1.

a = 10

b = 5

a = a + b

b = a - b

a = a - b

print("a =", a)

print("b =", b)

2.num = int(input("Enter a number: "))

if num % 2 == 0:

print("Even")

else:

print("Odd")

3

def factorial(n):

result = 1

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

result \*= i

return result

print(factorial(5)) # Output: 120

4

s = input("Enter a string: ")

if s == s[::-1]:

print("Palindrome")

else:

print("Not a palindrome")

sentence = input("Enter a sentence: ")

words = sentence.split()

freq = {}

for word in words:

freq[word] = freq.get(word, 0) + 1

print(freq)

try:

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

b = int(input("Enter denominator: "))

result = a / b

print("Result:", result)

except ZeroDivisionError:

print("Error: Cannot divide by zero.")

except ValueError:

print("Error: Please enter valid integers.")

import csv

with open('students.csv', mode='r') as file:

reader = csv.DictReader(file)

for row in reader:

if int(row['score']) > 80:

print(row['name'], row['score'])

class Student:

def \_\_init\_\_(self, name, age):

self.name = name

self.\_\_age = age

def get\_age(self):

return self.\_\_age

def set\_age(self, age):

if age > 0:

self.\_\_age = age

else:

print("Invalid age")

s = Student("Alice", 20)

print("Name:", s.name)

print("Age:", s.get\_age

s.set\_age(21)

print("Updated Age:", s.get\_age())

s.set\_age(-5)

conditional statements

row = int(input('Enter number of rows:'))

col = int(input('Enter number of columns:'))

twoD\_list = [[0 for c in range(col)] for r in range(row)]

for i in range(row):

for j in range(col):

twoD\_list[i][j] = i \* j

print(twoD\_list)

2D,3D dimentional array

Inheriheritance

Polymorphism

incomsulation

def power(a, b):

if a == 0:

return 0

elif b == 0:

return 1

elif b == 1:

return a

else:

return a \* power(a, b - 1)

print(power(3, 4))

print(power(2, 11))

print(power(5, 3))

def list\_sum(l):

if len(l) == 0:

return 0

elif len(l) == 1:

return l[0]

else:

return l[0] + list\_sum(l[1:])

print(list\_sum([2, 4, 5, 6, 7]))

print(list\_sum([2]))

print(list\_sum([]))

print(list\_sum([1, 2, 3, 4, 5, 10, 9, 8, 7, 6]))