

Sheet 13

Exercise 35

a)

q	1	2	3	4	5	6	7	8	9
p_q	b	a	b	a	c	a	b	a	b
$\pi(q)$	0	0	1	2	0	0	1	2	3

b)

$$q = 0, 1, 2, 3, 4, 2, 3, 4, 5, 6, 7, 8, 9$$
$$i = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12$$

Exercise 36

```
1: function LCSSUBSTR( $S[1..m]$ ,  $T[1..n]$ )
2:    $L \leftarrow \text{array}(1..m, 1..n)$ 
3:    $z \leftarrow 0$ 
4:    $\text{ret} \leftarrow \emptyset$ 
5:   for  $i \leftarrow 1..m$  do
6:     for  $j \leftarrow 1..n$  do
7:       if  $S[i] = T[j]$  then
8:         if  $i = 1$  or  $j = 1$  then
9:            $L[i, j] \leftarrow 1$ 
10:        else
11:           $L[i, j] \leftarrow L[i - 1, j - 1] + 1$ 
12:        if  $L[i, j] > z$  then
13:           $z \leftarrow L[i, j]$ 
14:           $\text{ret} \leftarrow \emptyset$ 
15:        if  $L[i, j] = z$  then
16:           $\text{ret} \leftarrow \text{ret} \cup S[i - z + 1..i]$ 
return
```