1. Question

"""

Define a class Fibonacci and n as class variable

n represents the number of terms in the fibonacci series

Write a fibo() method to find fibonacci series upto n number of terms

Fibonacci series starts with 0 and 1 then the next element is sum of previous 2 elements

Example: 0 1 1 2 3 5 8 13 (here there are 8 terms in series)

case=1

input=

Enter number:8

output=

Fibonacci Series:

0 1 1 2 3 5 8 13

case=2

input=

Enter number:-5

output=

Invalid number

"""

Code:

class Fibonacci:

n=0

def fibo(self,num):

self.n=num

n1=0

n2=1

print("Fibonacci Series:")

while(self.n>0):

print(n1,end=" ")

n1,n2=n2,n1+n2

self.n=self.n-1

n1=int(input("Enter number:"))

if(n1<=0):

print("Invalid number")

else:

f=Fibonacci()

f.fibo(n1)

1. Question

“””

Write a Python class to implement exponential operation i.e. x to the power n.

Which contains two class variables for number and exponent.

Define a pow(self,x,n) method which will initialize class variables and perform exponential operation and print the result.

Case=1

Input=

Enter number:5

Enter exponent:3

Output=

5 to the power 3 = 125

Case=2

Input=

Enter number:6

Enter exponent:-2

Output=

6 to the power -2 = 0.027777777777777776

Case=3

Input=

Enter number:-4

Enter exponent:3

Output=

-4 to the power 3 = -64

“””

Code:

class Power:

n=0

e=0

def pow(self,num,exp):

self.n=num

self.e=exp

p=self.n\*\*self.e

print("%d to the power %d ="%(self.n,self.e),p)

num = int(input("Enter number:"))

exp = int(input("Enter exponent:"))

obj = Power()

p = obj.pow(num,exp)

1. Question

“””

Write python class to perform arithmetic operations of two numbers.

Consider 2 class variables and initialize them using constructor.

Define add(), sub(), mul() and div() methods to perform arithmetic operations and display the result.

Case=1

Input=

Enter number 1:8

Enter number 2:2

Output=

8 + 2 = 10

8 - 2 = 6

8 \* 2 = 16

8 / 2 = 4.0

Case=2

Input=

Enter number 1:25

Enter number 2:-5

Output=

25 + -5 = 20

25 - -5 = 30

25 \* -5 = -125

Denominator is less than or equal to zero

“””

Code:

class arithmetic:

a=0

b=0

def \_\_init\_\_(self,n1,n2):

self.a = n1

self.b = n2

def add(self):

sum = self.a+self.b

print("%d + %d ="%(self.a,self.b),sum)

def sub(self):

s = self.a-self.b

print("%d - %d ="%(self.a,self.b),s)

def mul(self):

m = self.a\*self.b

print("%d \* %d ="%(self.a,self.b),m)

def div(self):

if self.b>0:

d = self.a/self.b

print("%d / %d ="%(self.a,self.b),d)

else:

print("Denominator is less than or equal to zero")

n1 = int(input("Enter number 1:"))

n2 = int(input("Enter number 2:"))

obj = arithmetic(n1,n2)

obj.add()

obj.sub()

obj.mul()

obj.div()