```
v=240
l0=1
d=8960
rho0=0.0000000168
area0=0.0001
alpha=0.000404

alpha0=0.00002
s=24.5
b=0.0000028
c=0.000004
t=99.9235
dl=-0.02
da=0.000005

rho=rho0*(1+(alpha*v*v*t/(s*l0*l0*rho0)))
l=l0*(1+(alpha0*v*v*t/(s*l0*l0*rho0)))-(b*t)+dl
area=area0*(1+(2*alpha0*v*v*t/(s*l0*l0*rho0)))-(c*t)+da

r=rho*l/area
g1=1/r
i1=g1*v

print("For experiment 1")
print("The value of conductance is",g1,"and the value of current
is",i1)
```

```
For experiment 1
The value of conductance is 2.1072913769919584e-06 and the value of
current is 0.00050574993047807
```

```
alpha0=0.00002
s=24.6
b=0.000003
c=0.000007
t=99.975
dl=0.03
da=0.00002

g2=1/r
i2=g2*v

print("For experiment 2")
print("The value of conductance is",g2,"and the value of current
is",i2)
gMean=(g1+g2)/2
print("The value of average conductance is",gMean)
```

```
For experiment 2
The value of conductance is 2.1072913769919584e-06 and the value of
```

```
current is 0.00050574993047807
The value of average conductance is 2.1072913769919584e-06

print("----------------------")

----------------------

import random as rn
I=[]
G=[]
for i in range(100):
    print("Experiment ",i+1)
    alpha0=rn.uniform(0.00001,0.00003)
    s=rn.uniform(24,25)
    b=rn.uniform(0.0000025,0.000004)
    c=rn.uniform(0.000005,0.0000008)
    t=rn.uniform(99,100)
    dl=rn.uniform(-0.1,0.1)
    da=rn.uniform(-0.00001,0.00001)
    g=1/r
    i=g*v
    I.append(i)
    G.append(g)
    print("conductance",g)
    print("current",i)
    print("---")


Experiment  1
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  2
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  3
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  4
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  5
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  6
conductance 2.1072913769919584e-06
current 0.00050574993047807
```

Experiment 7
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 8
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 9
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 10
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 11
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 12
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 13
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 14
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 15
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 16
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 17
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 18
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 19

conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 20
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 21
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 22
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 23
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 24
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 25
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 26
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 27
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 28
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 29
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 30
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 31
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 32
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 33
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 34
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 35
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 36
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 37
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 38
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 39
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 40
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 41
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 42
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 43
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 44

conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 45
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 46
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 47
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 48
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 49
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 50
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 51
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 52
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 53
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 54
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 55
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 56
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 57
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 58
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 59
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 60
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 61
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 62
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 63
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 64
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 65
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 66
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 67
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 68
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 69

conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 70
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 71
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 72
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 73
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 74
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 75
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 76
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 77
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 78
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 79
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 80
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 81
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 82
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 83
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 84
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 85
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 86
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 87
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 88
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 89
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 90
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 91
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 92
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 93
conductance 2.1072913769919584e-06
current 0.00050574993047807

Experiment 94

```
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  95
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  96
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  97
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  98
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  99
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
Experiment  100
conductance 2.1072913769919584e-06
current 0.00050574993047807
---
```

```
gMean=sum(G)/len(G)
print("The value of conductance is",gMean)
```

```
The value of conductance is 2.1072913769919562e-06
```

```
print("From this exercise we learn that there are many parameters
which effect a process in real life. So it is almost always impossible
to predict the exact outcome of an event. ")
```

```
From this exercise we learn that there are many parameters which
effect a process in real life. So it is almost always impossible to
predict the exact outcome of an event.
```