Python Assignment

1.) To find the frequency of each word in a given message

```python
def freq(str):

    str = str.split()
    str2 = []

    for i in str:

        if i not in str2:

            str2.append(i)

    for i in range(0, len(str2)):

        print('Frequency of', str2[i], 'is :',
    str.count(str2[i]))

    def main():
        str ='apple mango apple orange orange apple guava mango mango'
        freq(str)

    if __name__=="__main__":
        main()
```

2.) RGB to Hex conversion

```python
def decToHexa(n):


    hexaDeciNum = ['0'] * 100

     Counter for hexadecimal number array
    i = 0

    while (n != 0):

        temp = 0

        temp = n % 16
```

```python
        if (temp < 10):
            hexaDeciNum[i] = chr(temp + 48)
            i = i + 1

        else:
            hexaDeciNum[i] = chr(temp + 55)
            i = i + 1

        n = int(n / 16)

    hexCode = ""
    if (i == 2):
        hexCode = hexCode + hexaDeciNum[0]
        hexCode = hexCode + hexaDeciNum[1]

    elif (i == 1):
        hexCode = "0"
        hexCode = hexCode + hexaDeciNum[0]

    elif (i == 0):
        hexCode = "00"

    return hexCode
def convertRGBtoHex(R, G, B):

    if ((R >= 0 and R <= 255) and
        (G >= 0 and G <= 255) and
        (B >= 0 and B <= 255)):

        hexCode = "#";
        hexCode = hexCode + decToHexa(R)
        hexCode = hexCode + decToHexa(G)
        hexCode = hexCode + decToHexa(B)
        return hexCode

    else:
        return "-1"

# Driver Code
R = 0
G = 0
B = 0
print (convertRGBtoHex(R, G, B))

R = 255
G = 255
B = 255
print (convertRGBtoHex(R, G, B))

R = 25
G = 56
B = 123
print (convertRGBtoHex(R, G, B))
```

```
R = 2
G = 3
B = 4
print (convertRGBtoHex(R, G, B))

R = 255
G = 255
B = 256
print (convertRGBtoHex(R, G, B))
```

3.) Given a string find Mexican wave

```python
def wave(str):
    # Code here
    result=[]
    for i in range(len(str)):
        str=str.lower()
        temp_list=list(str)
        if temp_list[i].isalpha():
            temp_list[i]=str[i].upper()
            str=''.join(temp_list)
            result.append(str)
             return result
```

4.) Check whether given string is isogram or not

```python
def is_isogram(word):

    clean_word = word.lower()

    letter_list = []

    for letter in clean_word:

        if letter.isalpha():
            if letter in letter_list:
                return False
            letter_list.append(letter)

    return True

if __name__ == '__main__':
    print(is_isogram("Machine"))
    print(is_isogram("isogram"))
    print(is_isogram("pretty"))
```

```
print(is_isogram("Alphabet "))
```

5.) Find out no. of people in a bus , given data of people onboarding and alighting at each station

```
def
QuestionFour():
                print("Enter the initial number of the people in the bus:")
                Initial = int(input())
                print("Enter the list of number of onboarding at each station: ")
                onboarding = [int(item) for item in input().split()]
                print("Enter the list of number of alighting at each station: ")
                alighting = [int(item) for item in input().split()]
                final=[]
                for i in range(0,len(onboarding)):
                    numberPeople = Initial+onboarding[i]-alighting[i]
                    final.append(numberPeople)
                print("Number of people after every station is :")
                print(final)
            if __name__ == "__main__": QuestionFour()
```

6.) Fnd the missing no. given the original list and the modified one

```
def
questionfive():
                print("Enter the original list of the numbers:")
                original =[int(Item) for Item in input().split()]
                print("Enter the modified list of the Items")
                modified =[int(item) for item in input().split()]
                for i in range(0,len(original)):
                    if(original[i]!=modified[i]):
                        print(original[i])
                        break
            if __name__ == "__main__":questionfive()
```

7.) In a given list of elements all elements are equal except one. Find out one out

```python
def QuestionOne():
    print("Enter The list of the number")
    mylist = [int(item) for item in input().split()]
    mydictionary ={}
    for item in mylist:
        if(mydictionary.get(item)):
            mydictionary[item] = mydictionary.get(item)+1
        else:
            mydictionary[item] = 1;
    for item in mydictionary:
        if(mydictionary.get(item) == 1):
            print("The different number is :")
            print(item)
if __name__ == "__main__":QuestionOne()
```

8.) In a given list count no. of elements smaller than their mean

```python
def QuestionSeven():
    print("Enter the number of the list: ")
    mylist = [int(element) for element in input().split()]
    length = len(mylist)
    total =0
    for i in mylist:
        total += i
    average = total/length
    seclist =[]
    for i in mylist:
        if(i<average):
            seclist.append(i)
    print(seclist)
if __name__ == "__main__":QuestionSeven()
```

