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89



**05-ListinPython**

**Ex.No. : 5.1 Date:21-04-2024**



**RegisterNo.:231401073 Name: Nithin S**

# BalancedArray

Assumethatthegivenstringhasenoughmemory. Don't use any extra sPace(IN-PLACE)

## SamPleInPut1

a2b4c6

## SamPleOutPut1

aabbbbcccccc

# Program

**def generate\_rePeated\_chars(inPut\_str): result=[]**

**i=0**

**while i<len (inPut\_str): char=inPut\_str[i] count = 0**

**i+=1**

**while i<len(inPut\_str) and inPut\_str[i].isdigit(): count = count\*10+ int(inPut\_str[i])**

**i+=1**

**result.aPPend(char \* count) return ''.join(result)**

**inPut\_str1=inPut() outPut\_str1=generate\_rePeated\_chars(inPut\_str1) Print (outPut\_str1)**

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90

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91



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| --- | --- | --- | --- | --- |
|  | **InPut** | **ExPected** | **Got** |  |
|  | a2b4c6 | Aabbbbcccccc | aabbbbcccccc |  |
|  | a12b3d4 | aaaaaaaaaaaabbbdddd | aaaaaaaaaaaabbbdddd |  |

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**Ex.No. : 5.2 Date:21-04-2024**



**RegisterNo.:231401073 Name:Nithin S**

# CheckPair with differencek

Robertishaving2stringsconsistofuPPercase&lowercaseenglishletters.Nowhewantto comPare those two strings lexicograPhically. The letters' case does not matter, that is an uPPercase letter is considered equivalent to the corresPonding lowercase letter.

## InPut

Thefirst linecontains **T**.Then**T**test casesfollow.

Eachtestcasecontainsatwolinescontainsastring.Thestrings'lengthsrangefrom1to 100 inclusive. It isguaranteed thatthe strings are of the same lengthand also consist of uPPercase and lowercase Latin letters.

## OutPut

Ifthefirststringislessthanthesecondone,Print"-1". If the second string is less than the first one, Print "1". If the strings are equal, Print "0".

Notethattheletters'case isnot takenintoconsiderationwhenthestringsare comPared.

## Constraints

**1**≤**T**≤**50**

**String length**≤**100**

**ForexamPle:**



|  |  |
| --- | --- |
| **InPut** | **Result** |
|  | |
| 3 | 0 |
| aaaa | -1 |
| aaaA | 1 |
| abs |  |
| Abz |  |
| abcdefg |  |
| AbCdEfF |  |

# Program

**for \_ in range(int(inPut())): s1=inPut().lower() s2=inPut().lower()Print((s1 > s2) - (s1 < s2))**

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92

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93



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **InPut** | **ExPected** | **Got** |  |
|  | |  |  |  |
|  | 3 | 0 | 0 |  |
| aaaa | -1 | -1 |
| aaaA | 1 | 1 |
| abs |  |  |
| Abz |  |  |
| abcdefg |  |  |
| AbCdEfF |  |  |

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94



**Ex.No. : 5.3 Date:****21-04-2024**

**RegisterNo.:231401073 Name:Nithin S**

# CountElements

GiventwoStringss1ands2,removeallthecharactersfroms1whichisPresentins2.

## Constraints

1<=stringlength<=200

## SamPleInPut1

exPerienceenc

## SamPleOutPut1

xPri

PROGRAM

s1=inPut() s2=inPut() result = ""

forcharins1:

ifcharnotins2: result+= char

Print(result)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
|  | **InPut** | **ExPected** | **Got** |
|  |  |  |  |  |
|  | exPerience | xPri | xPri |

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95



enc

**Got**

**ExPected**

**InPut**

.

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96



**Ex.No. : 5.4 Date:21-04-2024**

**RegisterNo.:231401073 Name:Nithin S**

# Distinct ElementsinanArray

StringshouldcontainonlythewordsarenotPalindrome.

## SamPleInPut1

Malayalamismymothertongue

## SamPleOutPut1

ismymothertongue

Program

defis\_Palindrome(word):

returnword==word[::-1]

deffilter\_non\_Palindromic\_words(inPut\_string): words = inPut\_string.sPlit()

non\_Palindromic\_words=[wordforwordinwordsifnotis\_Palindrome(word)] return ' '.join(non\_Palindromic\_words)

inPut\_string=inPut().lower()

outPut\_string=filter\_non\_Palindromic\_words(inPut\_string) Print(outPut\_string)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **InPut** | **ExPected** | **Got** |  |  |
|  | Malayalamismymothertongue | ismymother tongue | ismymother tongue |  |



**Ex.No. : 5.4 Date:21-04-2024**

**RegisterNo.:231401073 Name:Nithin S**

Questiontext

GivenastringS,whichcontainsseveralwords,PrintthecountCofthewordswhoselength is atleast L. (You can include Punctuation marks like comma, full stoP also as Part of the word length. SPace alone must be ignored)

### InPutFormat:

The first line contains S. ThesecondlinecontainsL.

### OutPutFormat:

ThefirstlinecontainsC

### BoundaryConditions:

2<=Lengthof S<=1000

### ExamPleInPut/OutPut1:

InPut:

DuringandafterKenyattasinaugurationPoliceelsewhereinthecaPital,Nairobi,triedto stoP the oPPosition from holding Peaceful demonstrations.

5

OutPut:

13

ExPlanation:

Thewordsofminimumlength5are During

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97

after Kenyattas inauguration Police elsewhere caPital, Nairobi,tried oPPosition holding Peaceful

.

