Review 8-1

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1. Fill in the blanks in the following assembly-line scheduling example.
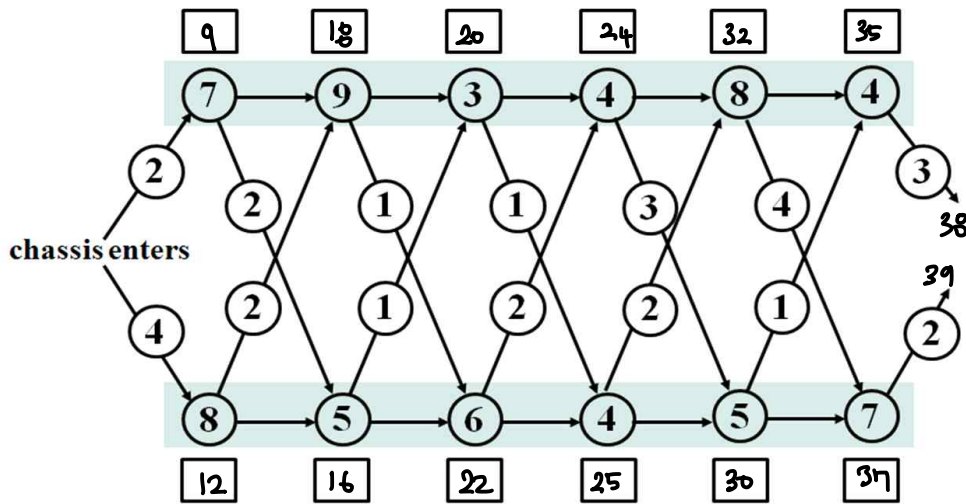

Table s

	1	2	3	4	5	6
1	9	18	20	24	32	35
2	12	16	22	25	30	37

Table ℓ

	2	3	4	5	6
1	1	2	1	1	2
2	1	2	1	2	2

$s^* = \boxed{38}$

$\ell^* = \boxed{1}$

2. Fill in the blanks in the following pseudocode for assembly-line scheduling.

FASTEST-WAY(a, t, e, x, n)

  $s[1][1] = e[1] + a[1][1]$
  $s[2][1] = e[2] + a[2][1]$
  for $j = 2$ **to** n
      do if $s[1][j-1] + a[1][j] \le s[2][j-1] + t[2][j-1] + a[1][j]$
         then $s[1][j] = s[1][j-1] + a[1][j]$
           $l[1][j] = 1$
         else $s[1][j] = s[2][j-1] + t[2][j-1] + a[1][j]$
           $l[1][j] = 2$

      if $\boxed{s[2][j-1] + a[2][j] \le s[1][j-1] + t[1][j-1] + a[2][j]}$

         then $\boxed{s[2][j] = s[2][j-1] + a[2][j]}$

            $\boxed{l[2][j] = 2}$

        else $\boxed{s[2][j] = s[1][j-1] + t[1][j-1] + a[2][j]}$

            $\boxed{l[2][j] = 1}$

  if $s[1][n] + x[1] \le s[2][n] + x[2]$
     then $s^* = \boxed{s[1][n] + x[1]}$
        $l^* = \boxed{1}$
     else $s^* = \boxed{s[2][n] + x[2]}$
        $l^* = \boxed{2}$