IKU: INF011595
zadanie: sem

global:
S1 → kontroluje Z1
S2 → kontroluje Z2

V(S) otwórz semafor +1
P(S) zamknij semafor -1
     czekaj na semafor

Z1
Z2

init ()
use ()

P1
init (Z1)
V(S1)

P(S2)
use(Z2)

P2
P(S1)
use(Z1)

init (Z2)
V(S2)

< TREŚĆ ZADANIA >

pamięć

zmienne   semafory
A = 1
B = 5
C = 10
Z = 0

P1
A = A + B
3 = 2B + C

P2
A = 2C
C = 0

P3
C = A + B
B = 2A

dep: A, B, C
P4
Z = A + B + C

a)

pamięć (stan początkowy)

zmienne   sewafory

$A = 1$ $S = 0$

$B = 5$

$C = 10$

$Z = 0$

P1

$P(S)$

$A = A + B$

$B = 2B + C$

P2

$P(S)$

$A = 2C$

$C = 0$

P3

$P(S)$

$C = A + B$

$B = 2A$

P4

$Z = A + B + C$ $\rightarrow Z = 16$

$V(S)$

$V(S)$

$V(S)$

b)

pamięć (stan początkowy)

zmienne   sewafory

$A = 1$ $S_1 = 0$

$B = 5$ $S_2 = 0$

$C = 10$ $S_c = 0$

$Z = 0$

$Z = 22$

P1

$A = A + B$

$V(S_1)$

$P(S_c)$

$B = 2B + C$

   $A = 5 + 1 = 6$
   $B = 5$
   $C = 10$

P2

$P(S_c)$

$A = 2C$

$C = 0$

P3

$P(S_1)$

$C = A + B$

$V(S_2)$

$P(S_c)$

$B = 2A$

   $A = 6$
   $B = 5$
   $C = 6 + 5 = 11$

P4

$P(S_2)$

$Z = A + B + C$ $Z = 6 + 5 + 11 = 22$

$V(S_c)$

$V(S_c)$

$V(S_c)$

c)

pamięć (stan początkowy)

zmienne	rewalsy
$A = 1$	$S_1 = 0$
$B = 5$	$S_2 = 0$
$C = 10$	$S_C = 0$
$Z = 0$	

cel:
$z = 30$

P1
$P(S_1)$
$A = A + B$ *iß 2:*
        $A = 20 + 5 = 25$
$V(S_2)$ $B = 5$
        $C = 10$
$P(S)$
$B = 2B + C$

P2
      iß 1:
$A = 2C$ $A = 20$
      $B = 5$
$V(S_1)$ $C = 10$

$P(S_2)$
$C = 0$ *iß 3:*
      $A = 25$
$V(S_3)$ $B = 5$
      $C = 0$

P3
$P(S)$

$C = A + B$

$B = 2A$

P4

$P(S_3)$

$Z = A + B + C$ *iß 4:*
           $Z = 25 + 5 + 0 = 30$
$V(S)$
$V(S)$

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d)

pamięć (stan początkowy)

zmienne	rewalsy
$A = 1$	$S_1 = 0$
$B = 5$	$S_2 = 0$
$C = 10$	$S_3 = 0$
$Z = 0$	$S = 0$

cel:
$z = 24$

P1
$P(S_1)$ ②
$A = A + B$
$V(S_2)$

$P(S)$
$3 = 2B + C$

P2

$P(S)$
$A = 2C$
$C = 0$

P3   ①

$C = A + B$
$V(S_1)$

$P(S_2)$ ③
$B = 2A$
$V(S_3)$

P4

$P(S_3)$
$Z = A + B + C$
$V(S)$
$V(S)$