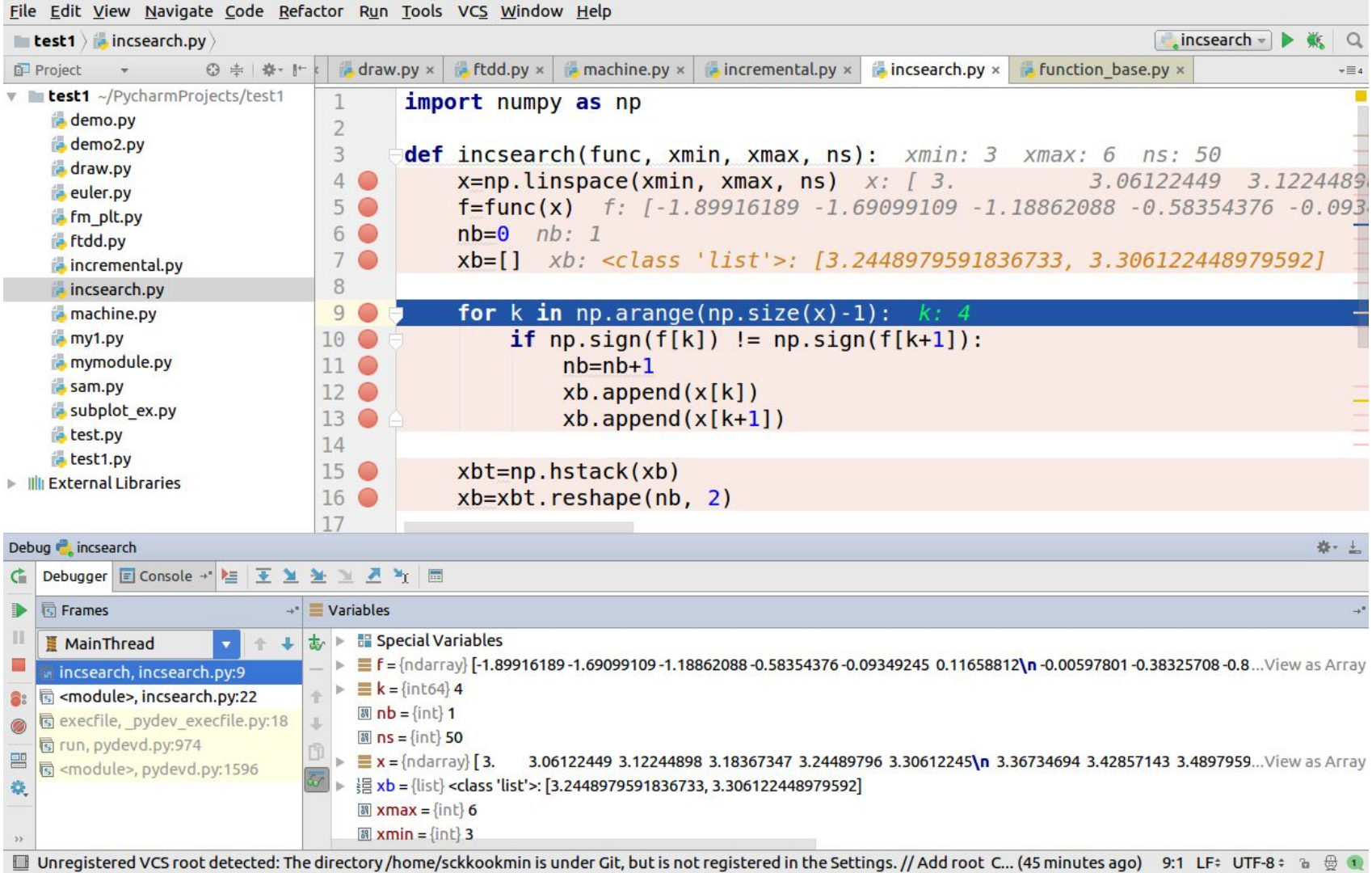
