STRING

Question 01

In [3]:
```
string = 'BaNaNa'
upper = 0
lower = 0
for i in string:
    if (i>='A'and i<='Z'):
        upper += 1
    if (i>='a'and i<='z'):
        lower += 1
if upper > lower :
    print(string.upper())
else:
    print(string.lower())
```

```
banana
```

Question 2

In [12]:
```
string = 'jhg213j213'
word = 0
number = 0
for i in string:
    if (i>='A'and i<='Z') or (i>='a'and i<='z'):
        word += 1
    if (i>='0'and i<='9'):
        number += 1
if word == 0:
    print('NUMBER')
if number == 0:
    print('WORD')
if (word != 0 and number != 0):
    print('MIXED')
```

```
MIXED
```

Question 3

In [7]:
```
s1 = "coDIng"
s2 = ''
inBetween = False

for i in s1:
    if i>= 'A' and i<= 'Z':

        if not inBetween:

            inBetween = True
            continue

        else:

            inBetween = False
            break
    if inBetween:
        s2 += i

if len(s2) == 0:
    print('BLANK')

else:
    print(s2)
```

```
BLANK
```

Question 4

In [15]:
```
string = "This book is not too good!"
if ('too good' in string):
    print(string.replace("too good", "excellent"))
else:
    print(string)
```

```
This book is not excellent!
```

Question 5

In [2]:
```
string_1 = 'harry'
string_2 = 'hermione'
final_string_1 = ''
final_string_2 = ''
count = 0

for i in string_1:

    if i in string_2:
        final_string_1 += i
        count+=1

for i in string_2:

    if i in string_1:
        final_string_2 += i

final_string = final_string_1 + final_string_2

if(count==0):
    print("Nothing in common.")
else:
    print(final_string)
```

```
hrrhr
```

Question 6

In [2]:
```
string = 'OhMyBR@CU20'
upper = 0
lower = 0
digit = 0
special = 0

for i in string:
    if (i>='A'and i<='Z'):
        upper += 1

    elif (i>='a'and i<='z'):
        lower += 1

    elif (i>='0'and i<='9'):
        digit += 1

    elif (i=='_' or i=='$' or i=='#' or i=='@'):
        special += 1

if upper == 0:
    print("Upper character missing")

if lower == 0:
    print("Lower character missing")

if digit == 0:
    print("Digit character missing")

if special == 0:
    print("Special character missing")

if (upper != 0 and lower != 0 and digit !=0 and special != 0):
    print('OK')
```

```
OK
```

LIST

Question 1

In [2]:
```
my_list = []
result = []

while True:
    x = input('Enter the elements = ')

    if (x == 'stop' or x == 'Stop' or x== 'STOP'):
        break

    my_list.append(x)

for i in range(len(my_list)):

    if my_list[i] not in result:
        result.append(my_list[i])

for i in range(len(result)):
    print(result[i], "-", my_list.count(result[i]), "times")
```

```
Enter the elements = 10
Enter the elements = 20
Enter the elements = 10
Enter the elements = 20
Enter the elements = 30
Enter the elements = 50
Enter the elements = 90
Enter the elements = stop
10 - 2 times
20 - 2 times
30 - 1 times
50 - 1 times
90 - 1 times
```

Question 2

In [1]:
```
l1 = []
sums = []
j = 0
num = int(input('Enter the no. of lists = '))

for i in range(num):
    l1.append([int(x) for x in input("Enter the elements in the list(use 'space' after each element) = ").split(

for x in l1:
    sum = 0

    for y in x:
        sum += y

    sums.append(sum)

largest = sums[0]

for j in range(len(sums)):
    if (largest < sums[j]):
        largest = sums[j]

    j = j+1

print(largest)

print(l1[sums.index(largest)])
```

```
Enter the no. of lists = 4
Enter the elements in the list(use 'space' after each element) = 1 2 3
Enter the elements in the list(use 'space' after each element) = 4 5 6
Enter the elements in the list(use 'space' after each element) = 10 11 12
Enter the elements in the list(use 'space' after each element) = 7 8 9
33
[10, 11, 12]
```

Question 3

In [2]:
```
list_1 = [2,3,6]
list_2 = [3,4,5]

product_list = []

for i in list_1:

    for j in list_2:
        product = i * j
        product_list.append(product)

print(product_list)
```

```
[6, 8, 10, 9, 12, 15, 18, 24, 30]
```

Question 4

In [2]:
```
def isUBJumper(values, n):

    x = []

    for i in range(1, n-1):
        d = abs(values[i] - values[i+1])

        if (d > n-1 or d in x):
            return False
        else:
            x.append(d)
    return True

my_list = []
i = 1
quan = int(input('Enter the number of element in list = '))

while i<=quan:

    x = input('Enter the elements = ')

    if (x == 'stop' or x == 'Stop' or x== 'STOP'):
        break

    my_list.append(x)
    i = i+1

for i in range(0, len(my_list)):
    my_list[i] = int(my_list[i])

n = len(my_list)

if isUBJumper(my_list, n):
    print("UB Jumper")

else:
    print("Not UB Jumper")
```

```
Enter the number of element in list = 5
Enter the elements = 1
Enter the elements = 4
Enter the elements = 2
```

```
Enter the elements = 3
Enter the elements = STOP
UB Jumper
```

