Nurunnisa Fathanah Dz. S. B.

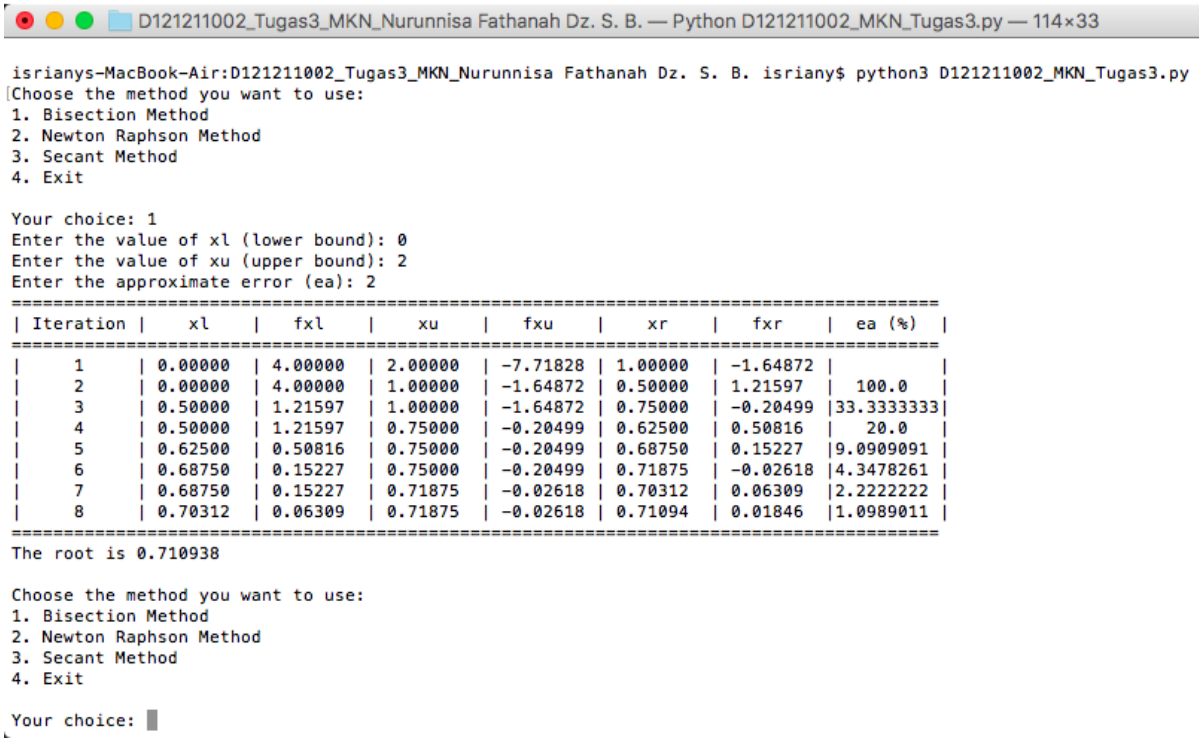
D121211002

Metode Komputasi Numerik Kelas A

Tugas 3

(a)