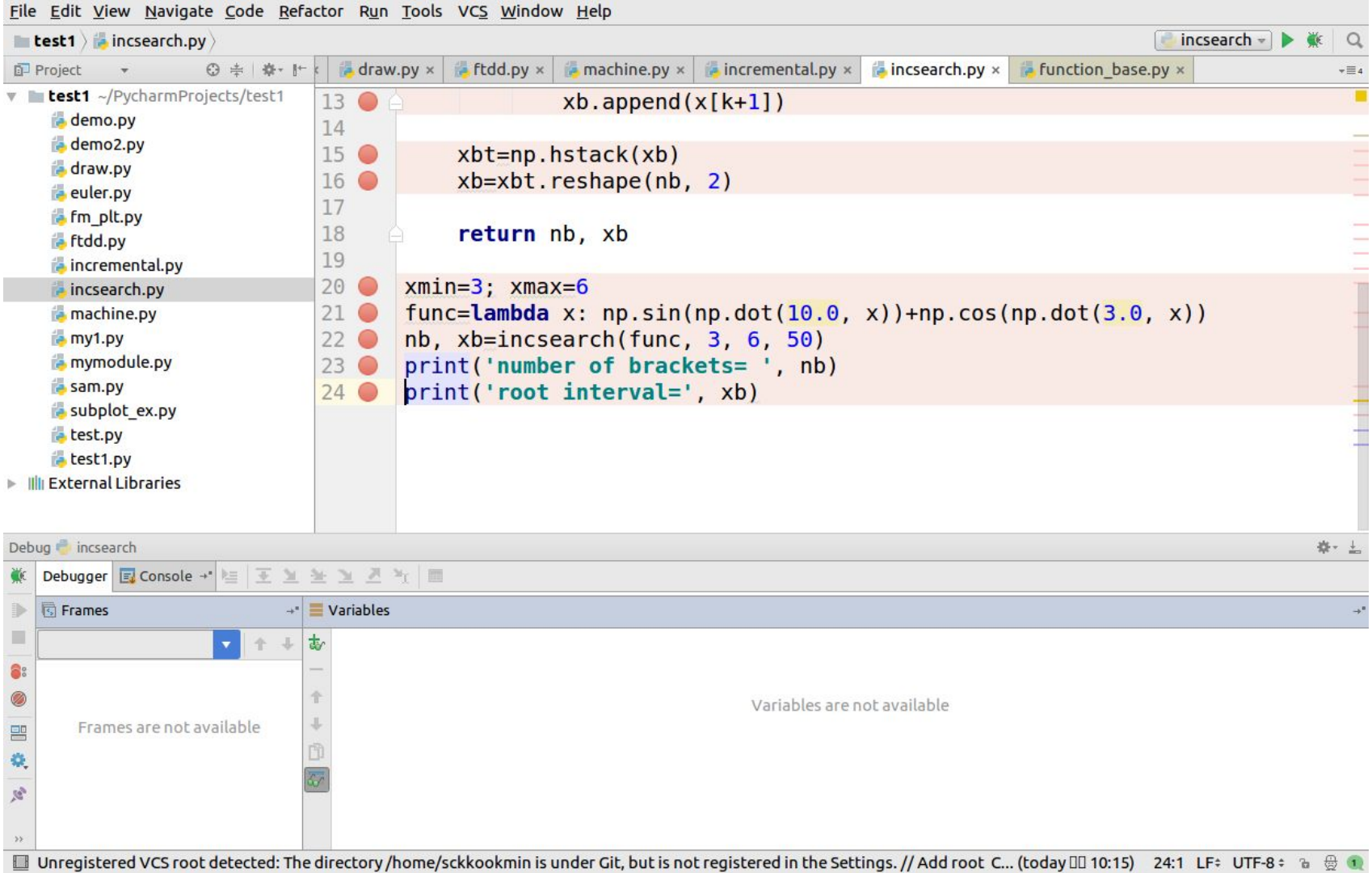
Pycharm Debug

