Course title: Computer Graphics Lab

Course code: CSE-304

3rd Year 1st Semester Examination 2022

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Submitted to-

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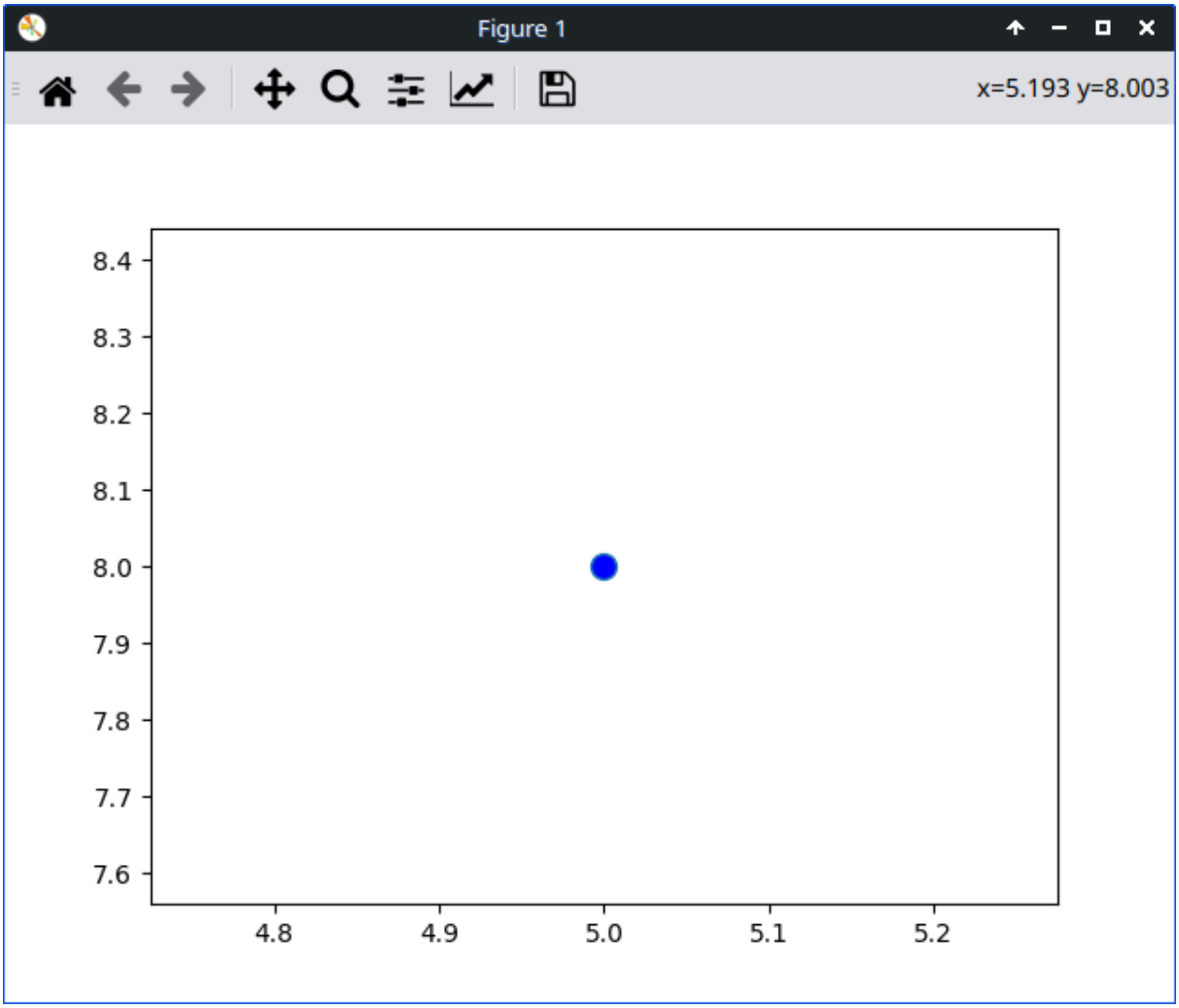
Code scan conversion of point:

```
from matplotlib import pyplot as plt

x=int(input("Enter x coordinate"))

y=int(input("Enter y coordinate"))

X_cor=[]

Y_cor=[]

X_cor.append(x)

Y_cor.append(y)

plt.plot(X_cor,Y_cor,marker="o",markersize=10,markerfacecolor="blue")

plt.show()
```