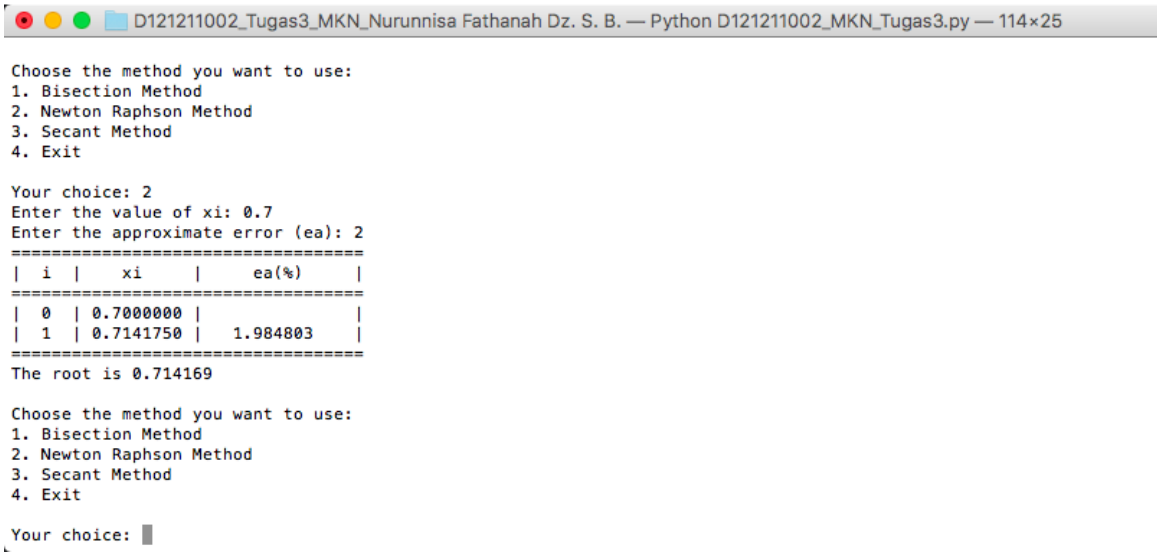
1. Menu 1, memilih metode yang akan digunakan.
2. Input : 1
3. Menghitung menggunakan metode Bisection
4. Input : xl = 0, xu = 2, ea = 2
5. Pada iterasi ke 8 dan memenuhi syarat dengan error approximate di bawah 2%, didapatkan akarnya yaitu **0.710938**



```
D121211002_Tugas3_MKN_Nurunnisa Fathanah Dz. S. B. — Python D121211002_MKN_Tugas3.py — 114×33

isrianys-MacBook-Air:D121211002_Tugas3_MKN_Nurunnisa Fathanah Dz. S. B. isriany$ python3 D121211002_MKN_Tugas3.py
Choose the method you want to use:
1. Bisection Method
2. Newton Raphson Method
3. Secant Method
4. Exit

Your choice: 1
Enter the value of xl (lower bound): 0
Enter the value of xu (upper bound): 2
Enter the approximate error (ea): 2
=============================================================================================
| Iteration |    xl    |    fxl    |    xu    |    fxu    |    xr    |    fxr    |  ea (%)  |
=============================================================================================
|     1     | 0.00000  | 4.00000  | 2.00000  | -7.71828 | 1.00000  | -1.64872 |          |
|     2     | 0.00000  | 4.00000  | 1.00000  | -1.64872 | 0.50000  | 1.21597  |  100.0   |
|     3     | 0.50000  | 1.21597  | 1.00000  | -1.64872 | 0.75000  | -0.20499 |33.3333333|
|     4     | 0.50000  | 1.21597  | 0.75000  | -0.20499 | 0.62500  | 0.50816  |   20.0   |
|     5     | 0.62500  | 0.50816  | 0.75000  | -0.20499 | 0.68750  | 0.15227  |9.0909091 |
|     6     | 0.68750  | 0.15227  | 0.75000  | -0.20499 | 0.71875  | -0.02618 |4.3478261 |
|     7     | 0.68750  | 0.15227  | 0.71875  | -0.02618 | 0.70312  | 0.06309  |2.2222222 |
|     8     | 0.70312  | 0.06309  | 0.71875  | -0.02618 | 0.71094  | 0.01846  |1.0989011 |
=============================================================================================
The root is 0.710938

Choose the method you want to use:
1. Bisection Method
2. Newton Raphson Method
3. Secant Method
4. Exit

Your choice:
```

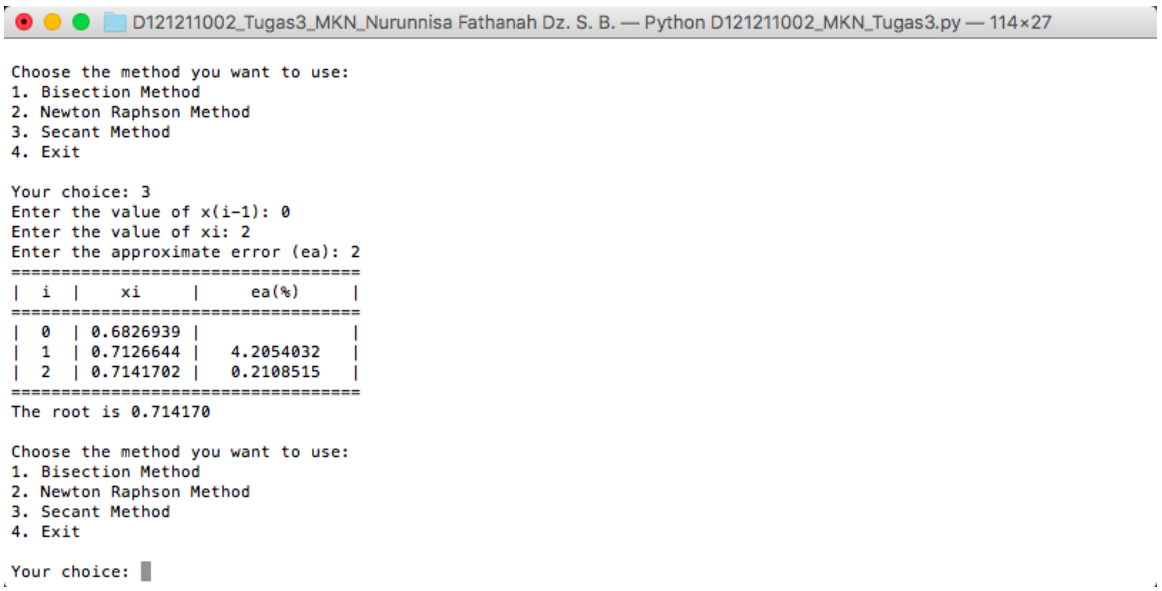
(b)

1. Program menampilkan menu 1 kembali, Input : 2
2. Menghitung menggunakan Newton Raphson Method
3. Input : Xi = 0.7, ea = 2
4. Untuk i = 1 dengan error approximate di bawah 2%, ditemukan akarnya yaitu **0.714169**



(c)

1. Program menampilkan menu 1 kembali, Input : 3
2. Menghitung menggunakan Secant Method
3. Input : X-1 = 0, x0 = 2, ea = 2
4. Untuk i = 2 dengan error approximate di bawah 2%, ditemukan akarnya yaitu **0.714170**.



(d)

1. Program menampilkan menu 1 kembali, Input : 4
2. Anda memilih keluar dari program.
3. Program Selesai.