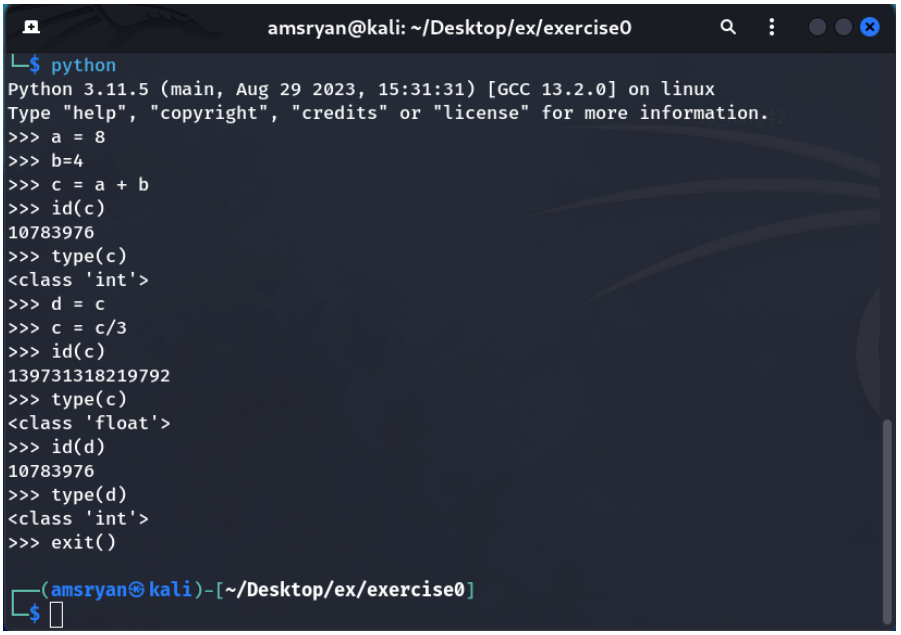
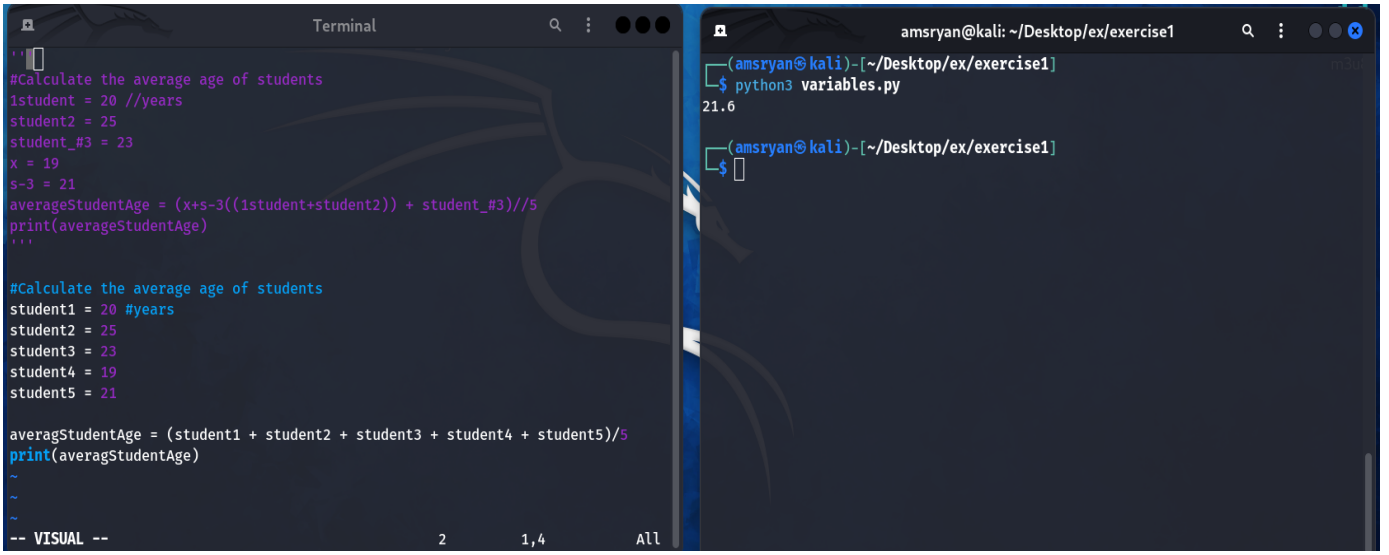
Variables

