

ASSIGNMENT 6

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Domain: data science

#Inheritance

```
class addition:      #Base Class / Parent Class
    a=int(input("enter the first number"))
    b=int(input("enter second number"))
    c=0
    def add(me):
        print(me.a)
        print(me.b)
        me.c=me.a+me.b
        print(me.c)
class subtract(addition):
    #Derived class
    x=int(input("enter the first number"))
    y=int(input("enter second number"))
    z=0
    def subt(me):
        print(me.x)
        print(me.y)
        me.z=me.x-me.y
        print(me.z)
```

```
enter the first number 12
enter second number13
enter the first number23
enter second number45
12
13
25
23
45
-22
```

```
obj=subtract()  
obj.add()  
obj.subt()
```

```
class cmr:  
    cname="cmr college"  
    def f1(me):  
        print(me.cname)  
class course(cmr):  
    c1="bba"  
    c2="mba"  
    c3="be"  
    c4="mtech"  
    def f2(me):  
        print(me.c1)  
        print(me.c2)  
        print(me.c3)  
        print(me.c4)  
obj=course()  
obj.f1()  
obj.f2()
```

```
cmr college  
bba  
mba  
be  
mtech
```

```
class father:  
    def f1(me):  
        print("this is parent class")  
class son(father):  
    def s1(me):
```

```
this is parent class  
this is derived class
```

```
print("this is derived class")

obj1=son()

obj1.f1()

obj1.s1()
```

```
class father:
```

```
def f1(me):

    print("this is parent class")

    print("works in wipro")

    print("father's age=50")

    print("stays in jayanagar")
```

```
class son(father):
```

```
def s1(me):

    print("this is derived class")

    print("studies in cmr college")

    print("son's age=23")
```

```
obj1=son()

obj1.f1()

obj1.s1()
```

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```
class gf:
```

```
def f1(me):

    print("this is grand father class")
```

```
class father(gf):
```

```
this is parent class

works in wipro

father's age=50

stays in jayanagar

this is derived class

studies in cmr college

son's age=23
```

```
def f2(me):
    print("this is father class")
```

```
this is grand father class
this is father class
this is son class
```

```
class son(father):
```

```
def f3(me):
    print("this is son class")
```

```
obj=son()
```

```
obj.f1()
```

```
obj.f2()
```

```
obj.f3()
```

```
class first:
```

```
def f1(me):
    print("this is first class")
```

```
this is third class
this is second class
this is first class
```

```
class second(first):
```

```
def f2(me):
    print("this is second class")
```

```
class third(second):
```

```
def f3(me):
    print("this is third class")
```

```
obj=third()
```

```
obj.f3()
```

```
obj.f2()
```

```
obj.f1()
```

```
class first:
```

```
def f1(me):
```

```
    print("this is first class")
```

```
this is third class
```

```
this is first class
```

```
class second(first):
```

```
def f2(me):
```

```
    print("this is second class")
```

```
class third(second):
```

```
def f3(me):
```

```
    print("this is third class")
```

```
obj=third()
```

```
obj.f3()
```

```
obj.f1()
```

```
class addition:
```

```
a=99
```

```
b=77
```

```
c=a+b
```

```
def add(me):
```

```
    print(me.a)
```

```
    print(me.b)
```

```
    print(me.c)
```

```
class subtract(addition):
```

```
    x=66
```

```
    y=44
```

```
    z=x-y
```

```
    def subt(me):
```

```
        print(me.x)
```

```
        print(me.y)
```

```
        print(me.z)
```

```
class multiply(subtract):
```

```
    p=99
```

```
    q=55
```

```
    r=p*q
```

```
    def mult(me):
```

```
        print(me.p)
```

```
        print(me.q)
```

```
        print(me.r)
```

```
obj=multiply()
```

```
obj.add()
```

```
obj.subt()
```

```
obj.mult()
```

99
77
176
66
44
22
99
55
5445

```
class addition:
```

```
    a=int(input("enter first number"))
```

```
    b=int(input("enter second number"))
```

```

c=a+b

def add(me):
    print(me.a)
    print(me.b)
    print(me.c)

class subtract(addition):
    x=int(input("enter first number"))
    y=int(input("enter second number"))
    z=x-y

    def subt(me):
        print(me.x)
        print(me.y)
        print(me.z)

class multiply(subtract):
    p=int(input("enter first number"))
    q=int(input("enter second number"))

    r=p*q

    def mult(me):
        print(me.p)
        print(me.q)
        print(me.r)

obj=multiply()
obj.add()
obj.subt()

```

enter first number2	2
enter second number3	3
enter first number2	5
enter second number3	2
enter first number2	3
enter second number3	-1
2	2
3	3
6	6

obj.mult()

class addition:

```
a=0  
b=0  
c=0  
  
def add(me):  
    me.a=int(input("enter first number"))  
    me.b=int(input("enter second number"))  
    me.c=me.a+me.b  
    print(me.a)  
    print(me.b)  
    print(me.c)
```

class subtract(addition):

```
x=0  
y=0  
z=0  
  
def subt(me):  
    me.x=int(input("enter first number"))  
    me.y=int(input("enter second number"))  
    me.z=me.x-me.y  
    print(me.x)  
    print(me.y)  
    print(me.z)
```

```
enter first number2  
enter second number3  
2  
3  
5  
enter first number2  
enter second number3  
2  
3  
-1  
enter first number4  
enter second number5  
4  
5  
20
```

```
class multiply(subtract):
    p=0
    q=0
    r=0
    def mult(me):
        me.p=int(input("enter first number"))
        me.q=int(input("enter second number"))
        me.r=me.p*me.q
        print(me.p)
        print(me.q)
        print(me.r)
    obj=multiply()
    obj.add()
    obj.subt()
    obj.mult()
```

#multi - level inheritance ----> USING CONSTRUCTOR

```
class addition:
    a=0
    b=0
    z=0
    def __init__(me):
        me.a=int(input("enter first number for addition"))
        me.b=int(input("enter second number for addition"))
        me.z=me.a+me.b
```

```
print(me.z)

class subtraction(addition):
    x=0
    y=0
    z1=0

    def __init__(me):
        super().__init__()      #calls the immediate constructor of base class
        me.x=int(input("enter first number for subtraction"))
        me.y=int(input("enter second number for subtraction"))
        me.z1=me.x-me.y
        print(me.z1)

class multiply(subtraction):
    x1=0
    y1=0
    z2=0

    def __init__(me):
        super().__init__()
        #calls the immediate constructor of base class
        me.x1=int(input("enter first number for multiply"))
        me.y1=int(input("enter second number for multiply"))
        me.z2=me.x1*me.y1
        print(me.z2)

obj1=multiply()
```

enter first number for addition5

enter second number for addition6

11

enter first number for subtraction7

enter second number for subtraction7

0

enter first number for multiply8

enter second number for multiply9

72