

In [9]:

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1 class StringOP:
2     def __init__(self,data):
3         self.data=data
4     def StrLength(self,string):
5         count=0
6         for i in string:
7             count+=1
8         return count
9     def StrConcat(self,string1,string2):
10        return string1+string2
11    def SubString(self,text,start,end):
12        count=""
13        for i in range(self.StrLength(text)):
14            if i >= start-1:
15                if i == end:
16                    break
17                count+=text[i]
18        return count
19    def InsertStr(self,text,pos):
20        count=""
21        for i in range(self.StrLength(self.data)):
22            if i == pos-1:
23                count+=text
24                count+=self.data[i]
25        return count
26    def DeleteStr(self,pos,length):
27        count=""
28        for i in range(self.StrLength(self.data)):
29            if i >= pos and i !=pos+length:
30                None
31            else:
32                count+=self.data[i]
33        return count
34    def Naive(self,pattern):
35        n=self.StrLength(self.data)
36        m=self.StrLength(pattern)
37        lst=[]
38        for s in range(0,(n-m)+1):
39            for i in range(m):
40                if pattern[i]!=self.data[s+i]:
41                    break
42                if i == m-1:
43                    lst.append(s+1)
44        return lst
45    def RabinKarp(self,pat,q):
46        txt=self.data
47        lst=[]
48        M = len(pat)
49        N = len(txt)
50        i = 0
51        j = 0
52        p = 0
53        t = 0
54        h = 1
55        d=256
56        for i in range(M-1):
57            h = (h*d)%q
58        for i in range(M):
59            p = (d*p + ord(pat[i]))%q
60            t = (d*t + ord(txt[i]))%q
61        for i in range(N-M+1):
62            if p==t:
63                for j in range(M):
64                    if txt[i+j] != pat[j]:
65                        break
66                j+=1
67                if j==M:
68                    lst.append(i)
69            else:
70                lst.append(i)
71            if i < N-M:
72                t = (d*(t-ord(txt[i])*h) + ord(txt[i+M]))%q
73                if t < 0:
74                    t = t+q
75        return lst
76 a=StringOP("talha Ahmed is hello is hello also")
77 print(a.StrLength("talha"))
78 print(a.SubString("talha Ahmed is also",7,11))
79 print(a.InsertStr("hellooooooooo ",1))
80 print(a.DeleteStr(2,2))
81 print(a.Naive("a"))
82 print(a.RabinKarp("hello",101))

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5
Ahmed
helloooooooooo talha Ahmed is hello is hello also
taa
[2, 5, 31]
[15, 24]

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