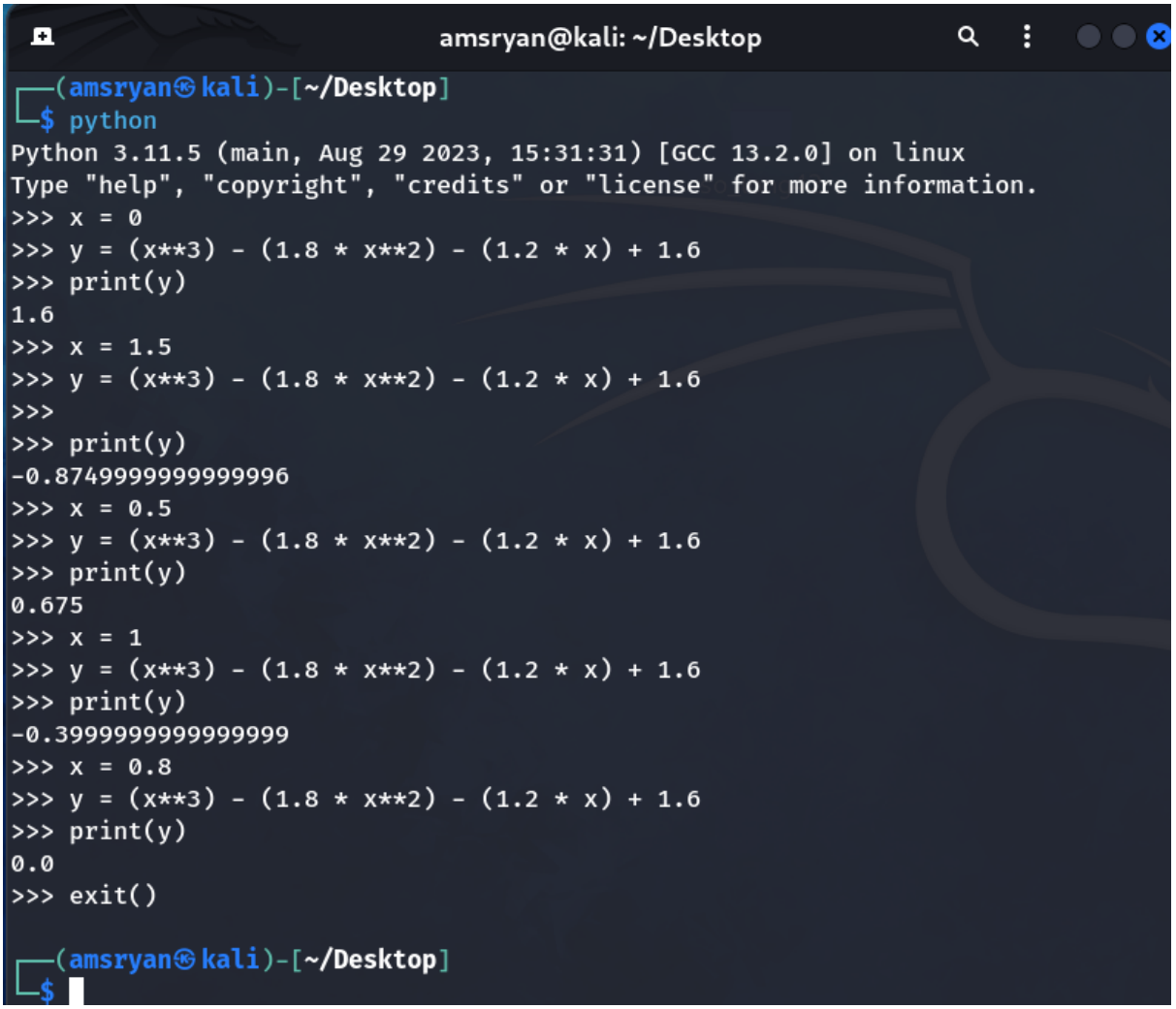
1)



