Examen 2 Problema 3 Suspenso

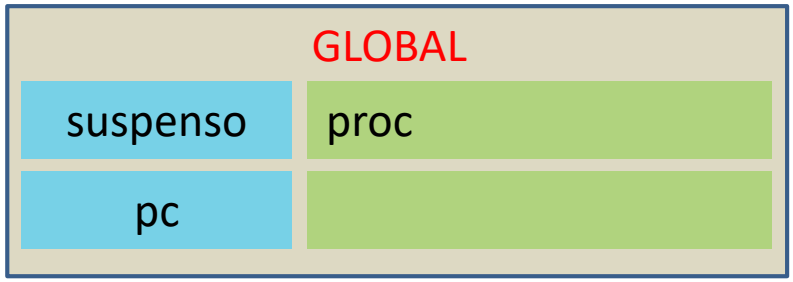
Paso 1: Estado inicial.

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(X + Y + Z, [X, Y, Z]):
9          print(x)
```

X = 3

Y = 7

Z = 7



IMPRIME:

Nota: En cada llamada recursiva nos referiremos a los procedimientos recursivos con ‘ para ayudar a diferenciar

Examen 2 Problema 3 Suspenso

Paso 2: Línea 8 inicia el ciclo for, ejecuta suspenso(17, [3,7,7]) se crea el marco de pila de suspenso.

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(3 + 7 + 7, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	-
pc	8

IMPRIME:

suspenso			
	2	b	[3,7,7]
	1	a	17
	0	pc	-

Examen 2 Problema 3 Suspenso

Paso 3: Se evalúa la condición de la línea 2 *if b == []*

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	-
pc	8

suspenso			
2	b	[3,7,7]
1	a	17
0	pc	2

IMPRIME:

Examen 2 Problema 3 Suspenso

Paso 4: Como b != [ ] **No se cumple** la condición y pasa a la línea 5 y ejecuta *yield a + b[0]*, es decir, yield 17 + 3

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	-
pc	8

suspenso	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ 5

IMPRIME:

Examen 2 Problema 3 Suspenso

Paso 5: Vuelve al marco global y en la línea 9 ejecuta print(x), imprime: **x = 20**

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	20
pc	~~8~~ 9

IMPRIME: **20**

suspenso			
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ 5

Examen 2 Problema 3 Suspenso

Paso 6: Vuelve a la línea 8 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	20
pc	~~8~~ ~~9~~ 8

suspenso	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ 5

IMPRIME: 20

Examen 2 Problema 3 Suspenso

Paso 7: Vuelve al marco de suspenso y pasa a la línea 6, inicia el ciclo for, ejecuta suspenso(3, [7,7]) se crea el marco de pila de suspenso'.

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	20
pc	~~8~~ ~~9~~ 8

suspenso			
	6	b	[7,7]
	5	a	3
	4	pc	-

suspenso			
	3	x	-
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ 6

IMPRIME: 20

Examen 2 Problema 3 Suspenso

Paso 8: Se evalúa la condición de la línea 2 *if b == []*

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	20
pc	~~8~~ ~~9~~ 8

suspenso			
	6	b	[7,7]
	5	a	3
	4	pc	2

suspenso			
	3	x	-
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ 6

IMPRIME: 20

Examen 2 Problema 3 Suspenso

Paso 9: Como b != [ ] **No se cumple** la condición y pasa a la línea 5 y ejecuta *yield a + b[0]*, es decir, yield 3 + 7

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	20
pc	~~8~~ ~~9~~ 8

suspenso			
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ 5

suspenso			
	3	x	-
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ 6

IMPRIME: 20

Examen 2 Problema 3 Suspenso

Paso 10: Vuelve al marco de suspenso y pasa a la línea 7, ejecuta *yield x*, es decir, yield 10

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	20
pc	~~8~~ ~~9~~ 8

suspenso			
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ 5

suspenso			
	3	x	10
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ 7

IMPRIME: 20

Examen 2 Problema 3 Suspenso

Paso 11: Vuelve al marco global y en la línea 9 ejecuta print(x), imprime: **x = 10**

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ 9

suspenso			
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ 5

