

## **REMOVE LEFT FACTORING**

```
print("Enter productions")
arr=input().split('|')
#print(arr)
arr2=[]
arr3=[]
arr4=[]
for i in range(0,len(arr[0])-1):
    while(arr[0][i]!=arr[1][0]):
        i+=1
        #print(i)
    c=i
    break
#print(c)
#print(arr[1][0])
s=arr[0][3:]
#print(s)
n=len(arr[1])
m=len(s)
if(m<n):
    u=m
else:
    u=n
#print(u)
arr4.append(arr[0][:3])
for k in range(0,u):
    if(s[k]==arr[1][k]):
        arr4.append(s[k])
        continue
    else:
        arr2.append(s[k:])
        arr3.append(arr[1][k])
        h=k
arr3.append(arr[1][k+1:])
```

```
w="".join(arr2)
#print(w)
x="".join(arr3)
#print(x)
arr4.append("X")
hj="".join(arr4)
print(hj)
arr5=[]
arr5.append("X->")
arr5.append(w)
arr5.append("|")
arr5.append(x)
fi="".join(arr5)
print(fi)
```

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```
main.py
26 if(s[k]==arr[1][k]):
27     arr4.append(s[k])
28     continue
29 else:
30     arr2.append(s[k:])
31     arr3.append(arr[1][k])
32     h=k
33 arr3.append(arr[1][k+1:])
34 w=''.join(arr2)
35 #print(w)
36 x=''.join(arr3)
37 #print(x)
38 arr4.append("X")
39 hj=''.join(arr4)
40 print(hj)
41 arr5=[]
42 arr5.append("X->")
43 arr5.append(w)
44 arr5.append("|")
45 arr5.append(x)
46 fi=''.join(arr5)
47 print(fi)
48
```

Input

X->z+|D

...Program finished with exit code 0  
Press ENTER to exit console.

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```
main.py
23 #print(u)
24 arr4.append(arr[0][:3])
25 for k in range(0,u):
26     if(s[k]==arr[1][k]):
27         arr4.append(s[k])
28         continue
29     else:
30         arr2.append(s[k:])
31         arr3.append(arr[1][k])
32         h=k
33 arr3.append(arr[1][k+1:])
34 w=''.join(arr2)
35 #print(w)
36 x=''.join(arr3)
37 #print(x)
38 arr4.append("X")
39 hj=''.join(arr4)
40 print(hj)
41 arr5=[]
42 arr5.append("X->")
43 arr5.append(w)
44 arr5.append("|")
45 arr5.append(x)
```

Input

X->z+|D

...Program finished with exit code 0  
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main.py

```
1 print("Enter productions")
2 arr=input().split('|')
3 #print(arr)
4 arr2=[]
5 arr3=[]
6 arr4=[]
7 for i in range(0,len(arr[0])-1):
8     while(arr[0][i]!=arr[1][0]):
9         i+=1
10        #print(i)
11        c=i
12        break
13 #print(c)
14 #print(arr[1][0])
15 s=arr[0][3:]
16 #print(s)
17 n=len(arr[1])
18 m=len(s)
19 if(m<n):
20     u=m
21 else:
22     u=n
23 #print(u)
```

Input

X->z+|D

...Program finished with exit code 0  
Press ENTER to exit console.

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main.py

```
26 if(s[k]==arr[1][k]):
27     arr4.append(s[k])
28     continue
29 else:
30     arr2.append(s[k:])
31     arr3.append(arr[1][k])
32     h=k
33 arr3.append(arr[1][k+1:])
34 w=''.join(arr2)
35 #print(w)
36 x=''.join(arr3)
37 #print(x)
38 arr4.append("X")
39 hj=''.join(arr4)
40 print(hj)
```

Input

Enter productions  
A->xyz+|xyD  
A->xyX  
X->z+|D

...Program finished with exit code 0  
Press ENTER to exit console.