Screenshot:

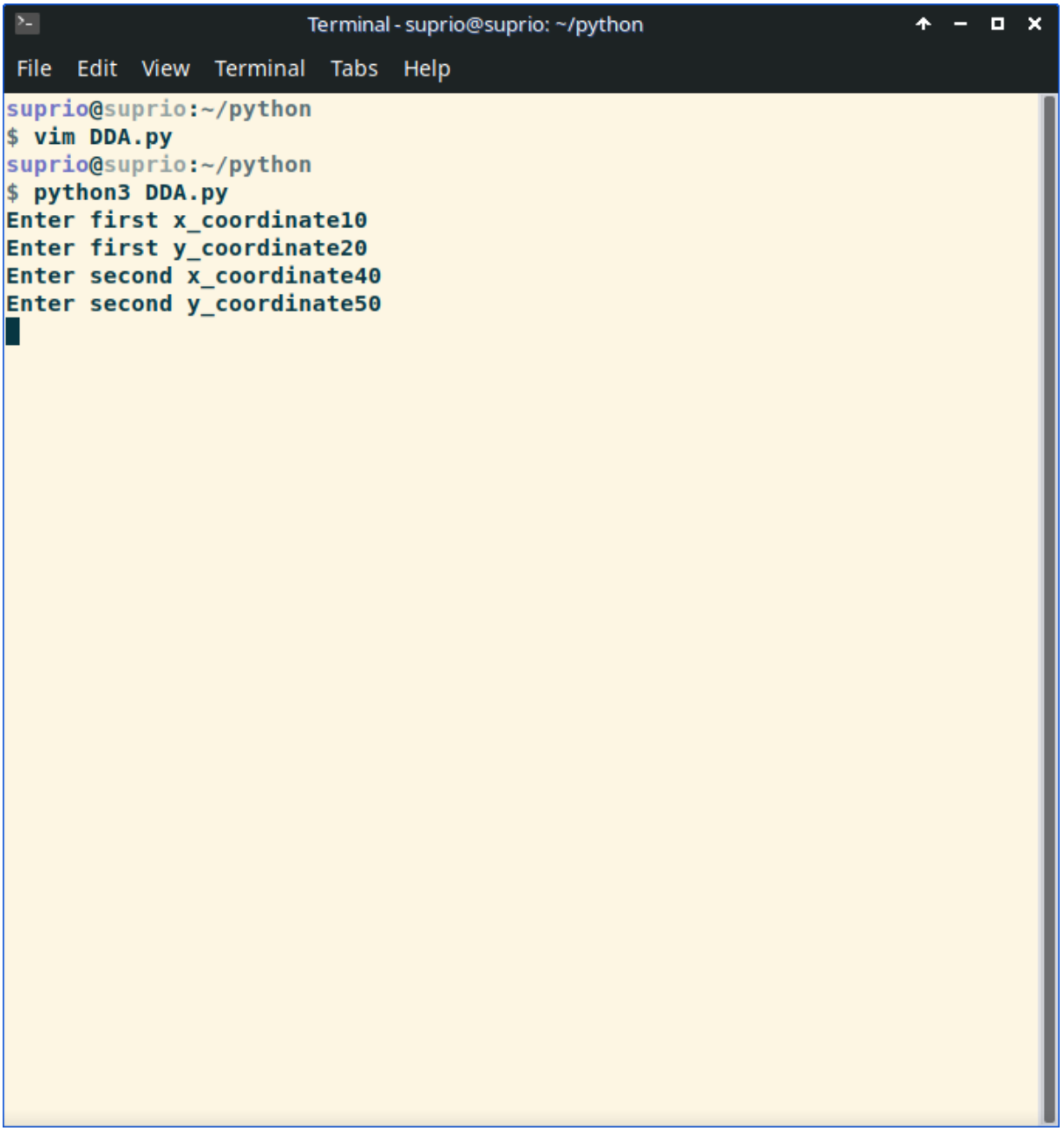
```
Terminal - suprio@suprio: ~/python
File  Edit  View  Terminal  Tabs  Help
  File "/home/suprio/.local/lib/python3.9/site-packages/matplotlib/backends/qt_compat.py", line 245,
 in _maybe_allow_interrupt
    old_sigint_handler(*handler_args)
KeyboardInterrupt

suprio@suprio:~/python
$ vim point.py
suprio@suprio:~/python
$ python3 point.py
Enter x coordinate5
Enter y coordinate6
Traceback (most recent call last):
  File "/home/suprio/python/point.py", line 8, in <module>
    plot(X_cor,Y_cor,marker="o",markersize=1,markerfacecolor="blue")
TypeError: 'module' object is not callable
suprio@suprio:~/python
$ vim point.py
suprio@suprio:~/python
$ python3 point.py
Enter x coordinate5
Enter y coordinate7
suprio@suprio:~/python
$ vim point.py
suprio@suprio:~/python
$ python3 point.py
Enter x coordinate5
Enter y coordinate8
```

