# Write a Python program to create and display all combinations of letters, selecting each letter from a different key in a dictionary.

from itertools import product

di={"A":[1,2,3],"B":[3,4,5],"C":[4,5,6],"D":[5,7,6],"E":[8,9,9]}

for i in di.items():

print(i)

# Write a Python program to split a list every Nth element.

li=[]

for i in range(1,11):

li.append(i)

print(li)

slices=[]

for j in range(0,len(li),3):

slices.append(li[j:j+3])

print(slices)

# Write a Python program to compute the difference between two lists.

li1=[23,44,55,66,77]

li2=[56,77,88,99]

li3=[]

for i in li1:

for j in li2:

diff=i-j

li3.append(diff)

s=set(li3)

li4=list(s)

li4

#Write a Python program to replace the last element in a list with another list

Sample\_data=[1,3,5,7,9,10],[2,4, 6,8]

n=Sample\_data[0][:-1]+Sample\_data[1]

n

# Write a Python program to insert a given string at the beginning of all items in a list.

num = [1,2,3,4]

print(['emp{0}'.format(i) for i in num])

# Write a Python program to check whether all dictionaries in a list are empty or not

dic={}

if len(dic)<=1:

print("dictionaris is empty")

else:

print("its not empty")

# Write a Python program to pack consecutive duplicates of a given list elements into sublists

def pack\_duplicates(lst):

result = []

for item in lst:

if not result or item != result[-1][-1]:

result.append([item])

else:

result[-1].append(item)

return result

# Example usage

my\_list = [1, 1, 2, 3, 3, 3, 4, 4, 5]

packed\_list = pack\_duplicates(my\_list)

print(packed\_list)

# Write a Python program to create a list reflecting the run-length encoding from a given list of integers or a given list of characters.

seq="AACCBBBBBCCCDDEEFFFFFFFF"

count=1

char= seq[0]

c=[]

for i in range(1,len(seq)):

if seq[i] == char:

count+=i

else:

c.append([char,count])

char = seq[i]

count=1

c.append([char])

print(c)