Prof. Sang-Chul Kim


File Edit View Navigate Code Refactor Run Tools VCS Window Help
test1 incsearch.py
incsearch
Project
draw.py ftdd.py machine.py incremental.py incsearch.py function_base.py
test1 ~/PycharmProjects/test1
demo.py
demo2.py
draw.py
euler.py
fm_plt.py
ftdd.py
incremental.py
incsearch.py
machine.py
my1.py
mymodule.py
sam.py
subplot_ex.py
test.py
test1.py
External Libraries
import numpy as np
def incsearch(func, xmin, xmax, ns): xmin: 3 xmax: 6 ns: 50
x=np.linspace(xmin, xmax, ns) x: [3. 3.06122449 3.1224489
f=func(x) f: [-1.89916189 -1.69099109 -1.18862088 -0.58354376 -0.093
nb=0 nb: 1
xb=[] xb: <class 'list'>: [3.2448979591836733, 3.306122448979592]
for k in np.arange(np.size(x)-1): k: 4
if np.sign(f[k]) != np.sign(f[k+1]):
nb=nb+1
xb.append(x[k])
xb.append(x[k+1])
xbt=np.hstack(xb)
xb=xbt.reshape(nb, 2)
Debug incsearch
Debugger Console
Frames
Variables
MainThread
incsearch, incsearch.py:9
<module>, incsearch.py:22
execfile, _pydev_execfile.py:18
run, pydevd.py:974
<module>, pydevd.py:1596
Special Variables
f = {ndarray} [-1.89916189 -1.69099109 -1.18862088 -0.58354376 -0.09349245 0.11658812\n -0.00597801 -0.38325708 -0.8 ...View as Array
k = {int64} 4
nb = {int} 1
ns = {int} 50
x = {ndarray} [3. 3.06122449 3.12244898 3.18367347 3.24489796 3.30612245\n 3.36734694 3.42857143 3.4897959 ...View as Array
xb = {list} <class 'list'>: [3.2448979591836733, 3.306122448979592]
xmax = {int} 6
xmin = {int} 3
Unregistered VCS root detected: The directory /home/sckkookmin is under Git, but is not registered in the Settings. // Add root C... (45 minutes ago)
9:1 LF UTF-8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test1.py
External Libraries
13 xb.append(x[k+1])
14
15 xbt=np.hstack(xb)
16 xb=xbt.reshape(nb, 2)
17
18 return nb, xb
19
20 xmin=3; xmax=6
21 func=lambda x: np.sin(np.dot(10.0, x))+np.cos(np.dot(3.0, x))
22 nb, xb=incsearch(func, 3, 6, 50)
23 print('number of brackets= ', nb)
24 print('root interval=', xb)
Debug incsearch
Debugger
Console
Frames
Variables
Frames are not available
Variables are not available
Unregistered VCS root detected: The directory /home/sckkookmin is under Git, but is not registered in the Settings. // Add root C... (today 10:15) 24:1 LF UTF-8

F8 키를 주로 사용 (Step over)

F7은 다른 함수 안으로 들어가는 Step into 기능

incsearch.py

```
import numpy as np
import matplotlib.pyplot as plt

x1=np.linspace(3, 6, 50)
func1=lambda x1: np.sin(np.dot(10.0,x1))+np.cos(np.dot(3.0, x1))
f1=func1(x1)
plt.figure(1)
plt.plot(x1,f1, 'ro-')
plt.grid()
#plt.show()
```

incsearch.py

```
x2=np.linspace(3, 6, 100)
func2=lambda x2: np.sin(np.dot(10.0,x2))+np.cos(np.dot(3.0, x2))
f2=func1(x2)
plt.figure(2)
plt.plot(x2,f2, 'bd-')
plt.grid()
#plt.show()
```

```
def incsearch(func, xmin, xmax, ns):
    x=np.linspace(xmin, xmax, ns)
    f=func(x)
    nb=0
    xb=[]
    for k in np.arange(np.size(x)-1):
        if np.sign(f[k]) != np.sign(f[k+1]):
            nb=nb+1
            xb.append(x[k])
            xb.append(x[k+1])
    xbt=np.hstack(xb)
    xb=xbt.reshape(nb, 2)
    return nb, xb
```

incsearch.py

```
dxmin=3; xmax=6
func=lambda x: np.sin(np.dot(10.0, x))+np.cos(np.dot(3.0, x))

# check the 50 points
nb, xb=incsearch(func, 3, 6, 50)
print('number of brackets= ', nb)
print('root interval=', xb)

# check the 100 points
nb1, xb1=incsearch(func, 3, 6, 100)
print('number of brackets= ', nb1)
print('root interval=', xb1)

plt.show()
```