suspenso			
	3	x	10
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ 7

IMPRIME: 20 **10**

Examen 2 Problema 3 Suspenso

Paso 12: Vuelve a la línea 8 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

suspenso			
6	b	[7,7]
5	a	3
4	pc	~~2~~ 5

suspenso			
3	x	10
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ 7

IMPRIME: 20 10

Examen 2 Problema 3 Suspenso

Paso 13: Vuelve al marco de suspenso, vuelve a la línea 6 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

suspenso			
6	b	[7,7]
5	a	3
4	pc	~~2~~ 5

suspenso			
3	x	10
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

IMPRIME: 20 10

Examen 2 Problema 3 Suspenso

Paso 14: Vuelve al marco de suspenso' y pasa a la línea 6, inicia el ciclo for, ejecuta suspenso(7, [7]) se crea el marco de pila de suspenso''

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10

suspenso			
	10	b	[7]
	9	a	7
	8	pc	-

suspenso			
	7	x	-
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ 6

suspenso			
	3	x	10
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 15: Se evalúa la condición de la línea 2 *if b == []*

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10

suspenso			
	10	b	[7]
	9	a	7
	8	pc	2

suspenso			
	7	x	-
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ 6

suspenso			
	3	x	10
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 16: como b != [ ] **No se cumple** la condición y pasa a la línea 5 y ejecuta *yield a + b[0]*, es decir, yield 7 + 7

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10

suspenso			
	10	b	[7]
	9	a	7
	8	pc	~~2~~ 5

suspenso			
	7	x	-
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ 6

suspenso			
	3	x	10
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 17: Vuelve al marco de suspenso' y pasa a la línea 7, ejecuta *yield x*, es decir, yield 14

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10

suspenso			
	10	b	[7]
	9	a	7
	8	pc	~~2~~ 5

suspenso			
	7	x	14
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	3	x	10
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 18: Vuelve al marco de suspenso y pasa a la línea 7, ejecuta *yield x*, es decir, yield 14

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ 10
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10

suspenso			
	10	b	[7]
	9	a	7
	8	pc	~~2~~ 5

suspenso			
	7	x	14
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	3	x	~~10~~ 14
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

Examen 2 Problema 3 Suspenso

Paso 19: Vuelve al marco global y en la línea 9 ejecuta print(x), imprime: **x = 14**

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ 9

suspenso			
	10	b	[7]
	9	a	7
	8	pc	~~2~~ 5

suspenso			
	7	x	14
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	3	x	~~10~~ 14
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

IMPRIME: 20 10 **14**

Examen 2 Problema 3 Suspenso

Paso 20: Vuelve a la línea 8 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

suspenso			
	10	b	[7]
	9	a	7
	8	pc	~~2~~ 5

suspenso			
	7	x	14
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	3	x	~~10~~ 14
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

IMPRIME: 20 10 14

Examen 2 Problema 3 Suspenso

Paso 21: Vuelve al marco de suspenso, vuelve a la línea 6 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso			