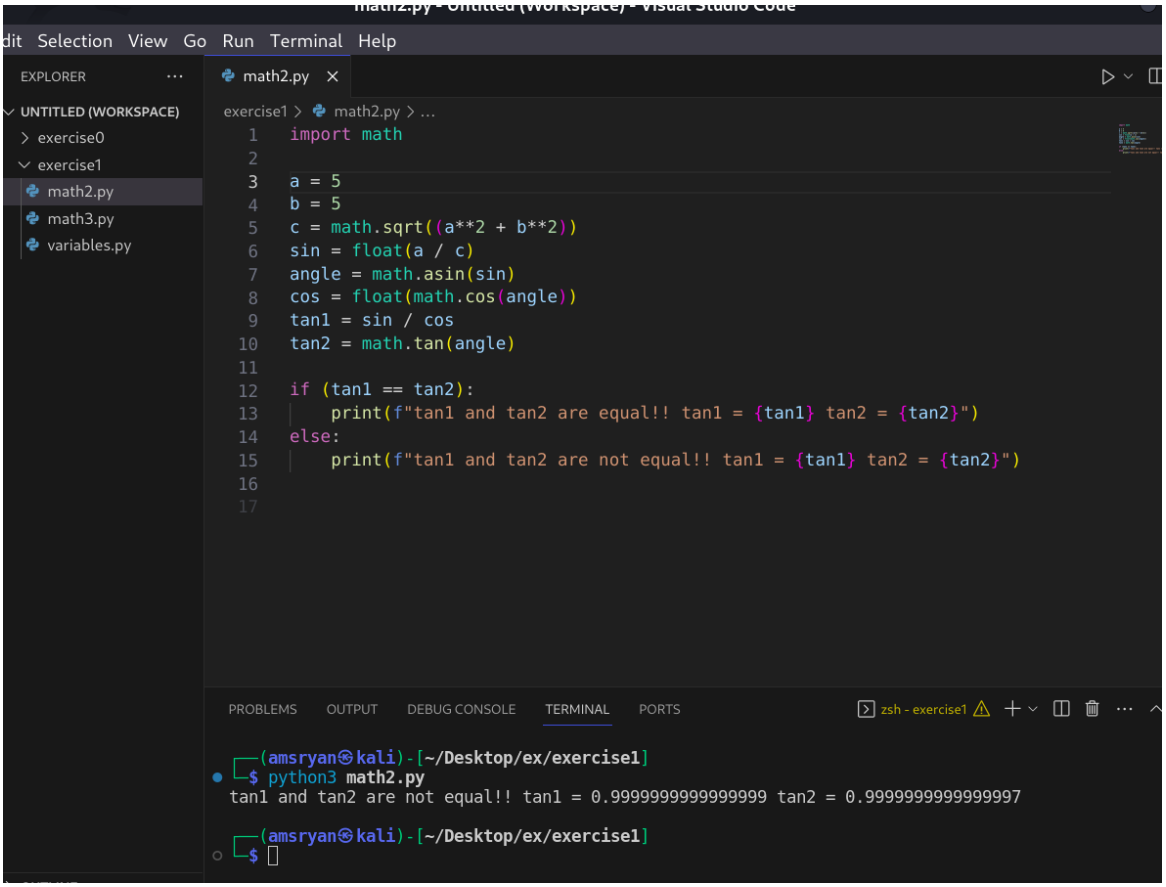
2)



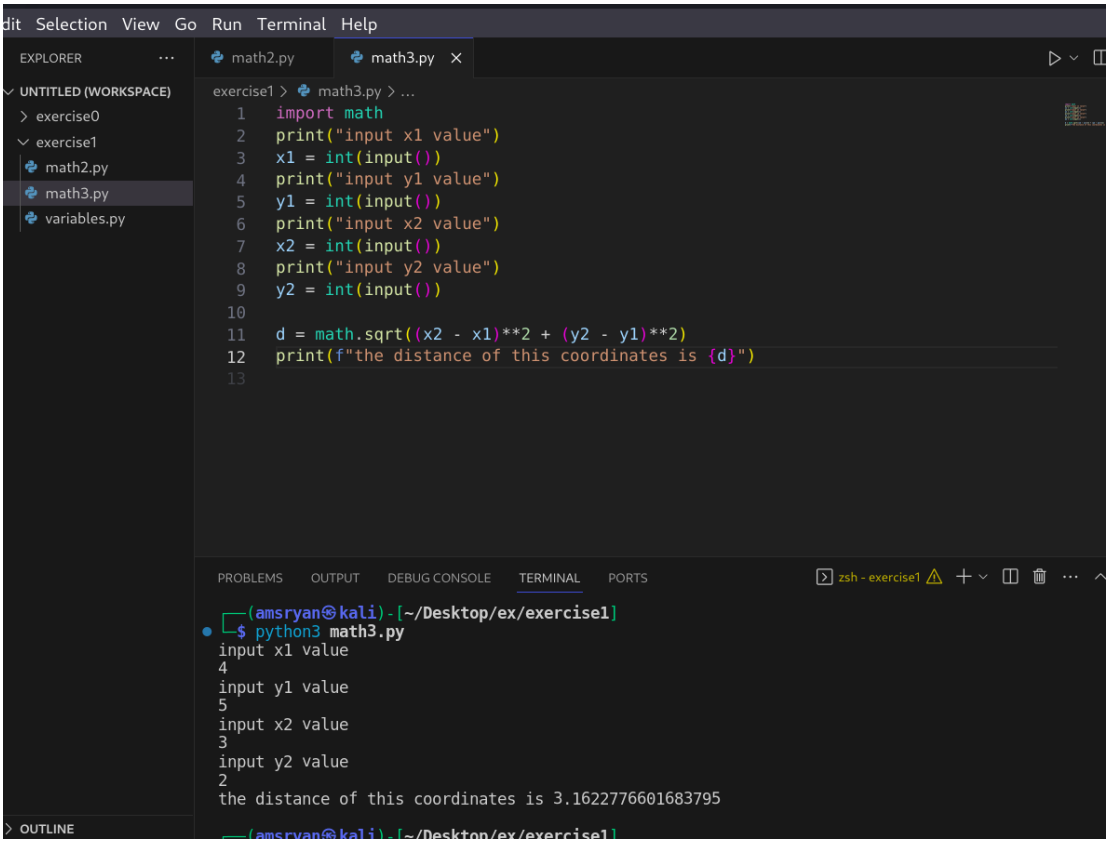
Math
1)


