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**Practise Exercises - Test on Logic Ability**

# #1

A bicyclist cycles around a circular park with a pathway connecting two opposite end points of the path of length 7kms. Develop a logic that computes the total distance covered by the cyclist for a given set of rounds cycled. **Input :** Enter No. of Rounds : 10 **Output : ‘x’** Kms travelled.

**Answer:**

x=int(input())

print(x\*14)

# #2

A fixed set of positive integers is dictated by the mathematics professor during a puzzle contest. The professor asks the students to find a pair of numbers that result in a given sum. Code a logic that can automate this puzzle. Use the below input for your exercise.

**Case – 1**

|  |  |
| --- | --- |
| **Input** | **:** arr = [1, 2, 3, 4, 6] & Sum = 8 |
| **Output**    **Case – 2** | **:** 2,6 |
| **Input** | **:** arr = [1, 2, 3, 4, 9] & Sum = 8 |

**Ouput :** No Pairs found

**Answer:**

l=list(map(int,input().split()))

a=int(input())

n=len(l)

b=None

for i in range (0,n):

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

if (l[i]+l[j]==s):

print("(",l[i],",",l[j],")",sep="")

b=1

break

if b==1:

break

if b!=1:

print('No Pairs found')

# #3

Alice is a cryptanalyst who is in charge of transmitting messages to bob without any intruder getting hands on it. Alice thinks of transmitting the message by reversing it with a random character appended as prefix to the encoded message.

**Input :** Pentafox

**Ouput :** Oxofatnep

**Answer:**

c=input()

a=c[::-1]

print(a)

# #4

As a computer engineer, you are requested to reduce the storage space needed to store the textual content in the computer. Write a logic that can compress the content as given in the below example. **Input :** All is well.

**Output :** Al2 is wel2 (Character followed by its number of occurrence)

**Answer:**

s=input()

c=0

for i in range(0,(len(s)-1)):

if(s[i]==s[i+1]):

c=c+1

else:

if(c==0):

print(s[i],end="")

else:

c=c+1

print(s[i]+str(c),end="")

c=0

if(i==(len(s)-2)):

if(c==0):

print(s[i],end="")

else:

c=c+1

print(s[i]+str(c),end="")

# #5

In a puzzle contest, the chairman of your English club posts a problem to compare a given pair of words and eliminate all common characters in them. To speed up the process of judging, the computer club head was requested to prepare computer logic. Please code a solution to the above problem applying your own skillset.

**Input :** Word-1: Rajesh Word-2: Ganesh

**Output :** RjGn

**Answer:**

str1=input()

str2=input()

for i in str1:

if i not in str2:

print (i,end="")

for i in str2:

if i not in str1:

print (i,end="")

# #6

A school camp is organized by a school to support the process of preparing their students for an examination. They are in need of a study timetable that has following assumptions:

**Assumptions:**

1. Total Days of Camp – 5 Days
2. Total Hours a day – 5 Days
3. Total Subjects – 5 Subjects

**Note:** The timetable should not follow the same order and should be in random everyday. Prepare code logic to help the School.

**Answer:**

import random

l=[]

A=int(input())

for i in range (A):

n=random.sample(range(0,A),A)

l.append(n)

s=[]

for i in range(A):

x=input('enter name')

s.append(x)

for i in range(A):

print("Day-",i+1,end=' ')

for j in range(A):

c=l[i][j]

print(s[c],end=' ')

print("\n")

# #7

The alphabetical value is represented from 1-26 for characters A-Z respectively. Using this principle generate a crypto decoder that can generate the message for transmitted sequence of alphabetical values.

**Input :** 1,2,3,4,26

**Output :** ABCDZ

**Answer:**

l=list(map(int,input().split()))

for i in l:

print(chr(64+i),end='')

# #8

Implement CRUD operations as an API using Python Flask and a DB in backend (prefer MySQL or MariaDB).

Push your code into a Github Repo and share it with me (ID: sivivicky).