from itertools import combinations

lst = [1, 2, 3]

all\_combos = []

for r in range(1, len(lst) + 1):

all\_combos.extend(combinations(lst, r))

print("All combinations:")

for c in all\_combos:

print(c)

Output

All combinations:

(1,)

(2,)

(3,)

(1, 2)

(1, 3)

(2, 3)

(1, 2, 3)

Exercise 1.2

# Create a list of tuples

Tup = [(1, 2, 3), (4, 5, 6), (7, 8, 9)]

# Calculate the sum of elements in each tuple

Result = [sum(x) for x in tup]

# Display the result

Print(“Sum of elements of each tuple:”, result)

Output

Sum of elements of each tuple: [6, 15, 24]

Exercise 1.3

# Create a dictionary with two keys and values

D = {‘1’: [‘a’, ‘b’], ‘2’: [‘x’, ‘y’]}

# Display all combinations

For I in d[‘1’]:

For j in d[‘2’]:

Print(I + j)

Output

Ax

Ay

Bx

By