

i)  $a b a b c a b c a b a b a b a b d$   
 $i=1 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \quad 13 \quad 14 \quad 15$

$\rightarrow [0 \ 0 \ 1 \ 2 \ 0]$

ii)  $a b a b d$   
 $i=1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \{ \text{index} \}$

$$T[i] = p[j+1]$$

{

$i++;$

$j++;$

$$1) T[1] = p[0+1]$$

$$a == a \rightarrow \checkmark \rightarrow i=2$$

$$p[1] == \checkmark \rightarrow j=1, p[1]=a$$

$$2) T[2] = p[1+1]$$

$$b == b \rightarrow \checkmark \rightarrow i=3$$

$$p[2] == \checkmark \rightarrow j=2, p[2]=b$$

$$3) T[3] = p[2+1]$$

$$a == a \rightarrow \checkmark \rightarrow i=4$$

$$j=3$$

$$4) T[4] = p[3+1]$$

$$b == b \rightarrow \checkmark \rightarrow i=5$$

$$j=4$$

$$5) T[5] = p[4+1]$$

$$c == d \rightarrow \times \rightarrow i=5$$

$$j = \pi[j]$$

$$\boxed{j=2}$$

6)  $T[5] = p[2+1]$   
 $c == a \rightarrow x \rightarrow i = 5$   
 $j = \pi(j)$   
 $j = 0$

7)  $T[5] = p[0+1]$   
 $c == a \rightarrow x \rightarrow$  since  $j$  cannot be  
decremented anymore...!  
 $i++;$   
 $i = 6$   
 $j = 0$

8)  $T[6] = p[0+1]$   
 $a == a \rightarrow v \rightarrow i = 7$   
 $j = 1$

9)  $T[7] = p[1+1]$   
 $b == b \rightarrow v \rightarrow i = 8$   
 $j = 2$

10)  $T[8] = p[2+1]$   
 $c == a \rightarrow x \rightarrow i = 8$   
 $j = \pi(j)$   
 $j = 0$

11)  $T[8] = p[0+1]$   
 $c == a \rightarrow x \rightarrow i = 9$   
 $j = 0$

$$12) T[9] == P[0+1]$$

$a == a \rightarrow \checkmark \rightarrow i = 10$   
 $j = 1$

$$13) T[10] == P[1+1]$$

$b == b \rightarrow \checkmark \rightarrow i = 11$   
 $j = 2$

$$14) T[11] == P[2+1]$$

$a == a \rightarrow \checkmark \rightarrow i = 12$   
 $j = 3$

$$15) T[12] == P[3+1]$$

$b == b \rightarrow \checkmark \rightarrow i = 13$   
 $j = 4$

$$16) T[13] == P[4+1]$$

$a == d \rightarrow \times \rightarrow i = 13$   
 $j = \pi[j]$   
 $j = 2$

$$17) T[13] == P[2+1]$$

$a == a \rightarrow \checkmark \rightarrow i = 14$   
 $j = 3$

$$18) T[14] == P[3+1]$$

$b == b \rightarrow \checkmark \rightarrow i = 15$   
 $j = 4$

$$19) T[15] == P[4+1]$$

$d == d \rightarrow \checkmark \rightarrow i = 16$

Matching index =  $i - \text{length}(P)$

$$= 16 - 5 = 11$$

$$= \underline{\underline{411}}$$

Draft = [a] b c

$$\begin{matrix} a & b & c \\ \downarrow & \downarrow & \downarrow \\ d & e & f \end{matrix}$$

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$$\begin{matrix} a & b & c \\ \downarrow & \downarrow & \downarrow \\ d & e & f \end{matrix}$$