

ASSIGNMENT 3.2

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1. Introduction

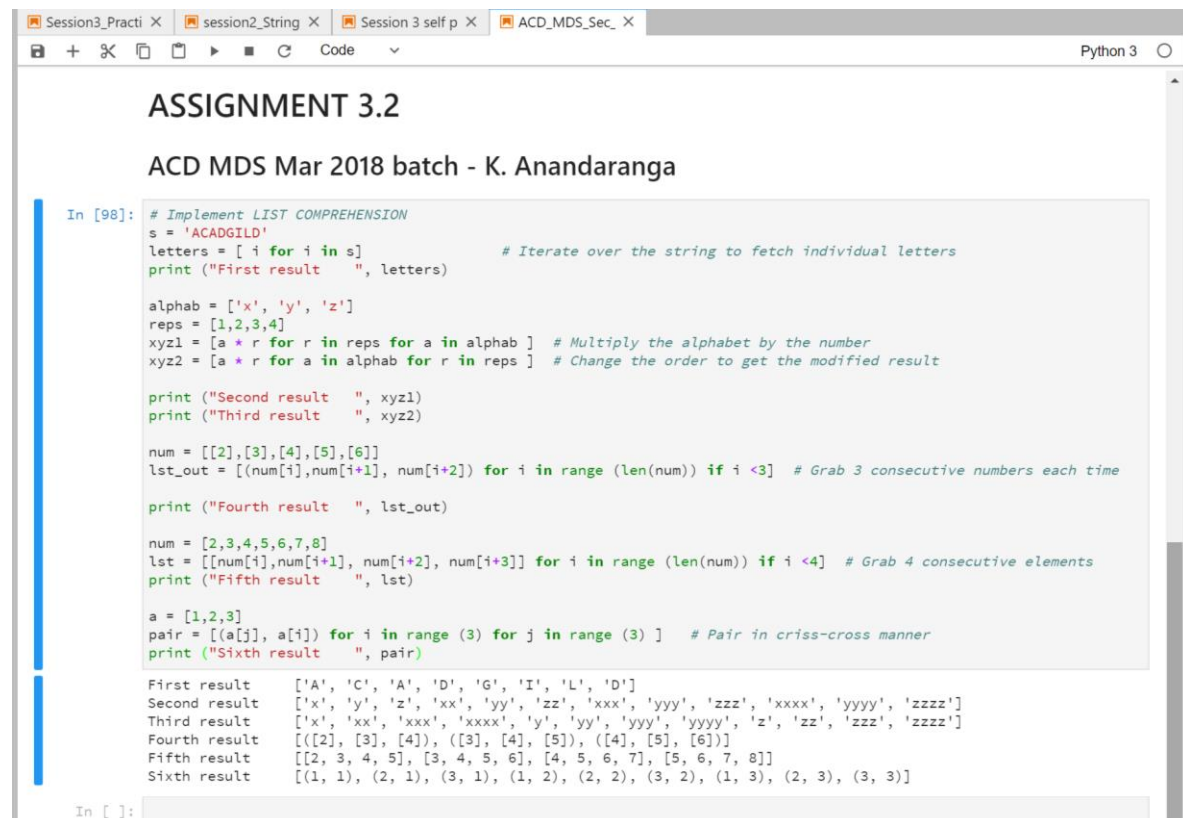
This assignment will help you to consolidate the concepts learnt in the session.

2. Problem Statement

Write List comprehensions to produce the following Lists

- ['A', 'C', 'A', 'D', 'G', 'I', 'L', 'D']
- ['x', 'xx', 'xxx', 'xxxx', 'y', 'yy', 'yyy', 'yyyy', 'z', 'zz', 'zzz', 'zzzz']
- ['x', 'y', 'z', 'xx', 'yy', 'zz', 'xx', 'yy', 'zz', 'xxxx', 'yyyy', 'zzzz']
- [[2], [3], [4], [3], [4], [5], [4], [5], [6]]
- [[2, 3, 4, 5], [3, 4, 5, 6], [4, 5, 6, 7], [5, 6, 7, 8]]
- [(1, 1), (2, 1), (3, 1), (1, 2), (2, 2), (3, 2), (1, 3), (2, 3), (3, 3)]

3. Output



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Session3_Practi X session2_String X Session 3 self p X ACD_MDS_Sec. X Python 3

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ACD MDS Mar 2018 batch - K. Anandaranga

In [98]: # Implement LIST COMPREHENSION
s = 'ACADGILD'
letters = [i for i in s] # Iterate over the string to fetch individual letters
print("First result ", letters)

alphab = ['x', 'y', 'z']
reps = [1,2,3,4]
xyz1 = [a * r for r in reps for a in alphab] # Multiply the alphabet by the number
xyz2 = [a * r for a in alphab for r in reps] # Change the order to get the modified result

print("Second result ", xyz1)
print("Third result ", xyz2)

num = [[2],[3],[4],[5],[6]]
lst_out = [(num[i],num[i+1], num[i+2]) for i in range(len(num)) if i < 3] # Grab 3 consecutive numbers each time

print("Fourth result ", lst_out)

num = [2,3,4,5,6,7,8]
lst = [[num[i],num[i+1], num[i+2], num[i+3]] for i in range(len(num)) if i < 4] # Grab 4 consecutive elements
print("Fifth result ", lst)

a = [1,2,3]
pair = [(a[j], a[i]) for i in range(3) for j in range(3)] # Pair in criss-cross manner
print("Sixth result ", pair)

First result ['A', 'C', 'A', 'D', 'G', 'I', 'L', 'D']
Second result ['x', 'y', 'z', 'xx', 'yy', 'zz', 'xxx', 'yyy', 'zzz', 'xxxx', 'yyy', 'zzzz']
Third result ['x', 'xx', 'xxx', 'xxxx', 'y', 'yy', 'yyy', 'yyyy', 'z', 'zz', 'zzz', 'zzzz']
Fourth result [[2], [3], [4], ([3], [4], [5]), ([4], [5], [6])]
Fifth result [[2, 3, 4, 5], [3, 4, 5, 6], [4, 5, 6, 7], [5, 6, 7, 8]]
Sixth result [(1, 1), (2, 1), (3, 1), (1, 2), (2, 2), (3, 2), (1, 3), (2, 3), (3, 3)]

In [ ]:
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