amsryan@kali: ~/Desktop
(amsryan㉿kali)-[~/Desktop]
$ python
Python 3.11.5 (main, Aug 29 2023, 15:31:31) [GCC 13.2.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> x = 0
>>> y = (x**3) - (1.8 * x**2) - (1.2 * x) + 1.6
>>> print(y)
1.6
>>> x = 1.5
>>> y = (x**3) - (1.8 * x**2) - (1.2 * x) + 1.6
>>>
>>> print(y)
-0.8749999999999996
>>> x = 0.5
>>> y = (x**3) - (1.8 * x**2) - (1.2 * x) + 1.6
>>> print(y)
0.675
>>> x = 1
>>> y = (x**3) - (1.8 * x**2) - (1.2 * x) + 1.6
>>> print(y)
-0.3999999999999999
>>> x = 0.8
>>> y = (x**3) - (1.8 * x**2) - (1.2 * x) + 1.6
>>> print(y)
0.0
>>> exit()
(amsryan㉿kali)-[~/Desktop]
$

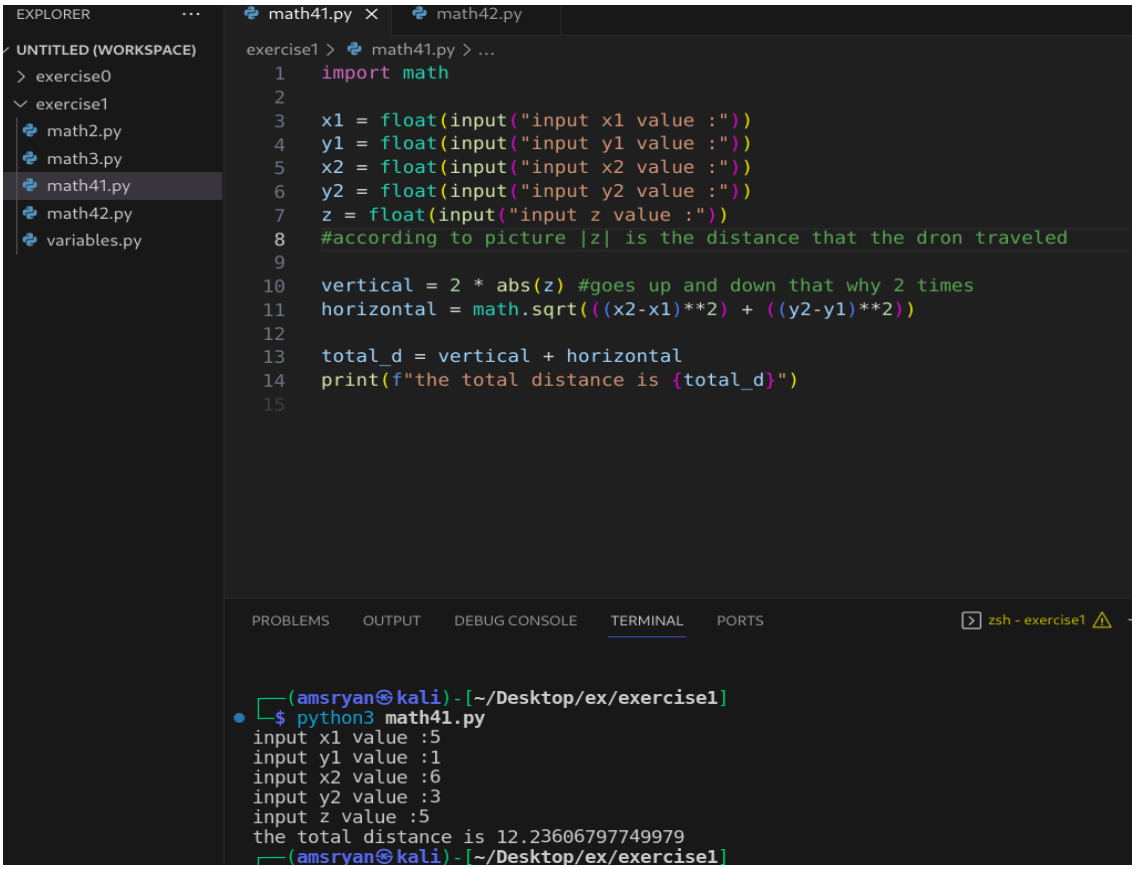
2)