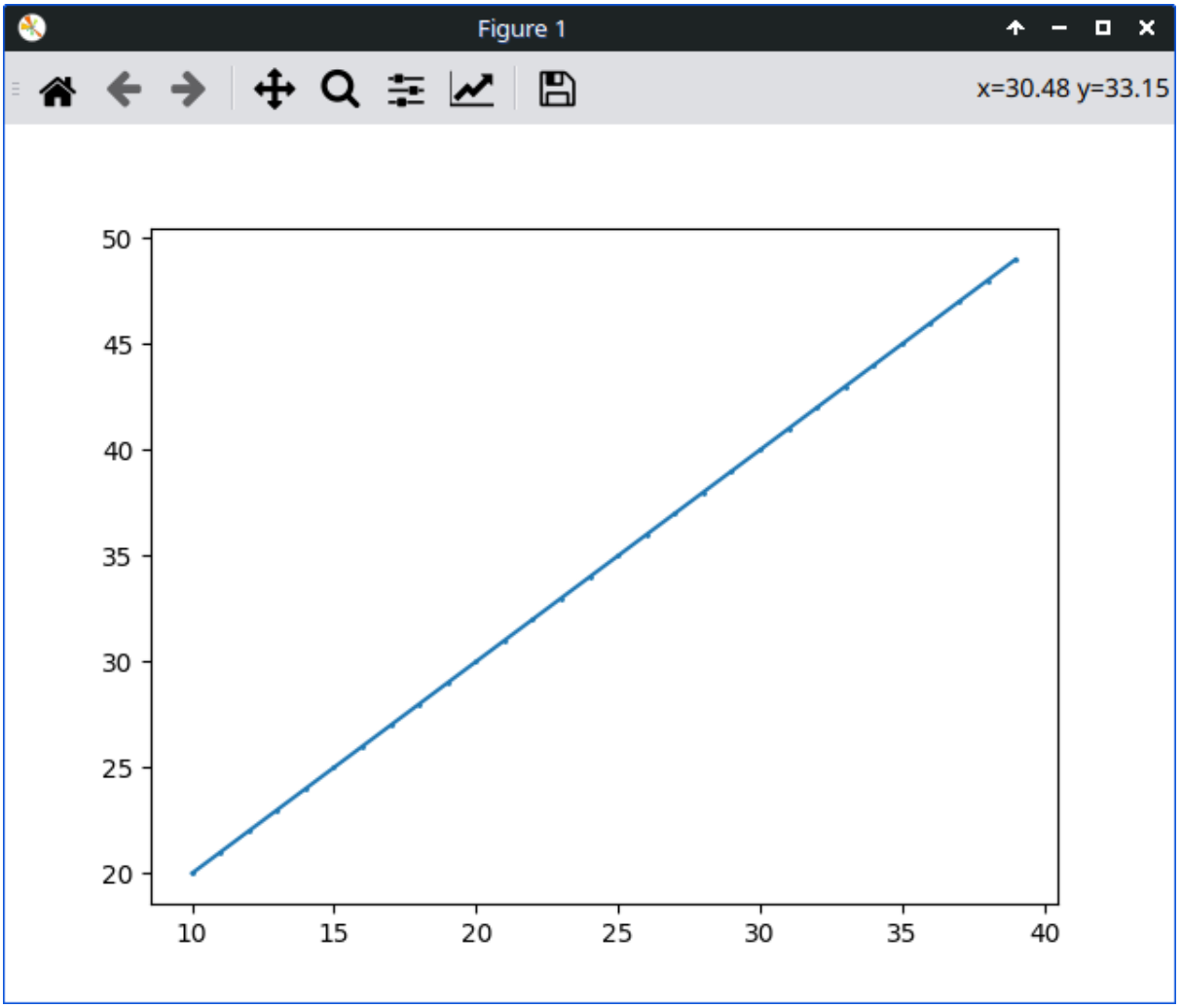


Code DDA:

```
from matplotlib import pyplot as plt
def DDA(x0,y0,x1,y1):
    dx=x1-x0
    dy=y1-y0
    steps=max(dx,dy)
    xinc=dx/steps
    yinc=dy/steps
    x=float(x0)
    y=float(y0)
    x_cor=[]
    y_cor=[]
    for i in range(steps):
        x_cor.append(x)
        y_cor.append(y)
        x=x+xinc
        y=y+yinc
    plt.plot(x_cor,y_cor,marker="o",markersize=1,markerfacecolor="green")
    plt.show()
x0=int(input("Enter first x_coordinate"))
y0=int(input("Enter first y_coordinate"))
x1=int(input("Enter second x_coordinate"))
y1=int(input("Enter second y_coordinate"))
DDA(x0,y0,x1,y1)
```

Screenshot:


Terminal - suprio@suprio: ~/python
File Edit View Terminal Tabs Help
suprio@suprio:~/python
$ vim DDA.py
suprio@suprio:~/python
$ python3 DDA.py
Enter first x_coordinate10
Enter first y_coordinate20
Enter second x_coordinate40
Enter second y_coordinate50

