

#initialize strings u & v

u = '01101110'

v = '10101000'

w = '0110110011101000'

len_u = len(u)

len_v = len(v)

len_w = len(w)

#Below matrix is to save states at each stage of nodes which is initialized to False.

#0th node is made as (True) and then based on the conditions this (True) will be traversed

#Main goal is True should be traversed until the complete W is evaluated

#At the end if True is the value of the last node, it means our W is the interleaving of u & v.

Matrix_To_Result = [[False for i in range(len_u+1)] for i in range(len_v+1)]

for x in range(len_u+1):

 for y in range(len_v+1):

 #Below condition is for the initial node (0,0) which is just a starting point

 if(x == 0 and y == 0):

 Matrix_To_Result[x][y] = True;

 elif(x == 0):

 if(v[y-1] == w[y-1]):

 Matrix_To_Result[x][y] = Matrix_To_Result[x][y-1];

 elif(y == 0):

 if(u[x-1] == w[x-1]):

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Matrix_To_Result[x][y] = Matrix_To_Result[x-1][y];
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elif(u[x-1] == w[x+y-1] and v[y-1] != w[x+y-1]):
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```
    Matrix_To_Result[x][y] = Matrix_To_Result[x-1][y];
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```
elif(u[x-1] != w[x+y-1] and v[y-1] == w[x+y-1]):
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```
    Matrix_To_Result[x][y] = Matrix_To_Result[x][y-1];
```

```
elif(u[x-1]==w[x+y-1] and v[y-1] == w[x+y-1]):
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    Matrix_To_Result[x][y] = Matrix_To_Result[x-1][y] or Matrix_To_Result[x][y-1];
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if(Matrix_To_Result[x][y] == 1):
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    print('Yes')
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else:
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```
    print('No')
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