Question 5

In [3]:
```
a = 'Bracu1234'

upper = []
lower = []
even = []
odd = []

for i in a:
    if i >='A' and i<='Z':
        upper.append(i)

    if i >='a' and i<='z':
        lower.append(i)

    if i>='0' and i <= '9':
        if int(i)%2 == 0:
            even.append(i)
        else:
            odd.append(i)

def sorted_list(my_list):

    for i in range(len(my_list)-1,0,-1):
        for j in range(i):
            if my_list[j]>my_list[j+1]:
                temp = my_list[j]
                my_list[j]=my_list[j+1]
                my_list[j+1]=temp

    return
sorted_list(upper)
sorted_list(lower)
sorted_list(odd)
sorted_list(even)

print("".join(lower+upper+odd+even))
```

```
acruB1324
```

Question 6

In [3]:
```
num1 = int(input('Enter the number of participants = '))
num2 = int(input('Enter the number of participation = '))
l1 = []
count = 0
i=0

while i<num1:
    x = int(input('Previous participation by each participant  = '))
    l1.append(x)
    i += 1


for index in l1:

    if 5-index>=num2:

        count+=1

count1 = count//3

print('Teams can be formed ',count1)
```

```
Enter the number of participants = 5
Enter the number of participation = 2
Previous participation by each participant  = 0
Previous participation by each participant  = 4
Previous participation by each participant  = 5
Previous participation by each participant  = 1
Previous participation by each participant  = 0
Teams can be formed  1
```

Dictionary and Tuple

Question 1

In [1]:
```
dict1 = {}
dict2 = {}

n1 = int(input("Enter number of elements for 1st dictionary = "))

for i in range(n1):
    k = input("Enter Key = ")
    v = int(input("Enter Value = "))
    dict1.update({k:v})

n2 = int(input("Enter number of elements for 2nd dictionary = "))

for i in range(n2):
    k = input("Enter Key = ")
    v = int(input("Enter Value = "))
    dict2.update({k:v})

dict3 = dict1.copy()
dict3.update(dict2)

for key in dict2:
    if key in dict1:
        dict3[key] = dict2[key] + dict1[key]

print(dict3)

l = []

for value in dict3.values():
    l.append(value)

unique_l = []

for i in l:
    if i not in unique_l:
        unique_l.append(i)

def sorted_list(my_list):

    for i in range(len(my_list)-1,0,-1):
        for j in range(i):
            if my_list[j]>my_list[j+1]:
```

```
                temp = my_list[j]
                my_list[j]=my_list[j+1]
                my_list[j+1]=temp

    return
sorted_list(unique_l)

tuple_1 = tuple(unique_l)
print('Values:', tuple_1)
```

```
Enter number of elements for 1st dictionary = 4
Enter Key = a
Enter Value = 100
Enter Key = b
Enter Value = 100
Enter Key = c
Enter Value = 200
Enter Key = d
Enter Value = 300
Enter number of elements for 2nd dictionary = 4
Enter Key = a
Enter Value = 300
Enter Key = b
Enter Value = 200
Enter Key = d
Enter Value = 400
Enter Key = e
Enter Value = 200
{'a': 400, 'b': 300, 'c': 200, 'd': 700, 'e': 200}
Values: (200, 300, 400, 700)
```

Question 2

In [4]:
```
my_list = []

while True:
    x = input('Enter the elements = ')

    if (x == 'stop' or x == 'Stop' or x== 'STOP'):
        break

    my_list.append(x)

freq = {}

for item in my_list:

    if item in freq:

        freq[item] += 1

    else:

        freq[item] = 1

for key,value in freq.items():
    print(key , '-' , value, 'times'  )
```

```
Enter the elements = 10
Enter the elements = 20
Enter the elements = 30
Enter the elements = 10
Enter the elements = 20
Enter the elements = 50
Enter the elements = 90
Enter the elements = STOP
10 - 2 times
20 - 2 times
30 - 1 times
50 - 1 times
90 - 1 times
```

Question 3

In [5]:
```
key_to_value = {'key1' : 'value1', 'key2' : 'value2', 'key3' : 'value1'}

value_to_key = {}

for key in key_to_value:
    value = key_to_value[key]

    if not (value in value_to_key):
        value_to_key[value] = [key]

    else:
        value_to_key[value].append(key)

print(value_to_key)
```

```
{'value1': ['key1', 'key3'], 'value2': ['key2']}
```

Question 4

In [6]:
```
def Anagrams(s1,s2):
    s1 = s1.replace(' ','').lower()
    s2 = s2.replace(' ','').lower()

    dict1 = {}

    if len(s1) != len(s2):
        return 'Those strings are not anagrams.'

    for letter in s1:
        if letter in dict1:
            dict1[letter] += 1

        else:
            dict1[letter] = 1

    for letter in s1:
        if letter in dict1:
            dict1[letter] -= 1

        else:
            dict1[letter] = 1

    for k in dict1:
        if dict1[k] != 0:
            return 'Those strings are not anagrams.'

    return 'Those strings are anagrams.'

print(Anagrams('evil','live'))
```

```
Those strings are anagrams.
```

Question 5

In [6]:
```
dict_1 = {
1:'.,?!:',
2:'ABC',
3:'DEF',
4:'GHI',
5:'JKL',
6:'MNO',
7:'PQRS',
8:'TUV',
9:'WXYZ',
0:' '
}

text = input("Please input a text = ").upper()

for index in range(len(text)):
    for key,value in dict_1.items():
        if text[index] in value:
            l1=list(value)

            for i in range(len(l1)):
                if text[index] == l1[i]:
                    b = str(key)*(i+1)
                    print(b,end='')
```

```
Please input a text = Hello, World!
4433555555666110966677755531111
```

In [ ]:
```

```