10	b	[7]
9	a	7
8	pc	~~2~~ 5

suspenso			
7	x	14
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
3	x	~~10~~ 14
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 22: Vuelve al marco de suspenso', vuelve a la línea 6 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso			
	10	b	[7]
	9	a	7
	8	pc	~~2~~ 5

suspenso			
	7	x	14
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso			
	3	x	~~10~~ 14
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 23: Vuelve al marco de suspenso'' y pasa a la línea 6, inicia el ciclo for, ejecuta suspenso(7, []) se crea el marco de pila de suspenso'''

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso		
14	b	[]
13	a	7
12	pc	-

suspenso		
11	x	-
10	b	[7]
9	a	7
8	pc	~~2~~ ~~5~~ 6

suspenso		
7	x	14
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso		
3	x	~~10~~ 14
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 24: Se evalúa la condición de la línea 2 *if b == []*

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso

14	b	[]
13	a	7
12	pc	2

suspenso

11	x	-
10	b	[7]
9	a	7
8	pc	~~2~~ ~~5~~ 6

suspenso

7	x	14
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso

3	x	~~10~~ 14
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 25: como b == [ ] **Sí se cumple** la condición y pasa a la línea 3 y ejecuta *yield a*, es decir, yield 7

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso			
	14	b	[]
	13	a	7
	12	pc	~~2~~ 3

suspenso			
	11	x	-
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ 6

suspenso			
	7	x	14
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso			
	3	x	~~10~~ 14
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 26: Vuelve al marco de suspenso'' y pasa a la línea 7, ejecuta *yield x*, es decir, yield 7

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso

14	b	[]
13	a	7
12	pc	~~2~~ 3

suspenso

11	x	7
10	b	[7]
9	a	7
8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso

7	x	14
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso

3	x	~~10~~ 14
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 27: Vuelve al marco de suspenso' y pasa a la línea 7, ejecuta *yield x*, es decir, yield 7

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso

14	b	[]
13	a	7
12	pc	~~2~~ 3

suspenso

11	x	7
10	b	[7]
9	a	7
8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso

7	x	~~14~~ 7
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

suspenso

3	x	~~10~~ 14
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 28: Vuelve al marco de suspenso y pasa a la línea 7, ejecuta *yield x*, es decir, yield 7

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ 14
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14

suspenso

14	b	[]
13	a	7
12	pc	~~2~~ 3

suspenso

11	x	7
10	b	[7]
9	a	7
8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso

7	x	~~14~~ 7
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

suspenso

3	x	~~10~~ ~~14~~ 7
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ 7

Examen 2 Problema 3 Suspenso

Paso 29: Vuelve al marco global y en la línea 9 ejecuta print(x), imprime: **x = 7**

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ 9

IMPRIME: 20 10 14 **7**

suspenso			
	14	b	[]
	13	a	7
	12	pc	~~2~~ 3

suspenso			
	11	x	7
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ 7

