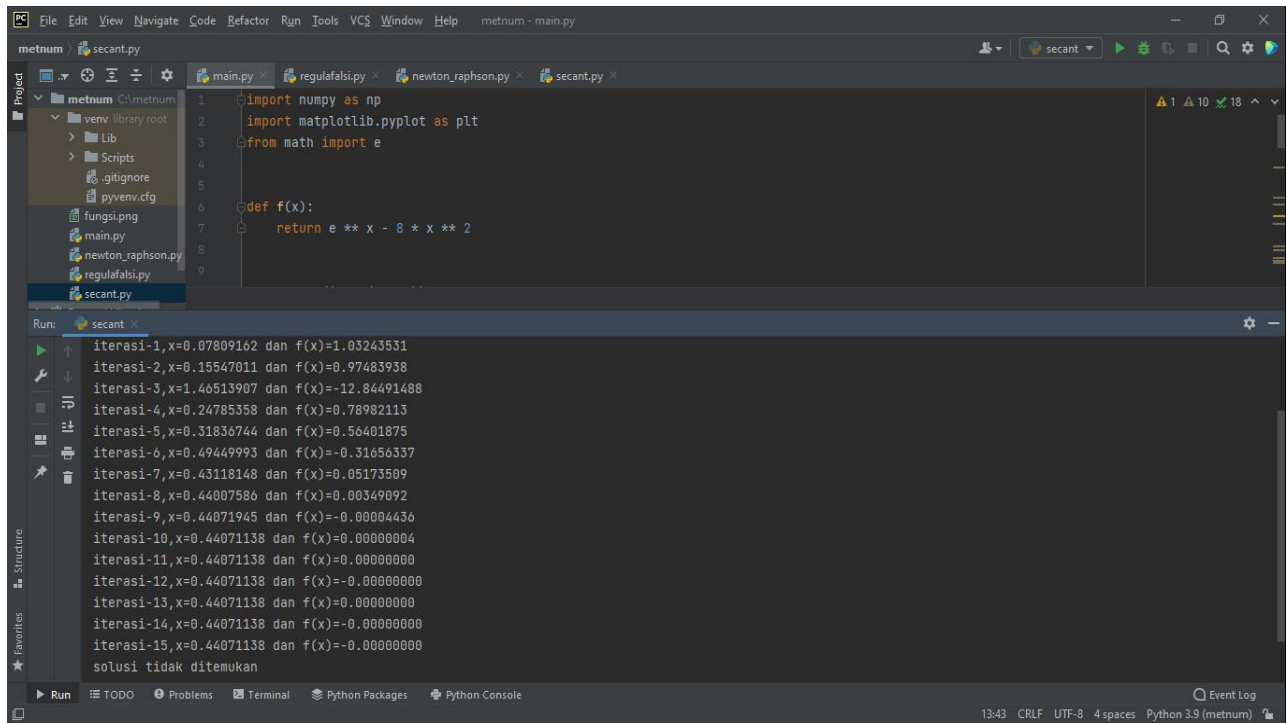
```
x0:0
epsilon:0.00001
n
*****newton raphson*****
iterasi-1,x=-1.00000000 dan f(x)=-7.63212056
iterasi-2,x=-0.53371354 dan f(x)=-1.69237793
iterasi-3,x=-0.34826453 dan f(x)=-0.26439337
iterasi-4,x=-0.30615124 dan f(x)=-0.01355338
iterasi-5,x=-0.30374589 dan f(x)=-0.00004415
iterasi-6,x=-0.30373801 dan f(x)=-0.00000000

akar persamaan tersebut:-0.30373801

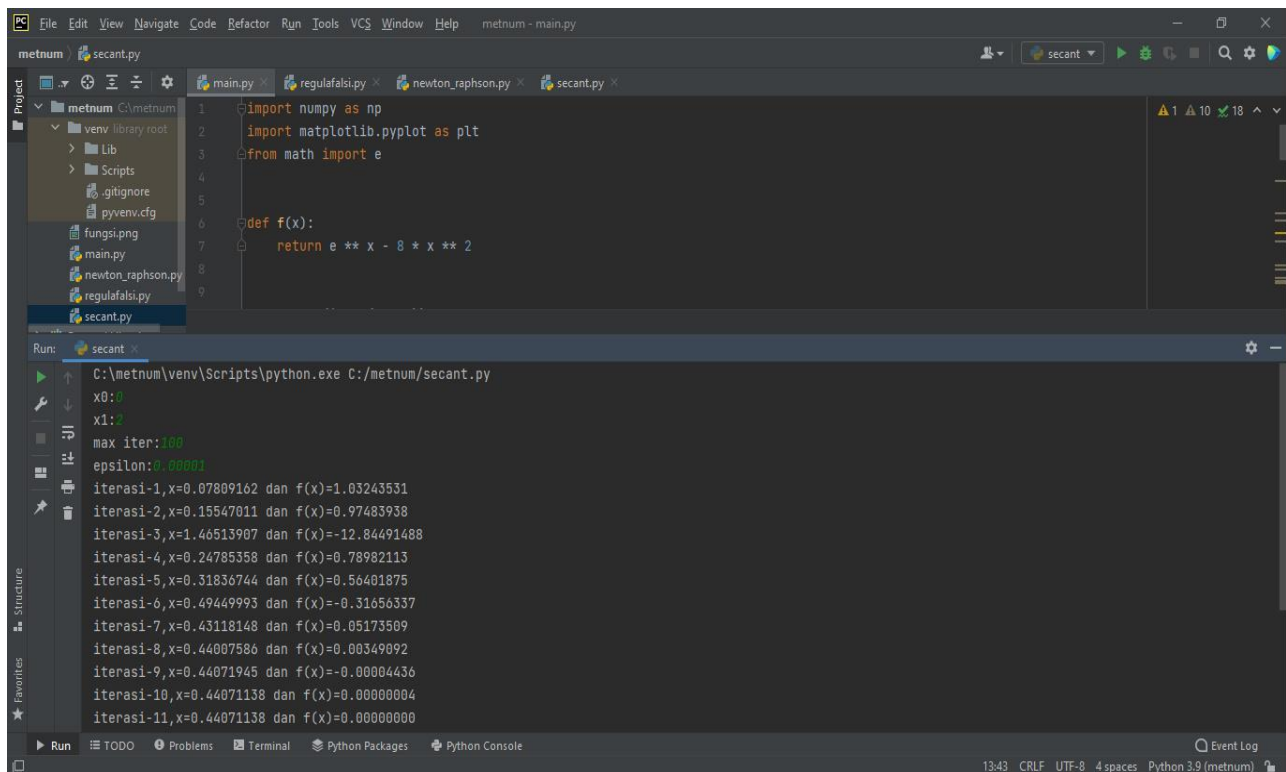
Process finished with exit code 0
```

8:45 CRLF UTF-8 4 spaces Python 3.9 (metnum)

4. Secant



```
File Edit View Navigate Code Refactor Run Tools VCS Window Help metnum - main.py
metnum secant.py
Project
  metnum C:\metnum
    venv library root
    Lib
    Scripts
    .gitignore
    pyenv.cfg
    fungsi.png
    main.py
    newton_raphson.py
    regulafalsi.py
    secant.py
Run: secant
  iterasi-1,x=0.07809162 dan f(x)=1.03243531
  iterasi-2,x=0.15547011 dan f(x)=0.97483938
  iterasi-3,x=1.46513907 dan f(x)=-12.84491488
  iterasi-4,x=0.24785358 dan f(x)=0.78982113
  iterasi-5,x=0.31836744 dan f(x)=0.56401875
  iterasi-6,x=0.49449993 dan f(x)=-0.31656337
  iterasi-7,x=0.43118148 dan f(x)=0.05173509
  iterasi-8,x=0.44007586 dan f(x)=0.00349092
  iterasi-9,x=0.44071945 dan f(x)=-0.00004436