dit Selection View Go Run Terminal Help
EXPLORER
UNTITLED (WORKSPACE)
exercise0
exercise1
math2.py
math3.py
variables.py
math2.py
exercise1 > math2.py > ...
1 import math
2
3 a = 5
4 b = 5
5 c = math.sqrt((a**2 + b**2))
6 sin = float(a / c)
7 angle = math.asin(sin)
8 cos = float(math.cos(angle))
9 tan1 = sin / cos
10 tan2 = math.tan(angle)
11
12 if (tan1 == tan2):
13 print(f"tan1 and tan2 are equal!! tan1 = {tan1} tan2 = {tan2}")
14 else:
15 print(f"tan1 and tan2 are not equal!! tan1 = {tan1} tan2 = {tan2}")
16
17
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
zsh - exercise1
(amsryan㉿kali)-[~/Desktop/ex/exercise1]
$ python3 math2.py
tan1 and tan2 are not equal!! tan1 = 0.9999999999999999 tan2 = 0.9999999999999997
(amsryan㉿kali)-[~/Desktop/ex/exercise1]
$

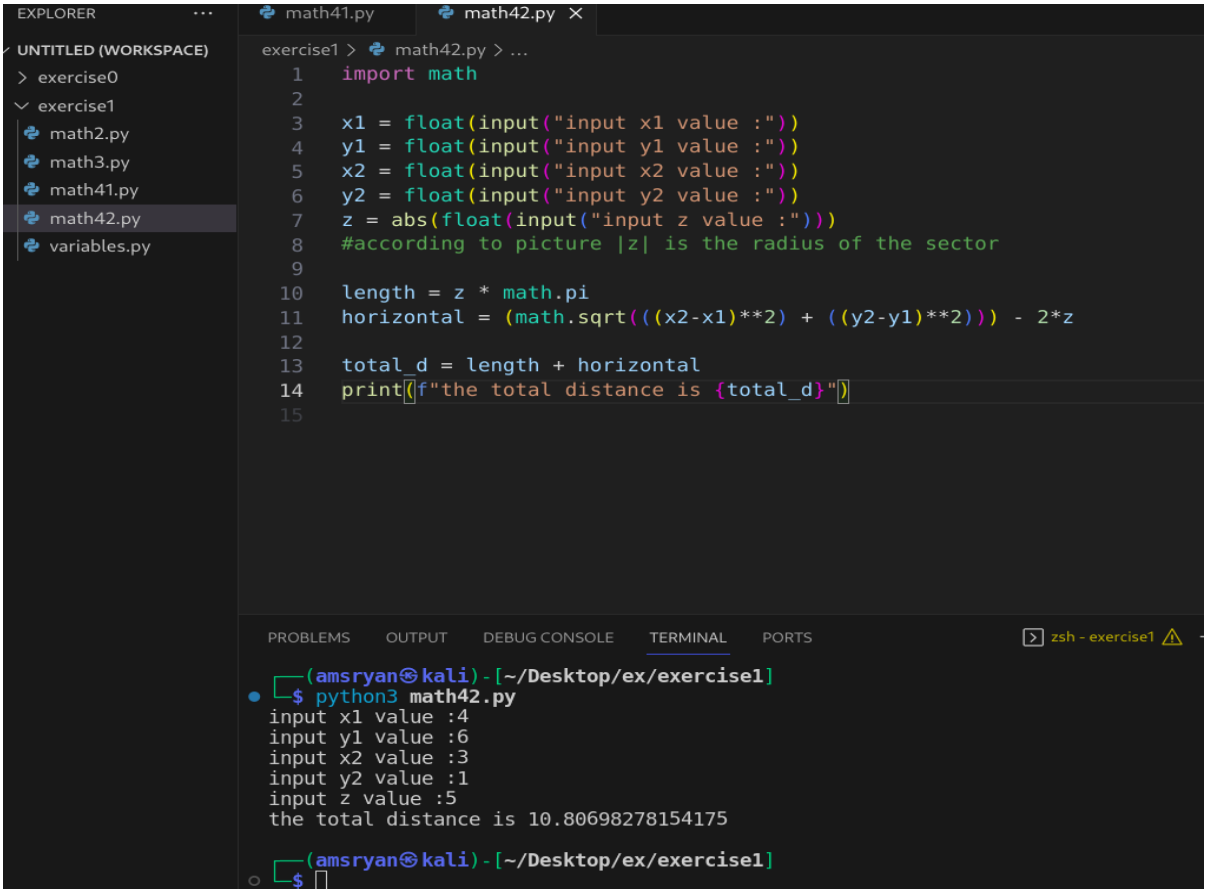
3)


