REMOVE LEFT FACTORING

```python
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:])
```

```python
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)
```

```python
    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)
```

```
X->z+|D

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

```python
#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)
```

```
X->z+|D

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

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main.py

```python
 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

```python
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.
```