Assignment - 3

Problem - 1

VEHICLE REGISTRATION NUMBER

List out, all possible 4-digit number (XXXX) which satisfies the following conditions.

1) All the four numbers should be in increasing order (X1<X2<X3<X4).

2) Last digit should be 9.

3) Sum of all digits should be 8.

In [29]:

```
# Initializing "l1" empty list
l1=[]

# for loop to iterate "i" digit from 0 to 9.
for i in range(0,10):

    # for loop to iterate "j" digit from 1 to 9.
    for j in range(1,10):

        # for loop to iterate "k" digit from 2 to 9.
        for k in range(2,10):

            # If i,j,k and 9 values in increasing order.
            # last digit should be 9.
            if i<j<k<9:

                # Addition of i, j, k and 9 values.
                w=i+j+k+9

                # apply type casting int to str and store in object "s"
                s=str(w)

                # Initializing "l2" empty list
                l2=[]

                # for loop to iterate "a" digit from s.
                for a in s:

                    # adding each "a" digit to l2 list.
                    l2.append(a)

                # calculate the addition again, if Sum of all digits should be 8.
                if (int(l2[0]) + int(l2[1]))==8:

                    # concatenate i, j, k and 9 in single str.
                    s=str(i)+str(j)+str(k)+str(9)

                    # adding concatenated str to "l1" list.
                    l1.append(s)


# Print the l1.
print("Following all these 4-digit numbers satisfies the all conditions")
print(l1)
```

```
Following all these 4-digit numbers satisfies the all conditions
['0179', '0269', '0359', '1259', '1349', '2789', '3689', '4589', '4679']
```