dit Selection View Go Run Terminal Help
EXPLORER
UNTITLED (WORKSPACE)
exercise0
exercise1
math2.py
math3.py
variables.py
math2.py
math3.py
exercise1 > math3.py > ...
1 import math
2 print("input x1 value")
3 x1 = int(input())
4 print("input y1 value")
5 y1 = int(input())
6 print("input x2 value")
7 x2 = int(input())
8 print("input y2 value")
9 y2 = int(input())
10
11 d = math.sqrt((x2 - x1)**2 + (y2 - y1)**2)
12 print(f"the distance of this coordinates is {d}")
13
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
zsh - exercise1
(amsryan㉿kali)-[~/Desktop/ex/exercise1]
$ python3 math3.py
input x1 value
4
input y1 value
5
input x2 value
3
input y2 value
2
the distance of this coordinates is 3.1622776601683795
OUTLINE

4.1)


EXPLORER
UNTITLED (WORKSPACE)
exercise0
exercise1
math2.py
math3.py
math41.py
math42.py
variables.py
math41.py
math42.py
exercise1 > math41.py > ...
import math
x1 = float(input("input x1 value :"))
y1 = float(input("input y1 value :"))
x2 = float(input("input x2 value :"))
y2 = float(input("input y2 value :"))
z = float(input("input z value :"))
#according to picture |z| is the distance that the dron traveled
vertical = 2 * abs(z) #goes up and down that why 2 times
horizontal = math.sqrt(((x2-x1)**2) + ((y2-y1)**2))
total_d = vertical + horizontal
print(f"the total distance is {total_d}")
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
zsh - exercise1
(amsryan㉿kali)-[~/Desktop/ex/exercise1]
$ python3 math41.py
input x1 value :5
input y1 value :1
input x2 value :6
input y2 value :3
input z value :5
the total distance is 12.23606797749979
(amsryan㉿kali)-[~/Desktop/ex/exercise1]

4.2)


EXPLORER
UNTITLED (WORKSPACE)
exercise0
exercise1
math2.py
math3.py
math41.py
math42.py
variables.py
math41.py
math42.py
exercise1 > math42.py > ...
import math
x1 = float(input("input x1 value :"))
y1 = float(input("input y1 value :"))
x2 = float(input("input x2 value :"))
y2 = float(input("input y2 value :"))
z = abs(float(input("input z value :")))
#according to picture |z| is the radius of the sector
length = z * math.pi
horizontal = (math.sqrt(((x2-x1)**2) + ((y2-y1)**2))) - 2*z
total_d = length + horizontal
print(f"the total distance is {total_d}")
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
zsh - exercise1
(amsryan㉿kali)-[~/Desktop/ex/exercise1]
$ python3 math42.py
input x1 value :4
input y1 value :6
input x2 value :3
input y2 value :1
input z value :5
the total distance is 10.80698278154175
(amsryan㉿kali)-[~/Desktop/ex/exercise1]
$