incsearch.py

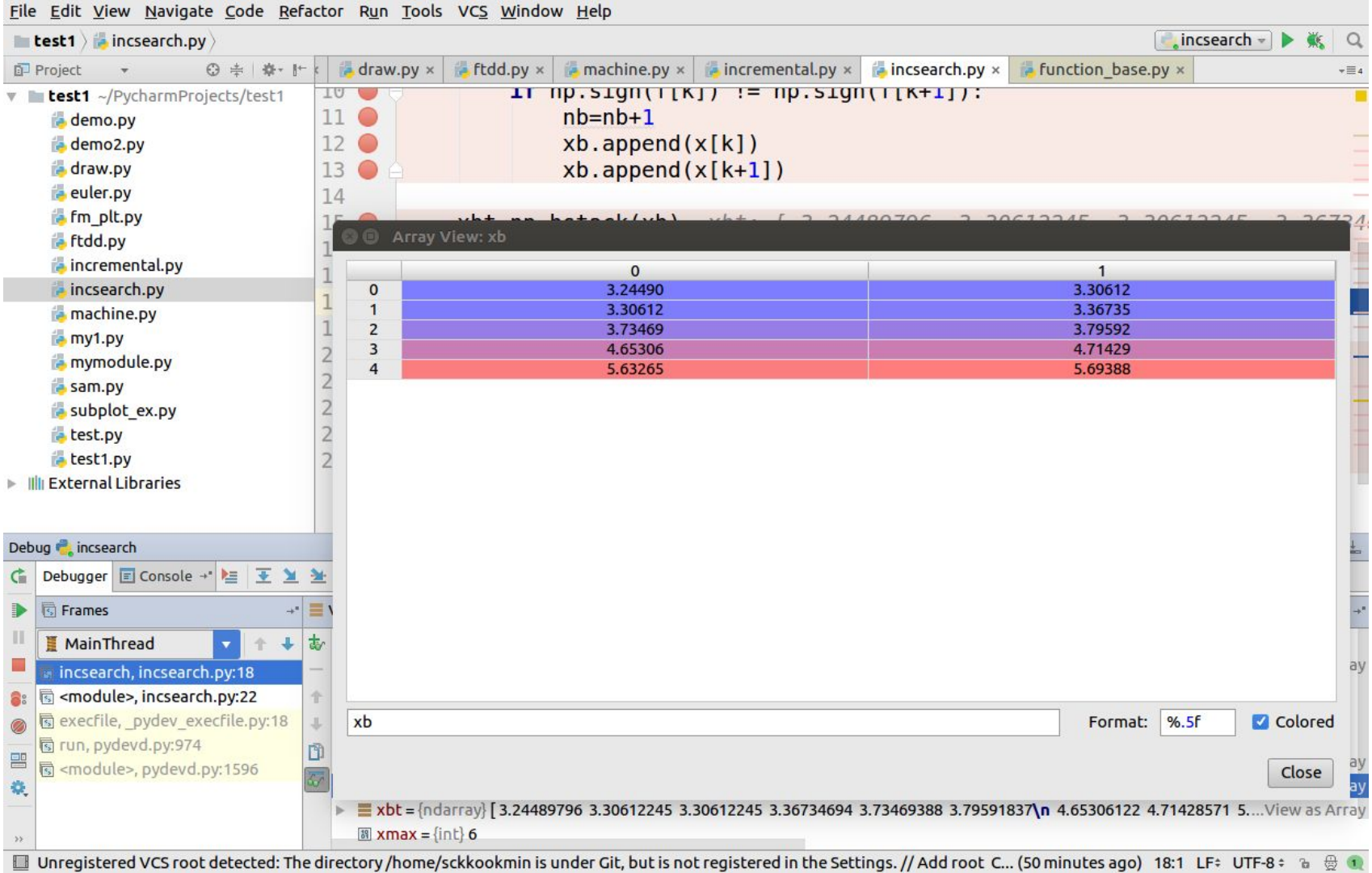
	0	1	2	3	4	5	6	7	8	9
0	3.24490	3.30612	3.30612	3.36735	3.73469	3.79592	4.65306	4.71429	5.63265	5.69388