9.) Find difference between 2 lowest no. in a list

```
def
QuestionSix():
            print("Enter the elements of the list: ")
            mylist=[int(blue) for blue in input().split()]
            min = mylist[0]
            secondmin=9999999
            for i in mylist:
                if(i==min):
                    continue
                elif(i<min):
                    secondmin=min
                    min = i
                elif(secondmin>i):
                    secondmin=i
            diff = secondmin-min
            print("The difference between the minimum and the second minimum is")
            print(diff)
        if __name__=="__main__":QuestionSix()
```

10.) Find avg speed of vehicle given distance travelled for fixed time intervals

```
def
QuestionThree():
            print("Enter the list of the distance covered")
            mylist = [int(item) for item in input().split()]
            length = len(mylist)
            Total = 0
            for i in mylist:
                Total+= i
            average = Total/length
            print("Average speed is : ")
            print(average)
        if __name__== "__main__":QuestionThree()
```

11.) In given list of elements , find elements which is close to its mean

```python
def
QuestionTwo():
                print("Enter The list of the number")
                mylist = [int(item) for item in input().split()]
                total = 0
                mylisttwo=[]
                for element in mylist:
                    total += element
                lengthOfTheList = len(mylist)
                average = total/lengthOfTheList
                for i in range(0,len(mylist)):
                    mylisttwo.append(average - mylist[i])
                    if(mylisttwo[i]<0):
                        mylisttwo[i]=mylisttwo[i]*(-1)
                min = mylisttwo[0]
                for i in range(0,len(mylisttwo)):
                    if(min>mylisttwo[i]):
                        min=mylisttwo[i]
                for i in range(0,len(mylisttwo)):
                    if(min==mylisttwo[i]):
                        print(mylist[i])
                        break
            if __name__ == "__main__":QuestionTwo()
```

12.)Correct malformed time string

```python
def
tistone():
                print("Please enter the time:")
                time = input()
                timelist = time.split(":")
                hour = int(timelist[0])
                minutes = int(timelist[1])
                seconds = int(timelist[2])
                carry = seconds//60
```

```python
        remainder = seconds%60
        minutes = minutes+carry
        seconds = remainder
        carry = minutes//60
        remainder = minutes%60
        hour = hour + carry
        minutes = remainder
        hour = hour%24
        print(hour,":",minutes,":",seconds)
if __name__=="__main__":tistone()
```

13.) Correct malformed date string

```python
def
tisttwo():
        months={
            1 : 31,
            2 : 28,
            3 : 31,
            4 : 30,
            5 : 31,
            6 : 30,
            7 : 31,
            8 : 31,
            9 : 30,
            10 : 31,
            11 : 30,
            12 : 31
        }
        Todate = input()
        currDATE = Todate.split('/')
        date = int(currDATE[0])
        month = int(currDATE[1])
        year =int(currDATE[2])
        carry = date//months[int(month)]
        remainder = date%months[int(month)]
        month = month +carry
        date = remainder
        carry = month//12
```

```python
    remainder = month%12
    year = year+carry
    month = remainder
    print(date,'/',month,'/',year)
if __name__=="__main__":tisttwo()
```

14.) Convert Ip address from "abcd" format to integer and vice versa

```python
def
tistthree():
            print("Enter the IP address")
            IP = input().split(".")
            IPfinal = []
            for i in IP:
                IPfinal.append(HXtoDC(i))

        print(IPfinal[0],'.',IPfinal[1],'.',IPfinal[2],'.',IPfinal[3])
        def HXtoDC(hexamel):
            hexchart = {
                '1' : 1,
                '2' : 2,
                '3' : 3,
                '4' : 4,
                '5' : 5,
                '6' : 6,
                '7' : 7,
                '8' : 8,
                '9' : 9,
                'a' : 10,
                'b' : 11,
                'c' : 12,
                'd' : 13,
                'e' : 14,
                'f' : 15,
                'A' : 10,
                'B' : 11,
                'C' : 12,
                'D' : 13,
```

```
                        'E' : 14,
                        'F' : 15
                    }
                num=0
                for i in hexamel:
                    num *= 16;
                    num += hexchart[i]
                return num
        if __name__ =="__main__":tistthree()
```

15.)Given a no. , find largest no. by shuffling the digits

```
def
tlistseven():
                print("Enter the number :")
                number = input()
                numberlist = []
                for i in number:
                    numberlist.append(int(i))
                numberlist.sort()
                numberlist.reverse()
                large=''
                for i in numberlist:
                    large=large+str(i)
                print(large)
        if __name__ =="__main__":tlistseven()
```

16.)Given a no. , find the largest no. by deleting a single digit

```
def
tlistsix():
                print("Enter a number :")
                number = input()
                length = len(number)
```

```python
    for i in range(0,len(number)-1):
        if(int(number[i])<int(number[i+1])):
            number = number[:i]+number[i+1:]
            break
    if(length == len(number)):
        number=number[:-1]
    print(number)
if __name__ == "__main__":tlistsix()
```