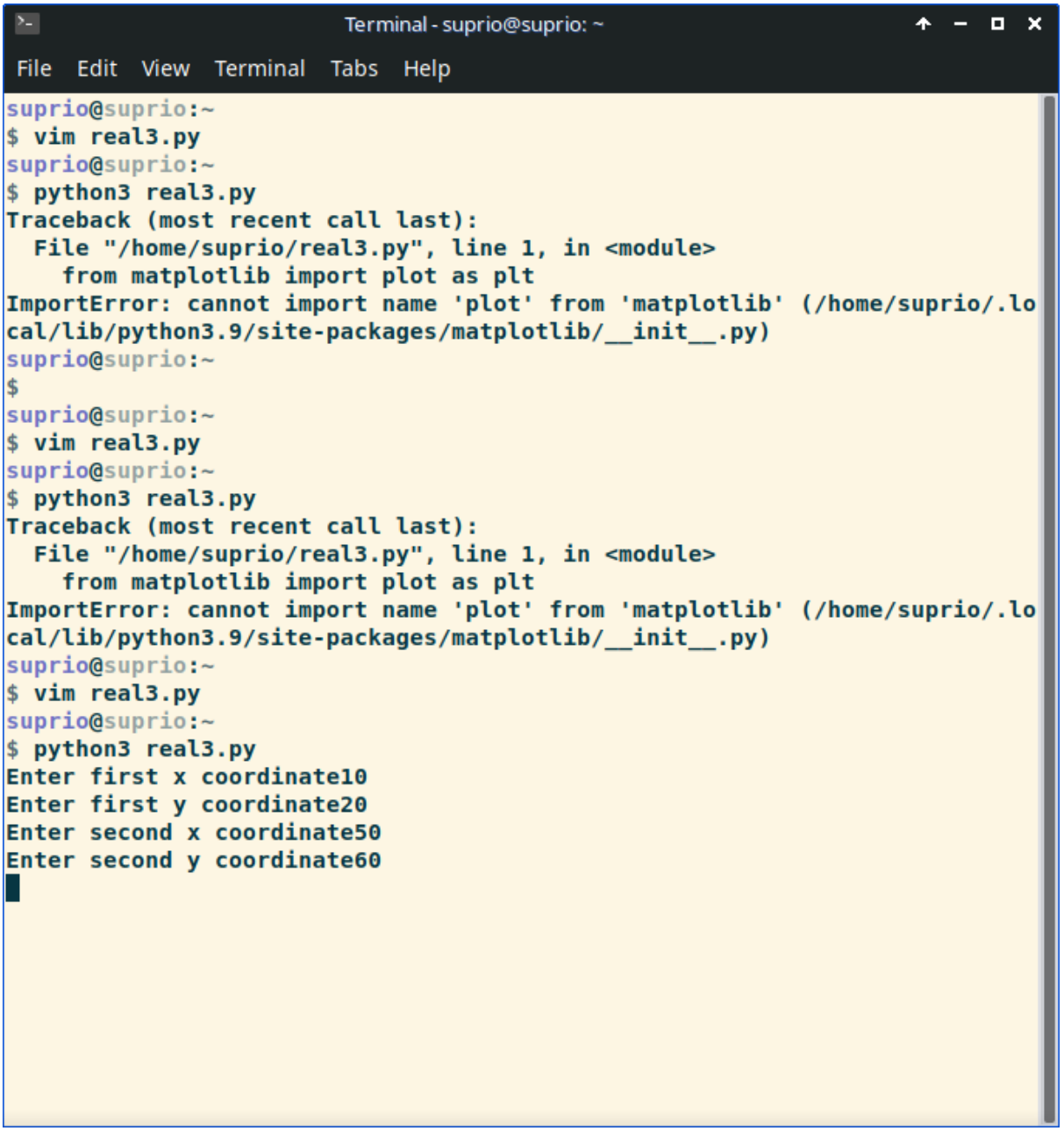


Brasenhem algorithm:

```
from matplotlib import pyplot as plt
def Pixelplot(x0,y0,x1,y1,dx,dy,choose):
    P=2 * dy -dx
    x_cor=[]
    y_cor=[]
    for i in range(0,dx+1):
        x_cor.append(x0)
        y_cor.append(y0)
        if(x0<x1):
            x0=x0+1
        else:
            x0=x0-1
```

```
        if(P<0):
            if(choose==0):
                P=P+2*dy
            else:
                P=P+2*dy
        else:
            if(y0<y1):
                y0=y0+1
            else:
                y0=y0-1
            P=P+2*dy-2*dx
    plt.plot(x_cor,y_cor,marker="o",markersize=1,markerfacecolor="red")
    plt.show()
x0=int(input("Enter first x coordinate"))
y0=int(input("Enter first y coordinate"))
x1=int(input("Enter second x coordinate"))
y1=int(input("Enter second y coordinate"))
dx=abs(x1-x0)
dy=abs(y1-y0)
if(dx>dy):
    Pixelplot(x0,y0,x1,y1,dx,dy,0)
else:
    Pixelplot(y0,x0,y1,x1,dy,dx,1)
```

Screenshot:


Terminal - suprio@suprio: ~
File Edit View Terminal Tabs Help
suprio@suprio:~
$ vim real3.py
suprio@suprio:~
$ python3 real3.py
Traceback (most recent call last):
File "/home/suprio/real3.py", line 1, in <module>
from matplotlib import plot as plt
ImportError: cannot import name 'plot' from 'matplotlib' (/home/suprio/.lo
cal/lib/python3.9/site-packages/matplotlib/__init__.py)
suprio@suprio:~
$
suprio@suprio:~
$ vim real3.py
suprio@suprio:~
$ python3 real3.py
Traceback (most recent call last):
File "/home/suprio/real3.py", line 1, in <module>
from matplotlib import plot as plt
ImportError: cannot import name 'plot' from 'matplotlib' (/home/suprio/.lo
cal/lib/python3.9/site-packages/matplotlib/__init__.py)
suprio@suprio:~
$ vim real3.py
suprio@suprio:~
$ python3 real3.py
Enter first x coordinate10
Enter first y coordinate20
Enter second x coordinate50
Enter second y coordinate60

