Лаболаторна робота №4

Варіант 1



import math  
x1 = float(input("x1="))  
x2 = float(input("x2="))  
y1 = float(input("y1="))  
y2 = float(input("y2="))  
z1 = float(input("z1="))  
z2 = float(input("z2="))  
a = math.sqrt((y1-x1)\*\*2+(y2-x2)\*\*2)  
# (a\*\*(1/2))  
b = math.sqrt((z1 - y1)\*\*2+(z2-y2)\*\*2)  
# (b\*\*(1/2))  
c = math.sqrt((z1-x1)\*\*2+(z2-x2)\*\*2)  
# (c\*\*(1/2))  
p = (a+b+c)/2  
s = math.sqrt(p\*(p-a)\*(p-b)\*(p-c))  
print("square={0:.2f}".format(s))

Результати:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x1 | x1 | y1 | y2 | z1 | z2 | Square |
| 36 | 70 | 12 | 32 | 45 | 39 | 543.00 |
| 12 | 14 | 2 | 5 | 8 | 10 | 2.00 |



num1=float(input("a="))  
num2=float(input("b="))  
if 1<=num1<=2 or 3<num1<7 and 1<=num2<=2 or 3<num2<7:  
 print('yes')  
else:

print("no")

Результати:

|  |  |  |
| --- | --- | --- |
| A | b | answer |
| 3 | 6 | yes |
| 8 | 0 | no |



import math

# the triangle is given by its coordinates

# degenerate triangle

x1 = float(input("x1="))

x2 = float(input("x2="))

y1 = float(input("y1="))

y2 = float(input("y2="))

z1 = float(input("z1="))

z2 = float(input("z2="))

a = math.sqrt((y1-x1)\*\*2+(y2-x2)\*\*2)

b = math.sqrt((z1 - y1)\*\*2+(z2-y2)\*\*2)

c = math.sqrt((z1-x1)\*\*2+(z2-x2)\*\*2)

p = (a+b+c)/2

square = math.sqrt(p\*(p-a)\*(p-b)\*(p-c))

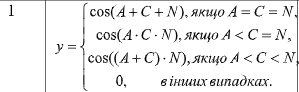
if square==0:

print("вироджений")

else:

print("інший вид трикутника")

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| x1 | x2 | y1 | y2 | z1 | z2 | answer |
| 4 | 6 | 9 | 12 | 14 | 25 | Інший вид трикутника |
| 2 | 2 | 2 | 2 | 2 | 2 | вироджений |



import math  
letter1 = float(input("A="))  
letter2 = float(input("C="))  
letter3 = float(input("N="))  
# identify y  
if letter1 == letter2:  
 if letter2 == letter3:  
 result1\_1 = (letter1+letter2+letter3)\*math.pi/180  
 result1 = math.cos(result1\_1)  
 print("y={0}".format(result1))  
 else:  
 print(0)  
  
elif letter1 < letter2:  
 if letter2 == letter3:  
 result1\_2 = (letter1\*letter2\*letter3)\*math.pi/180  
 result2 = math.cos(result1\_2)  
 print("y={0}".format(result2))  
 elif letter2 < letter3:  
 result1\_3 = (letter1+letter3)\*letter2\*math.pi/180  
 result3= math.cos(result1\_3)  
 print("y={0}".format(result3))  
 else:  
 print(0)  
  
else:  
 print(0)

|  |  |  |  |
| --- | --- | --- | --- |
| A | C | N | y |
| 30 | 30 | 30 | 0.5000000000000001 |
| 30 | 40 | 40 | -0.4999999999999389 |
| 30 | 40 | 50 | 0.7660444431189771 |