Q.Challenge 1: Square Numbers and Return Their Sum

In [4]:
```
class point():
    def __init__(self,x,y,z):
        self.x=x
        self.y=y
        self.z=z

    def sqSum(self):
        x=self.x*self.x
        y=self.y*self.y
        z=self.z*self.z
        return x+y+z
inp1 = int(input("Enter the value for x :"))
inp2 = int(input("Enter the value for y :"))
inp3 = int(input("Enter the value for z :"))
p=point(inp1,inp2,inp3)
sum=p.sqSum()
print(sum)
```

```
Enter the value for x :1
Enter the value for y :3
Enter the value for z :5
35
```

Q.Challenge 2: Implement a Calculator Class

In [5]:
```
class calculator():
    def __init__(self,num1,num2):
        self.num1=num1
        self.num2=num2

    def Addition(self):
        return self.num1 + self.num2
    def Substraction(self):
        return self.num2 - self.num1
    def Multiplication(self):
        return self.num1 * self.num2
    def Division(self):
        return self.num2 / self.num1


inp1 = int(input("Enter the value for First number :"))
inp2 = int(input("Enter the value for Second number :"))

p=calculator(inp1,inp2)
print(p.Addition())
print(p.Substraction())
print(p.Multiplication())
print(p.Division())
```

```
Enter the value for First number :10
Enter the value for Second number :94
104
84
940
9.4
```

Q.Challenge 3: Implement the Complete Student Class

In [6]:
```
class Student:

    def getName(self):
        return self.__name

    def setName(self, name):
        self.__name = name

    def getRollNumber(self):
        return self.__rollNumber

    def setRollNumber(self, rollNumber):
        self.__rollNumber = rollNumber

student = Student()
inp1 = input("Enter the name of a student:")
inp2 = int(input("Enter the Roll number :"))
student.setName(inp1)
student.setRollNumber(inp2)
print(student.getName())
print(student.getRollNumber())
```

```
Enter the name of a student:john
Enter the Roll number :1234
john
1234
```

Q.Challenge 4: Implement a Banking Account

In [3]:
```
class Account:
    def __init__(self,title,balance):
        self.title=title
        self.balance=balance

class SavingAccount(Account):
    def __init__(self,title,balance,interestRate):
        super().__init__(title,balance)
        self.interestRate=interestRate
inp1 = input("Enter the Account holder name :")
inp2 = int(input("Enter the Account balance:"))
inp3 = int(input("Enter the intrest rate:"))
acc=Account(inp1,inp2)
print(acc.title)
print(acc.balance)


sav =SavingAccount(inp1,inp2,inp3)
print("Account holder name : ",sav.title)
print("account balance :",sav.balance)
print("intrest Rate :",sav.interestRate)
```

```
Enter the Account holder name :ashish
Enter the Account balance:5000
Enter the intrest rate:5
ashish
5000
Account holder name :  ashish
account balance : 5000
intrest Rate : 5
```

Challenge 5: Handling a Bank Account

In [10]:
```
class Account:
    def __init__(self,title,balance):
        self.title=title
        self.balance=balance

    def getbalance(self):
        return self.balance

    def withdraw(self,amount):
        self.balance-=amount

    def deposit(self,amount):
        self.balance+=amount

class SavingsAccount(Account):
    def __init__(self,balance,interestrate) :
        super().__init__(self,balance)
        self.interestrate=interestrate

    def interestAmount(self):
        return self.interestrate*self.balance/100

inp1 = input("Enter the Account holder name :")
inp2 = int(input("Enter the Account balance:"))
p=Account(inp1,inp2)
print("Account holder name:",p.title)
print("Account balance:",p.balance)
p.deposit(int(input("enter the amount to deposit:")))
print("Current balance:",p.getbalance())
p.withdraw(int(input("enter the amount to withdraw:")))
print("Current balance:",p.getbalance())
svv=SavingsAccount(p.getbalance(),int(input("enter the amount to SimpleInterest:")))
print("Interest amount:",svv.interestAmount())
```

```
Enter the Account holder name :ashsih
Enter the Account balance:2000
Account holder name: ashsih
Account balance: 2000
enter the amount to deposit:500
Current balance: 2500
enter the amount to withdraw:500
Current balance: 2000
enter the amount to SimpleInterest:5
Interest amount: 100.0
```

In [ ]: