Ex. No. : 7.4 **Date: 18.05.24**

Register No.: 231901018 **Name Kavin Sainath S**

Print repeated no

Given an array of integers `nums` containing `n+1` integers where each integer is in the range `[1, n]` inclusive. There is only **one repeated number** in `nums`, return *this repeated number*. Solve the problem using set.

Example 1:

Input: nums = [1,3,4,2,2]
Output: 2

Example 2:

Input: nums = [3,1,3,4,2]
Output: 3

For example:

Input	Result
13442	4

Program:

```
n =input().split(" ")
n = list(n)
for i in range(len(n)):
    for j in range(i+1,len(n)):
        if n[i] == n[j]:
            print(n[i])
            exit(0)
```

	Input	Expected	Got	
✔	1 3 4 4 2	4	4	✔
✔	1 2 2 3 4 5 6 7	2	2	✔

Ex. No. : 7.5 **Date: 18.05.24**

Register No.:231901018 **Name: Kavin Sainath S**

Check Pair

Given a tuple and a positive integer k, the task is to find the count of distinct pairs in the tuple whose sum is equal to **K**.

Examples:

Input: t = (5,6,5,7,7,8), K = 13
Output: 2
Explanation:
Pairs with sum K(= 13) are $\{(5,8),(6,7),(6,7)\}$.
Therefore, distinct pairs with sum K(= 13) are $\{(5,8),(6,7)\}$.
Therefore, the required output is 2.

For example:

Input	Result
1,2,1,2,5 3	1
1,2 0	0

Program:

```
def count_distinct_pairs(t, K):
    distinct_pairs = set()
    for i in range(len(t)):
        for j in range(i + 1, len(t)):
            if t[i] + t[j] == K:
```

```
                distinct_pairs.add((min(t[i], t[j]), max(t[i], t[j])))
    return len(distinct_pairs)
t_input = input()
t = tuple(map(int, t_input.split(',')))
K = int(input())
print(count_distinct_pairs(t, K))
```

	Input	Expected	Got	
✔	5,6,5,7,7,8 13	2	2	✔
✔	1,2,1,2,5 3	1	1	✔
✔	1,2 0	0	0	✔

08 – Dictionary

Ex. No. : 8.1 **Date: 25.05.24**

Register No.:231901018 **Name: Kavin Sainath S**

Sort Dictionary by Values Summation

Giveadictionarywithvaluelists,sortthekeysbysummationofvaluesinvaluelist.

Input :test_dict={'Gfg':[6,7,4],'best':[7,6,5]}

Output :{'Gfg':17,'best':18}

Explanation :Sortedbysum,andreplaced.

Input :test_dict={'Gfg':[8,8],'best':[5,5]}

Output :{'best':10,'Gfg':16}

Explanation :Sortedbysum,andreplaced.

SampleInput:

2

Gfg674

Best765

SampleOutput

Gfg17

Best18

For example:

Input	Result
2 Gfg674	Gfg17 Best18

Input	Result
Best765	

Program:

```
n=int(input())
d={}
foriinrange(n):
s=input().split()
d[s[0]]=list(map(int,s[1:]))
d1={k:sum(v)fork,vind.items()}
sorted_d=dict(sorted(d1.items(),key=lambdax:x[1]))
fork,vinsorted_d.items():
print(k,v)
```

	Input	Expected	Got	
✔	2 Gfg 6 7 4 Best 7 6 5	Gfg 17 Best 18	Gfg 17 Best 18	✔
✔	2 Gfg 6 6 Best 5 5	Best 10 Gfg 12	Best 10 Gfg 12	✔

Ex. No. : 8.2 . **Date: 25.05.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Student Record

Createastudentdictionary fornstudentswiththestudentnameaskeyandtheirtestmark assignmentmarkandlabmarkasvalues.Dothefollowingcomputationsanddisplaythe result.
1.Identifythestudentwiththe highest average score
2.IdentifythestudentwhoasthehighestAssignmentmarks
3.IdentifythestudentwiththeLowestlabmarks
4.Identifythestudentwiththelowest average score
Note:
Ifmorethanonestudenthasthesamescoredisplayallthestudentnames
Sampleinput:

4

James678956

Lalith894545

Ram898989

Sita707070

SampleOutput:

Ram

JamesRam

Lalith

Lalith

For example:

Input	Result
4 James678956 Lalith894545 Ram898989 Sita707070	Ram JamesRam Lalith Lalith

Program:

```
n=int(input())
d={}
for i in range(n):
    na=input().split()
    d[na[0]]=[int(na[1]),int(na[2]),int(na[3])]
    l=int(na[3])

h=0
for i in d:
    if h< sum(d[i]):
        h=sum(d[i])
        j=i
        h1=sum(d[i])
print(j)
h=0



for i in d:
    if(h<d[i][1]):
        h=d[i][1]
```

```
        j=i
for i in d:
    if(h==d[i][1]):
        print(i,end=" ")
l1=[]
k=[]
print()
for i in d:
    if(l>d[i][2]):
        l=d[i][2]
        j=i
for i in d:
    if(l==d[i][2]):
        l1.append(i)
for i in range(-1,-len(l1)-1,-1):
    print(l1[i],end=" ")
print()

for i in d:
    if h1> sum(d[i]):
        h1=sum(d[i])
        j=i
print(j)
```

	Input	Expected	Got	
✔	4 James 67 89 56 Lalith 89 45 45 Ram 89 89 89 Sita 70 70 70	Ram James Ram Lalith Lalith	Ram James Ram Lalith Lalith	✔
✔	3 Raja 95 67 90 Aarav 89 90 90 Shadhana 95 95 91	Shadhana Shadhana Aarav Raja Raja	Shadhana Shadhana Aarav Raja Raja	✔

Ex. No. : 8.3 **Date: 25.05.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Scramble Score

InthegameofScrabble™,eachletterhaspointsassociatedwithit.Thetotalscore ofawordis thesumofthescoresofitsletters.Morecommonlettersareworthfewer pointswhileless commonlettersareworthmorepoints.
WriteaprogramthatcomputesanddisplaystheScrabble™scoreforaword. Createadictionary thatmapsfromletterstopointvalues.Thenusethedictionaryto computethescore.
AScrabble™boardincludessomesquaresthatmultiplythevalueofaletter orthevalueofan entireword.Wewillignorethesesquaresinthisexercise.
Thepointsassociatedwith eachletterareshownbelow:

PointsLetters

1A,E,I,L,N,O,R,S,TandU

2DandG

3B,C,MandP

4F,H,V,WandY

5K

8JandX

10QandZ

Sample Input

REC

Sample Output

RECisworth5points.

For example:

Input	Result
REC	RECisworth5points.

Program:

```
def calculate_scrabble_score(word):
    # Dictionary mapping letters to points
    letter_points = {
        'A': 1, 'B': 3, 'C': 3, 'D': 2, 'E': 1, 'F': 4, 'G': 2, 'H': 4,
        'I': 1, 'J': 8, 'K': 5, 'L': 1, 'M': 3, 'N': 1, 'O': 1, 'P': 3,
        'Q': 10, 'R': 1, 'S': 1, 'T': 1, 'U': 1, 'V': 4, 'W': 4, 'X': 8,
        'Y': 4, 'Z': 10
    }

    score = 0
```

```
    for letter in word:
        letter = letter.upper()
        score += letter_points.get(letter, 0)  # Add the points for each letter, defaulting to 0 if not found

    return score

word=input()
score = calculate_scrabble_score(word)
print(f"{word} is worth {score} points.")
```

	Input	Expected	Got	
✔	GOD	GOD is worth 5 points.	GOD is worth 5 points.	✔
✔	REC	REC is worth 5 points.	REC is worth 5 points.	✔

Ex. No. : 8.4 **Date: 25.05.24**

Register No.: 231901018 **Name: Kavin Sainath S**

Uncommon words

A sentence is a string of single-space separated words where each word consists only of lowercase letters. A word is uncommon if it appears exactly once in one of the sentences, and does not appear in the other sentence.

Given two sentences s1 and s2, return a list of all the uncommon words. You may return the answer in any order.

Example1: