

5

A pair (c, d) can follow another pair (a, b) if $b < c$; similarly in this way a chain of pairs can be formed.

14
2 65
45 56
23 24
45 90

$(a, b) \leftarrow (c, d)$

$b < c$

1
1, 4

$i = [n][2]$

$i \rightarrow 0 \rightarrow n-1$

satisfies
Not satisfy

0 1
0 14
1 2 65
2 45 56
3 23 24
4 45 90

0 1 2 3 4
1 1 2 2 3

for $(i = 0 \rightarrow n-1)$ {

temp = 2

for $(j = i-1 \leftarrow 0)$ {

if $(arr[j][1] < arr[i][0])$ {

temp = max(temp, dp[j])

}

dp[i] += temp ;

$i = 0 \neq 3, 4$

$j = 3 \neq 1, 0$

LCS - (Return Length) :-

abcde =)
ace =)

Tabulation

abcd

	0	1	2	3	4	5
a	0	1	1	1	1	1
b	0	0	1	1	1	1
c	0	0	0	1	1	1
d	0	0	0	0	1	1
e	0	0	0	0	0	1

a b c d
a b c d

1 0
1 1

abcd
ac

		a	b	c	d
0	"	0	0	0	0
1	a	0	1	1	1
2	c	0	1	1	2
3	e	0	1	1	2

1,0
a
a

i=2
j=3

ABCDEF
FBDFA

			A	B	C	D	E	F
0	"	0	0	0	0	0	0	0
1	f	0	0	0	0	0	0	1
2	B	0	0	1	1	1	1	1
3	D	0	0	1	1	2	2	2
4	F	0	1	1	1	2	2	3
5	A	0	1	1	1	2	2	3

i=5
j=4
k=3

F B D F A
A B C D E F

```
while(i>0 && j>0 && k>0) {
    if(str1.charAt(i-1) == str2.charAt(j-1)) {
        temp[k-1] = str1.charAt(i-1);
        k--;
        i--; j--;
    } else if (dp[i-1][j] > dp[i][j-1]) {
        i--;
    } else {
        j--;
    }
}
```

k=3
[B D F]

A D B E C F

D A E B F C

Longest Palindromic Substring

ABCCBD
DBCCBA
BCLB