xbt

Format: %.5f

Colored

Close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mymodule.py
sam.py
subplot_ex.py
test.py
test1.py
External Libraries
nb=nb+1
xb.append(x[k])
xb.append(x[k+1])
Array View: xb
0 1
0 3.24490 3.30612
1 3.30612 3.36735
2 3.73469 3.79592
3 4.65306 4.71429
4 5.63265 5.69388
xb
Format: %.5f
Colored
Close
Debug incsearch
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Frames
MainThread
incsearch, incsearch.py:18
<module>, incsearch.py:22
execfile, _pydev_execfile.py:18
run, pydevd.py:974
<module>, pydevd.py:1596
xbt = {ndarray} [3.24489796 3.30612245 3.30612245 3.36734694 3.73469388 3.79591837\n 4.65306122 4.71428571 5....View as Array
xmax = {int} 6
Unregistered VCS root detected: The directory /home/sckkookmin is under Git, but is not registered in the Settings. // Add root C... (50 minutes ago) 18:1 LF UTF-8

Figure 1

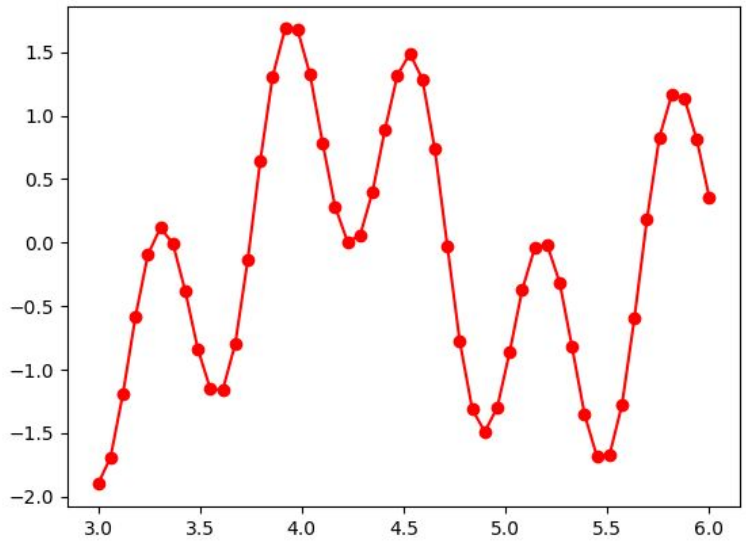
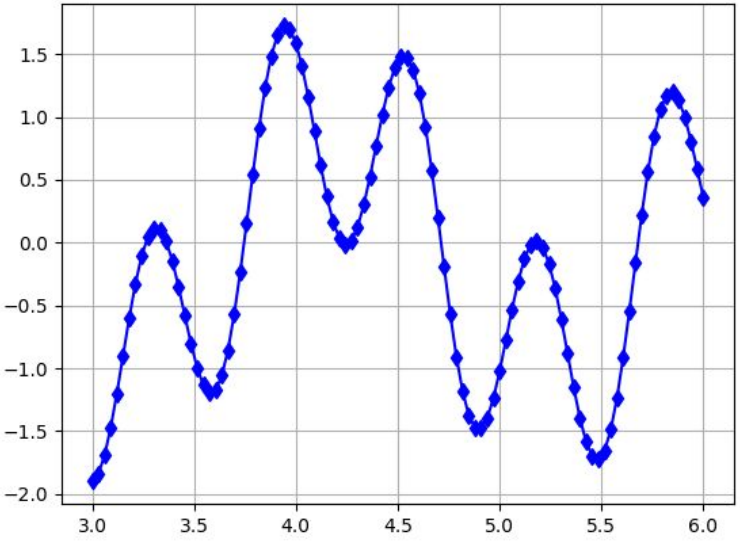
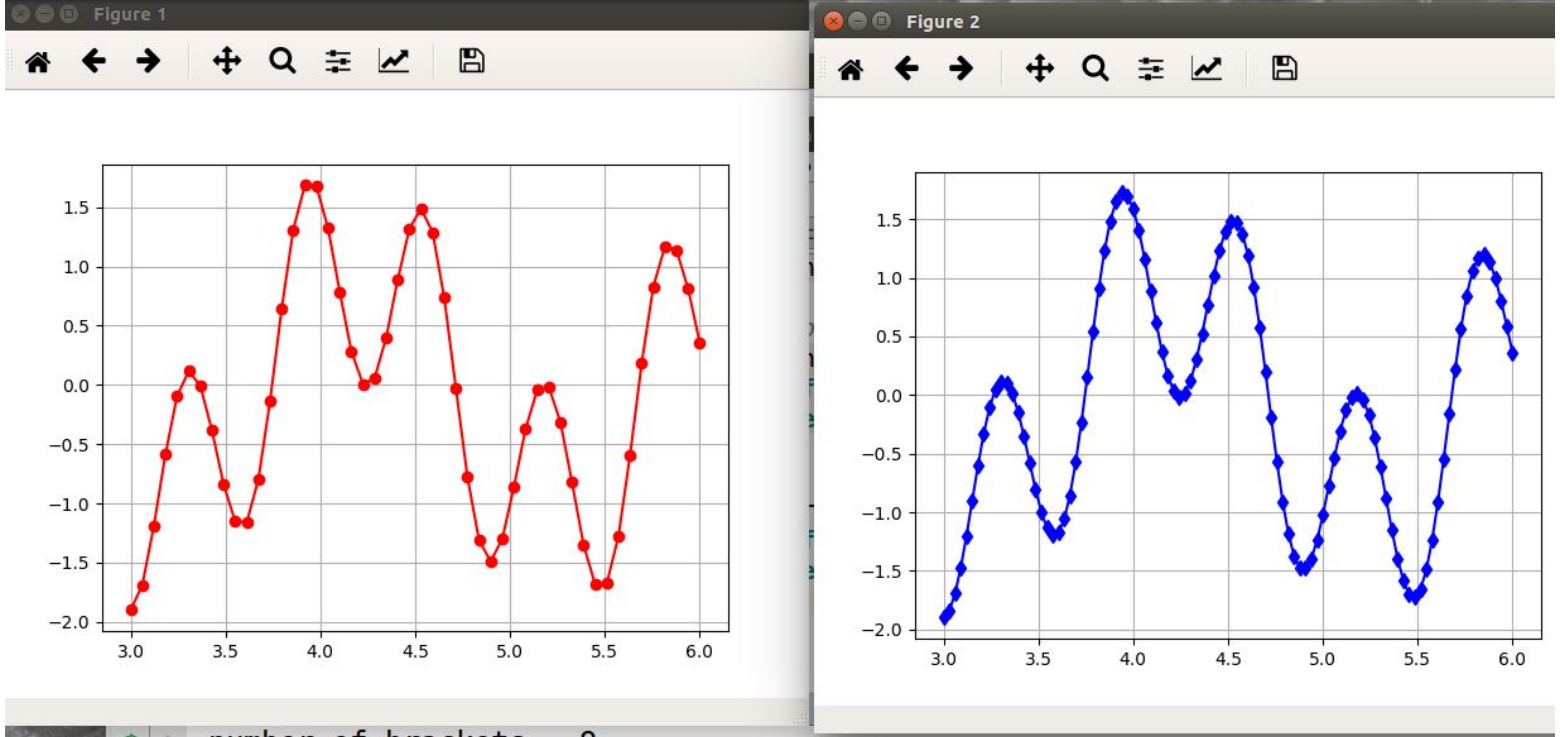


Figure 2



x=5.18528 y=0.0997854

```
/home/sckkookmin/anaconda3/bin/python /home/sckkookmin/PycharmProjects/test1/incsea
number of brackets=  5
root interval= [[ 3.24489796  3.30612245]
 [ 3.30612245  3.36734694]
 [ 3.73469388  3.79591837]
 [ 4.65306122  4.71428571]
 [ 5.63265306  5.69387755]]
```




```
number of brackets=  9
root interval= [[ 3.24242424  3.27272727]
 [ 3.36363636  3.39393939]
 [ 3.72727273  3.75757576]
 [ 4.21212121  4.24242424]
 [ 4.24242424  4.27272727]
 [ 4.6969697   4.72727273]
 [ 5.15151515  5.18181818]
 [ 5.18181818  5.21212121]
 [ 5.66666667  5.6969697 ]]
```