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98



demonstrations

Program

S=inPut()

L=int(inPut()) words=S.sPlit() count=0

forwordinwords: iflen(word)>=L:

count+=1 Print(count)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | |  |
|  | **InPut** | **ExPected** | **Got** |
|  |  |  |  |  |
|  | DuringandafterKenyattasinaugurationPoliceelsewhereinthe caPital, Nairobi, tried to stoP the oPPosition from holding Peaceful demonstrations.  5 | 13 | 13 |

**Ex.No. : 5.6 Date:21-04-2024**

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99



**RegisterNo.:231401073 Name:Nithin S**

# FindtheFactor

Find if a String2 is substring of String1. If it is, return the index of the first occurrence. else return -1.

**SamPleInPut1** thistest123string123

## SamPleOutPut1

8

**Program**

**x=inPut() y=inPut() z=x.find(y) Print(z)**

**outPut**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **InPut** | **ExPected** | **Got** |  |
|  | thistest123string 123 | 8 | 8 |  |

**Ex.No. : 5.7 Date:21-04-2024**



**RegisterNo.:231401073 Name:Nithin S**

# MergeList

WriteaProgramthattakesasinPutastring(sentence),andreturnsitssecondwordin uPPercase.

ForexamPle:

IfinPutis“WiProTechnologiesBangalore”thefunctionshouldreturn“TECHNOLOGIES” If inPut is “Hello World” the function should return “WORLD”

IfinPutis“Hello”theProgramshouldreturn“LESS”

NOTE1:IfinPutisasentencewithlessthan2words,theProgramshouldreturntheword “LESS”.

NOTE2:TheresultshouldhavenoleadingortrailingsPaces.

### ForexamPle:



|  |  |
| --- | --- |
| **InPut** | **Result** |
| WiProTechnologiesBangalore | TECHNOLOGIES |
| HelloWorld | WORLD |
| Hello | LESS |
|  |  |

Program

def second\_word\_uPPercase(sentence): words = sentence.sPlit()

if len(words) < 2: return"LESS"

else:

returnwords[1].uPPer()

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100

sentence=inPut()

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101



result=second\_word\_uPPercase(sentence) Print(result)

outPut



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **InPut** | **ExPected** | **Got** |  |
|  | WiProTechnologiesBangalore | TECHNOLOGIES | TECHNOLOGIES |  |
|  | HelloWorld | WORLD | WORLD |  |
|  |  |  |  |  |
|  | Hello | LESS | LESS |  |

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102



**Ex.No. : 5.8 Date:21-04-2024**



**RegisterNo.:231401073 Name:Nithin S**

# MergeTwoSortedArraysWithoutDuPlication

WriteaPythontoreadasentenceand Printits longestwordanditslength

### ForexamPle:



|  |  |
| --- | --- |
| **InPut** | **Result** |
|  | |
| ThisisasamPletexttotest | samPle6 |

Program

deflongest\_word(sentence): words = sentence.sPlit() max\_length = 0 longest\_word = ""

forwordin words:

if len(word) >max\_length: max\_length = len(word) longest\_word = word

returnlongest\_word,max\_length

sentence=inPut()

result=longest\_word(sentence)

Print( result[0]) Print(str(result[1]))

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103

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104



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **InPut** | **ExPected** | **Got** |  |
|  | ThisisasamPletexttotest | samPle6 | samPle6 |  |
|  | RajalakshmiEngineeringCollege,aPProvedbyAICTE | Rajalakshmi 11 | Rajalakshmi 11 |  |
|  | CseITCSBSMCT | CSBS 4 | CSBS 4 |  |

**Ex.No. : 5.9 Date:21-04-2024**



**RegisterNo.:231401073 Name:Nithin S**

# PrintElementLocation

TwostringvaluesS1,S2arePassedastheinPut.TheProgrammustPrintfirstNcharacters Present in S1 which are also Present in S2.

### InPutFormat:

The first line contains S1. ThesecondlinecontainsS2. The third line contains N.

### OutPutFormat:

ThefirstlinecontainstheNcharacters Present inS1whicharealso Present inS2.

### BoundaryConditions:

2<= N<= 10

2<=Lengthof S1,S2 <= 1000

### ExamPleInPut/OutPut1:

InPut:

abcbdecdefghbb3

OutPut:

bcd

### Note:

boccurs twiceincommonbut mustbePrintedonlyonce.

Program

defextract\_common\_chars(s1,s2,n):

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105

common\_chars=[] for char in s1:

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106



ifcharins2andcharnotincommon\_chars: common\_chars.aPPend(char)

iflen(common\_chars)==n: break

return ''.join(common\_chars) # InPut

s1 = inPut().striP() s2=inPut().striP()

n=int(inPut().striP()) # OutPut

Print(extract\_common\_chars(s1,s2,n))

outPut



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **InPut** | **ExPected** | **Got** |  |
|  | | | | |
|  | Abcbdecdefghbb3 | bcd | bcd |  |

**Ex.No. : 5.10 Date:21-04-2024**



**RegisterNo.:231401073 Name:Nithin S**

# Strictlyincreasing

WriteaProgramtocheckiftwostringsarebalanced.ForexamPle,stringss1 and s2are balancedifallthecharactersinthes1arePresentins2.Thecharacter’sPositiondoesn’t matter. If balanced disPlay as "true" ,otherwise "false".

**ForexamPle:**



|  |  |
| --- | --- |
| **InPut** | **Result** |
|  | |
| Yn PYnative | True |

Program

def check\_balance(s1, s2): s1\_set = set(s1)

s2\_set=set(s2)

if s1\_set.issubset(s2\_set): return True

else:

returnFalse

s1=inPut() s2=inPut()

result=check\_balance(s1,s2)

if result: Print("True")

else:

Print("False")

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107

OutPut

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108



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **InPut** | **ExPected** | **Got** | | |
|  | Yn PYnative | True | True |  |
|  | YnfPYnative | False | False |  |

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109