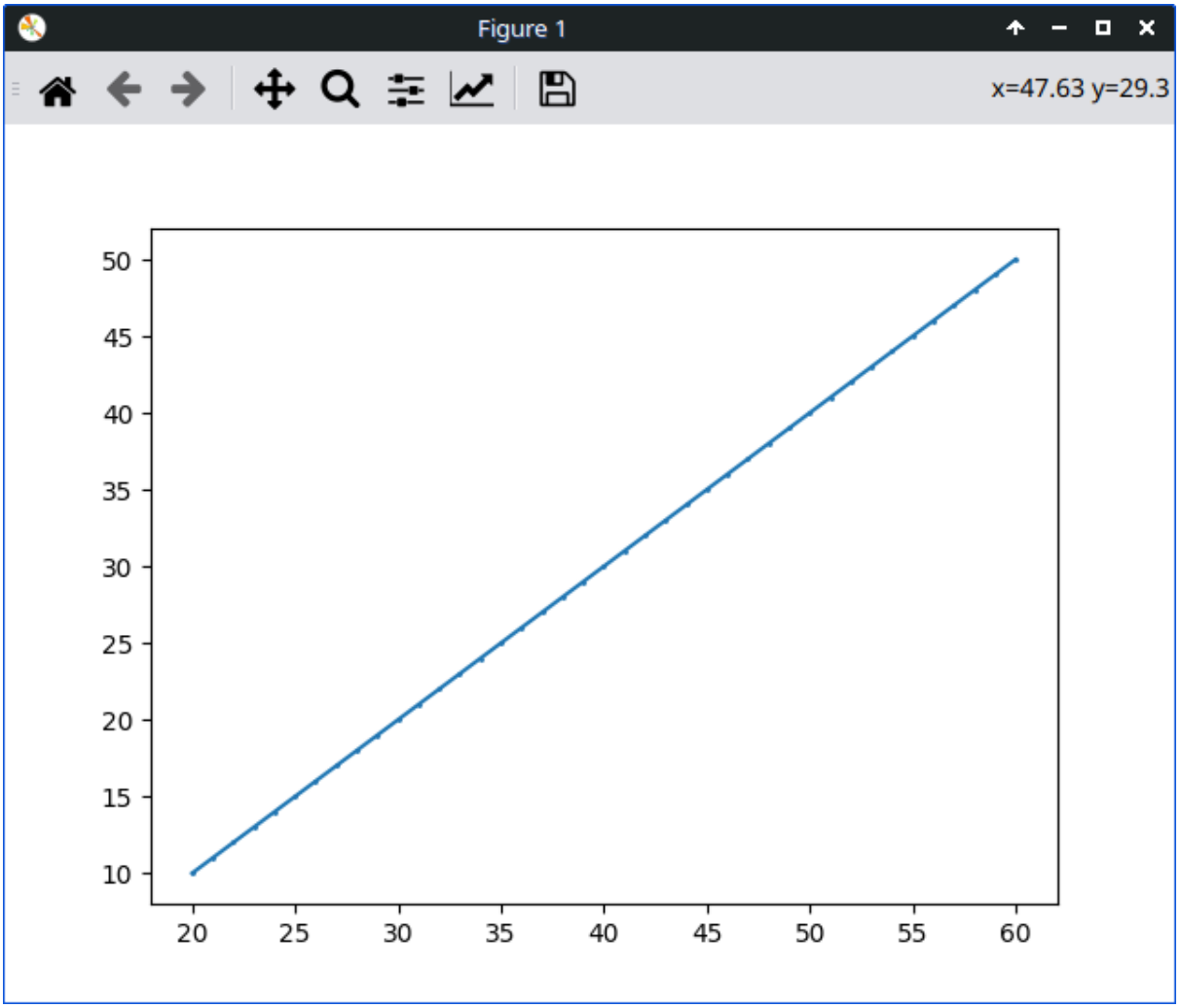


Figure 1
x=47.63 y=29.3
50
45
40
35
30
25
20
15
10
20
25
30
35
40
45
50
55
60