  iterasi-10,x=0.44071138 dan f(x)=0.00000004
  iterasi-11,x=0.44071138 dan f(x)=0.00000000
  iterasi-12,x=0.44071138 dan f(x)=-0.00000000
  iterasi-13,x=0.44071138 dan f(x)=0.00000000
  iterasi-14,x=0.44071138 dan f(x)=-0.00000000
  iterasi-15,x=0.44071138 dan f(x)=-0.00000000
  solusi tidak ditemukan
Run TODO Problems Terminal Python Packages Python Console
13:43 CRLF UTF-8 4 spaces Python 3.9 (metnum)
```



```
File Edit View Navigate Code Refactor Run Tools VCS Window Help metnum - main.py
metnum secant.py
Project
  metnum C:\metnum
    venv library root
    Lib
    Scripts
    .gitignore
    pyenv.cfg
    fungsi.png
    main.py
    newton_raphson.py
    regulafalsi.py
    secant.py
Run: secant
  C:\metnum\venv\Scripts\python.exe C:/metnum/secant.py
  x0: 0
  x1: 1
  max iter: 100
  epsilon: 0.00001
  iterasi-1,x=0.07809162 dan f(x)=1.03243531
  iterasi-2,x=0.15547011 dan f(x)=0.97483938
  iterasi-3,x=1.46513907 dan f(x)=-12.84491488
  iterasi-4,x=0.24785358 dan f(x)=0.78982113
  iterasi-5,x=0.31836744 dan f(x)=0.56401875
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Run TODO Problems Terminal Python Packages Python Console
13:43 CRLF UTF-8 4 spaces Python 3.9 (metnum)
```