Answer Script

Question No. 01	
Write Python program to solve Max Split	20

Answer No. 01

```
def split_balanced_string(S):
        counter = 0
        count_L = 0
        count_R = 0
        balanced_strings = []

        for ch in S:
        if ch == 'L':
        count_L += 1
        elif ch == 'R':
        count_R += 1

        if count_L == count_R:
        counter += 1
        balanced_strings.append(S[:count_L + count_R])
        S = S[count_L + count_R:]
        count_L = 0
        count_R = 0

        return counter, balanced_strings

S = input()
count, strings = split_balanced_string(S)
print(count)

for i in strings:
        print(i)
```

Question No. 02	
Write Python program to solve Good Sequence	20

Answer No. 02

```
num = input()
num = int(num)

s = input().split()
dir = {}
for i in s:
        if i not in dir.keys():
        dir[i] = 1
        else:
        dir[i] += 1
c = 0
for i, j, in dir.items():
        if(int(i) > j):
        c += j
        elif(int(i) < j):
        c += abs(int(i) - j)
print(c)
```

Question No. 03

a

Write the difference between List and Dictionary of Python. 10

b

Write about *args and **kwargs of Python with proper examples. 10

Answer No. 03

a

List	Dictionary
Ordered collection of items.	Unordered collection of key-value pairs.
Elements are stored in a sequential manner and accessed by their index.	Elements are stored and accessed by their keys.
Elements can be of different data types like strings, integers, floats, other objects.	Values can be of any data type like strings, integers, floats, lists, other dictionaries.
Accessed using indexing and slicing.	Accessed using keys.
Denoted by square brackets ([]).	Denoted by curly braces ({}) or the dict() constructor.
Example: any_list = [‘phitron’, ‘hero’, ‘code’, 1, 3.14, True]	Example: any_dict = {'name': 'Rahim', 'age': 25, 'city': 'Dhaka'}

b

In Python, we can pass a variable number of arguments to a function using special symbols. There are two special symbols:

1. ***args (Non Keyword Arguments)**
2. ****kwargs (Keyword Arguments)**

We use ***args and ****kwargs** as an argument when we are not sure about the number of arguments to pass in the functions.

Example: *args
Code:

```
def my_function(*args):
        for arg in args:
        print(arg)

my_function(1, 'apple', 3.14, True)
```

Output:

```
1
apple
3.14
True
```

In this example, the function **my_function** accepts multiple arguments. The ***args** parameter collects all the passed arguments into a tuple named args. The loop then iterates over the tuple and prints each argument.

Example: **kwargs
Code:

```
def my_function(**kwargs):
        for key, value in kwargs.items():
        print(key, value)

my_function(name='Rahim', age=25, city='Dhaka')
```

Output:

```
name Rahim
age 25
city Dhaka
```

In this example, the function **my_function** accepts multiple keyword arguments. The ****kwargs** parameter collects all the passed keyword arguments into a dictionary named kwargs. The loop then iterates over the dictionary and prints each key-value pair.

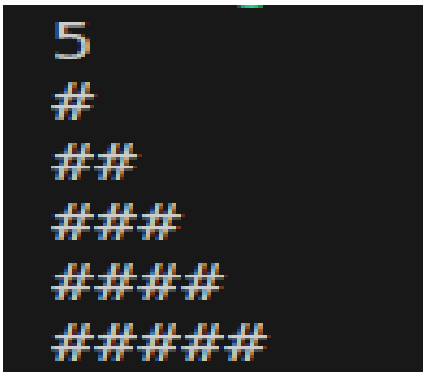
Question No. 04
Write Python program to solve Minimize Number

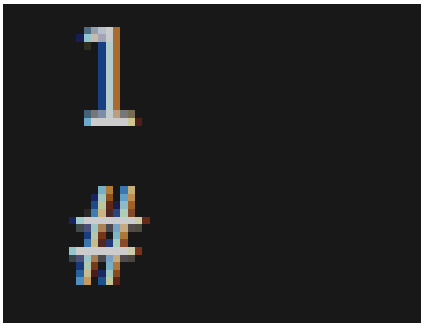
Answer No. 04

```
def main():
        n = int(input())
        arr = list(map(int, input().split()))
        m = float('inf')

        for i in range(n):
        c = 0
        while arr[i] % 2 == 0 and arr[i] > 0:
        c += 1
        arr[i] //= 2

        m = min(m, c)

        print(m)

main()
```

Question No. 05
Take a number from the user and draw a pyramid using PyAutoGUI 20

Sample :





Answer No. 05

```
import pyautogui
start_x, start_y = pyautogui.position()
num = int(input())
for i in range(1, num + 1):
        line = '#' * i
        pyautogui.write(line, interval=0.25)
        pyautogui.press('enter')
```