

Nama : Ananda Setyawati
NPM : 202010225243
Kelas : TF3B

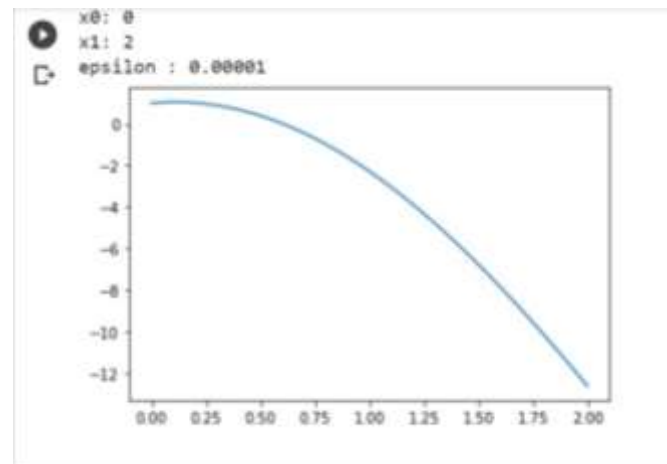
Praktikum Metode Numerik

Tugas 1 Solusi Persamaan Non Linear

- Bisection**

```
*** --Metode Bagi Dua-- ***
Iterasi-1, x2 = 1.000000 dan f(x2) = -2.281718
Iterasi-2, x2 = 0.500000 dan f(x2) = 0.398721
Iterasi-3, x2 = 0.750000 dan f(x2) = -0.695500
Iterasi-4, x2 = 0.625000 dan f(x2) = -0.084879
Iterasi-5, x2 = 0.562500 dan f(x2) = 0.173023
Iterasi-6, x2 = 0.593750 dan f(x2) = 0.048071
Iterasi-7, x2 = 0.609375 dan f(x2) = -0.017408
Iterasi-8, x2 = 0.601562 dan f(x2) = 0.015581
Iterasi-9, x2 = 0.605469 dan f(x2) = -0.000851
Iterasi-10, x2 = 0.603516 dan f(x2) = 0.007380
Iterasi-11, x2 = 0.604492 dan f(x2) = 0.003268
Iterasi-12, x2 = 0.604980 dan f(x2) = 0.001210
Iterasi-13, x2 = 0.605225 dan f(x2) = 0.000179
Iterasi-14, x2 = 0.605347 dan f(x2) = -0.000336
Iterasi-15, x2 = 0.605286 dan f(x2) = -0.000078
Iterasi-16, x2 = 0.605255 dan f(x2) = 0.000051
Iterasi-17, x2 = 0.605270 dan f(x2) = -0.000014
Iterasi-18, x2 = 0.605263 dan f(x2) = 0.000018
Iterasi-19, x2 = 0.605267 dan f(x2) = 0.000002

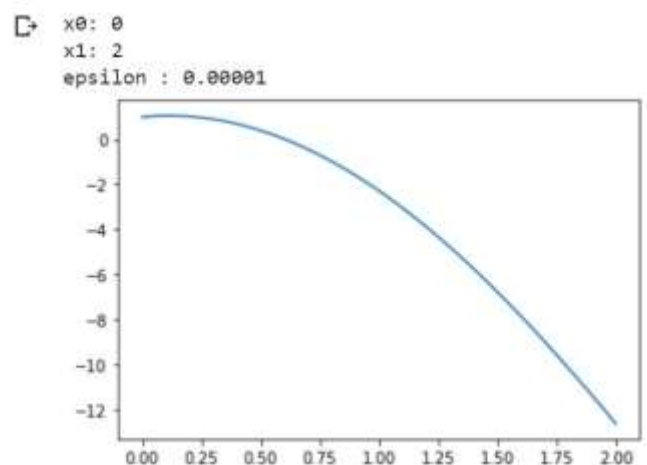
Akar Persamaan tersebut : 0.60526657
<Figure size 432x288 with 0 Axes>
```



- Regulafalsi**

```
*** --Metode Regulafalsi-- ***
Iteration-1, x2 = 0.146941 and f(x2) = 1.050327
Iteration-2, x2 = 0.289410 and f(x2) = 0.916848
Iteration-3, x2 = 0.405346 and f(x2) = 0.678295
Iteration-4, x2 = 0.486738 and f(x2) = 0.442429
Iteration-5, x2 = 0.538029 and f(x2) = 0.265253
Iteration-6, x2 = 0.568146 and f(x2) = 0.151043
Iteration-7, x2 = 0.585092 and f(x2) = 0.083492
Iteration-8, x2 = 0.594398 and f(x2) = 0.045394
Iteration-9, x2 = 0.599440 and f(x2) = 0.024459
Iteration-10, x2 = 0.602151 and f(x2) = 0.013114
Iteration-11, x2 = 0.603603 and f(x2) = 0.007013
Iteration-12, x2 = 0.604379 and f(x2) = 0.003745
Iteration-13, x2 = 0.604793 and f(x2) = 0.001999
Iteration-14, x2 = 0.605014 and f(x2) = 0.001066
Iteration-15, x2 = 0.605132 and f(x2) = 0.000569
Iteration-16, x2 = 0.605195 and f(x2) = 0.000303
Iteration-17, x2 = 0.605229 and f(x2) = 0.000162
Iteration-18, x2 = 0.605247 and f(x2) = 0.000086
Iteration-19, x2 = 0.605256 and f(x2) = 0.000046
Iteration-20, x2 = 0.605261 and f(x2) = 0.000025
Iteration-21, x2 = 0.605264 and f(x2) = 0.000013
Iteration-22, x2 = 0.605265 and f(x2) = 0.000007

Akar Persamaan tersebut : 0.60526547
<Figure size 432x288 with 0 Axes>
```



- **Newton Raphson**



x0: 0
epsilon : 0.00001

```
*** ---METODE NEWTON RAPHSON--- ***  
Iterasi-1, x = -1.00000000 dan f(x) = -4.63212056  
Iterasi-2, x = -0.55322392 dan f(x) = -0.95519075  
Iterasi-3, x = -0.39682326 dan f(x) = -0.11489062  
Iterasi-4, x = -0.37206600 dan f(x) = -0.00285682  
Iterasi-5, x = -0.37141820 dan f(x) = -0.00000195  
  
Akar Persamaan tersebut : -0.37141820  
-0.37141819606536197
```

- **Secant**



x0: 0
x1: 2



Max Iter: 100

epsilon: 0.00001
Iterasi-1, x = 0.14694058 dan f(x) = 1.05032747
Iterasi-2, x = 0.28941042 dan f(x) = 0.91684783
Iterasi-3, x = 1.26801036 dan f(x) = -4.48547660
Iterasi-4, x = 0.45549212 dan f(x) = 0.53958387
Iterasi-5, x = 0.54273918 dan f(x) = 0.24788466
Iterasi-6, x = 0.61688134 dan f(x) = -0.04957321
Iterasi-7, x = 0.60452508 dan f(x) = 0.00312984
Iterasi-8, x = 0.60525888 dan f(x) = 0.00003480
Iterasi-9, x = 0.60526713 dan f(x) = -0.00000003

Akar Persamaan tersebut : 0.60526713