1.

def equal(a,b):

if(a==b):

return print(str(a),"and",str(b),"is equal")

else:

return print(str(a),"and",str(b),"is NOT! equal")

num1=int(input("Enter Number 1: "))

num2=int(input("Enter Number 2: "))

equal(num1,num2)

OUTPUT:

Enter Number 1: 3

Enter Number 2: 6

3 and 6 is NOT! equal

2.

def swap(a,b):

temp=a

a=b

b=temp

return print("a =",str(a),"and b s=",str(b))

a = int(input("Enter Value of a : "))

b = int(input("Enter Value of b : "))

swap(a,b)

OUTPUT:

Enter Value of a : 8

Enter Value of b : 9

a = 9 and b = 8

3.

def simpleInt(age,money,time):

if(age>=60):

simpleInterest=(money\*time\*0.12)

return simpleInterest

else:

simpleInterest=(money\*time\*0.10)

return simpleInterest

age = int(input("Enter your Age : "))

money = int(input("Enter Amount of Money : "))

time = int(input("Enter time in Years : "))

simpl = simpleInt(age,money,time)

print("\nSimple Interest : ",simpl)

OUTPUT:

Enter your Age : 56

Enter Amount of Money : 5000

Enter time in Years : 8

Simple Interest : 4000.0

4.

def cuboid(length=5,breadth=4,height=9):

volume = length\*breadth\*height

return print(volume)

cuboid()

OUTPUT:

180

5.

import math

def series(n):

sum = 0

print()

for i in range(1,n+1):

sum = sum + ((i\*\*i)/math.factorial(i))

if(i==n):

print(f"("+str(i)+"ᶦ/"+str(i)+"!)",end="")

else:

print(f"("+str(i)+"ᶦ/"+str(i)+"!)+",end="")

print("\n\nSum =",str(sum))

n=int(input("No. of times you want to print the Series : "))

series(n)

OUTPUT:

No. of times you want to print the Series : 3

(1ᶦ/1!)+(2ᶦ/2!)+(3ᶦ/3!)

Sum = 7.5

6.

def average(name,\*marks):

str(name)

lst = []

for i in marks:

lst.append(i)

average=sum(lst)/len(lst)

return print(f"{name} scored {lst} average is {average}")

average("Raj",80,70,80)

OUTPUT:

Raj scored [80, 70, 80] average is 76.66666666666667

7.

def fact(n,x):

if n==0:

return x

else:

return fact(n-1,x\*n)

print(fact(5,1))

OUTPUT:

120

8.

def gcd(a,b):

if(a==0):

return b;

else:

return gcd(a%b,b)

print(gcd(15,5))

OUTPUT:

5

9.

def fib(n):

if n<0:

print("Incorrect input")

elif n==0:

return 0

elif n==1:

return 1

else:

return fib(n-1)+fib(n-2)

a=int(input("Enter : "))

for i in range(a):

print(fib(i),end=" ")

OUTPUT:

Enter : 5

0 1 1 2 3

10.

def rev(n):

if n<10:

return n

else:

return int(str(n%10) + str(rev(n//10)))

n=int(input("Enter a number: "))

print(rev(n))

OUTPUT:

Enter a number: 5889

9885

11.

def reverse(s):

if len(s) == 0:

return s

else:

return reverse(s[1:]) + s[0]

sent = str(input("Enter String : "))

print(reverse(sent))

OUTPUT:

Enter String : Python is a Snake

ekanS a si nohtyP

12.

HAPPY = []

SAD = []

NEUTRAL = []

while(True):

word=str(input("Enter a Word or 'exit' : "))

if(word!='exit'):

print("\n\n1. HAPPY // 2. SAD // 3. NEUTRAL\n")

lst=int(input("Enter Choice : "))

if(lst==1):

HAPPY.append(word);

elif(lst==2):

SAD.append(word);

elif(lst==3):

NEUTRAL.append(word);

else:

print("\n\nHappy : ",HAPPY," SAD : ",SAD," Neutral : ",NEUTRAL)

break

OUTPUT:

Enter a Word or 'exit' : happy

1. HAPPY // 2. SAD // 3. NEUTRAL

Enter Choice : 1

Enter a Word or 'exit' : sad

1. HAPPY // 2. SAD // 3. NEUTRAL

Enter Choice : 2

Enter a Word or 'exit' : neutral

1. HAPPY // 2. SAD // 3. NEUTRAL

Enter Choice : 3

Enter a Word or 'exit' : exit

Happy : ['happy'] SAD : ['sad'] Neutral : ['neutral']

13.

import random

Questions = {

1: "What gets wetter the more it dries?",

2: "What word is spelled incorrectly in every single dictionary?",

3: "What never asks a question but gets answered all the time?",

4: "What goes up but never ever comes down?",

5: "What starts with “e” and ends with “e” but only has one letter in it?",

6: "What has a face and two hands, but no arms or legs?",

7: "What can be caught but never thrown?",

8: "I start out tall, but the longer I stand, the shorter I grow. What am I?",

9: "How many seconds are there in a year?",

10: "What can run but not walk?"}

Answers = {

1: "towel",

2: "Incorrectly",

3: "cellphone",

4: "age",

5: "envelope",

6: "clock",

7: "cold",

8: "candle",

9: "Twelve",

10: "Raindrops"}

def play():

choice=random.choice(list(Questions.keys()))

ans=Answers[choice]

print("\nQuestion: ",Questions[choice])

pans=str(input("Answer : "))

if(ans=='exit'):

exit()

elif(ans==pans):

print("\nYou Won!")

play()

else:

print("\nYou loose")

play()

play()

OUTPUT:

Question: What can run but not walk?

Answer : Raindrops

You Won!

Question: What can run but not walk?

Answer : Raindrops

You Won!