Examen 2 Problema 3 Suspenso

Paso 30: Vuelve a la línea 8 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspenso			
	14	b	[]
	13	a	7
	12	pc	~~2~~ 3

suspenso			
	11	x	7
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ 7

Examen 2 Problema 3 Suspenso

Paso 31: Vuelve al marco de suspenso, vuelve a la línea 6 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspenso			
	14	b	[]
	13	a	7
	12	pc	~~2~~ 3

suspenso			
	11	x	7
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ 7

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 32: Vuelve al marco de suspenso', vuelve a la línea 6 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspenso			
14	b	[]
13	a	7
12	pc	~~2~~ 3

suspenso			
11	x	7
10	b	[7]
9	a	7
8	pc	~~2~~ ~~5~~ ~~6~~ 7

suspenso			
7	x	~~14~~ 7
6	b	[7,7]
5	a	3
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

suspenso			
3	x	~~10~~ ~~14~~ 7
2	b	[3,7,7]
1	a	17
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 33: Vuelve al marco de suspenso'', vuelve a la línea 6 en el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspenso			
	14	b	[]
	13	a	7
	12	pc	~~2~~ 3

suspenso			
	11	x	7
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 34: Vuelve al marco de suspenso’’’, termina la ejecución de suspenso()

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspenso			
	14	b	[]
	13	a	7
	12	pc	~~2~~ ~~3~~

suspenso			
	11	x	7
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ 6

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 35: Se libera el marco de suspenso’’’.
Vuelve al marco de suspenso’’, termina el ciclo for, termina la ejecución de suspenso()

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspenso			
	1	b	[]
	12	pc	~~2~~ ~~3~~

suspenso			
	11	x	7
	10	b	[7]
	9	a	7
	8	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

Examen 2 Problema 3 Suspenso

Paso 36: Se libera el marco de suspenso''. Vuelve al marco de suspenso', termina el ciclo for, termina la ejecución de suspenso()

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7

suspen			
	1	b	[]
	12	pc	~~2~~ ~~3~~

suspen			
	11	x	7
	8	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~

suspenso			
	7	x	~~14~~ 7
	6	b	[7,7]
	5	a	3
	4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~

suspenso			
	3	x	~~10~~ ~~14~~ 7
	2	b	[3,7,7]
	1	a	17
	0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ 6

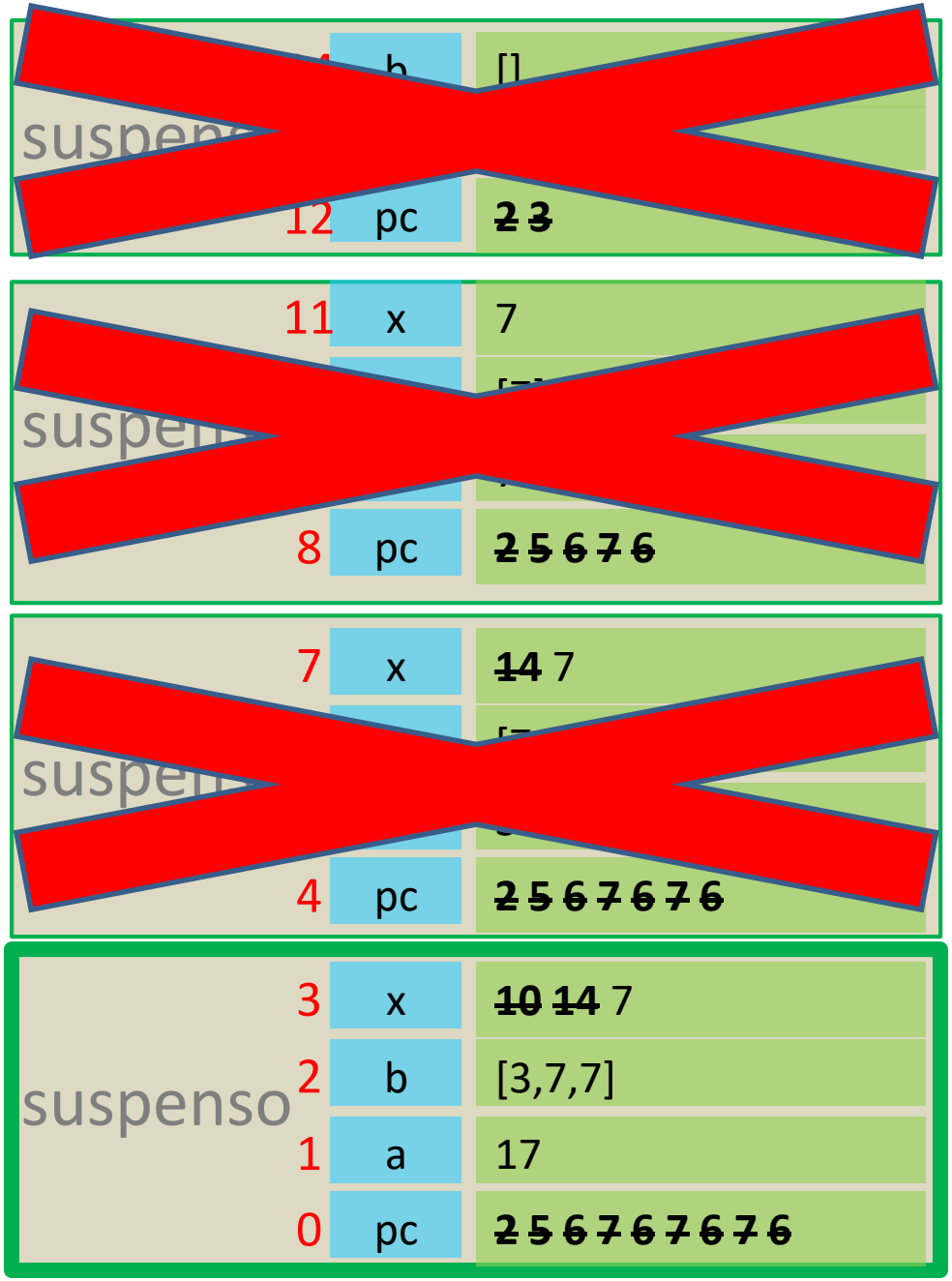
Examen 2 Problema 3 Suspenso

Paso 37: Se libera el marco de suspenso'.
Vuelve al marco de suspenso, termina el ciclo for, termina la ejecución de suspenso()

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ 8

IMPRIME: 20 10 14 7



Examen 2 Problema 3 Suspenso

Paso 38: Se libera el marco de suspenso.

Vuelve al marco global, termina el ciclo for

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~

IMPRIME: 20 10 14 7

susp	b	[]
12	pc	~~2~~ ~~3~~

11	x	7
susp		
8	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~

7	x	~~14~~ 7
susp		
4	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~

3	x	~~10~~ ~~14~~ 7
susp		
0	pc	~~2~~ ~~5~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~ ~~7~~ ~~6~~

Examen 2 Problema 3 Suspenso

Paso 39: Termina la ejecución del programa

```
1  def suspenso(a, b):
2          if b == []:
3                  yield a
4          else:
5                  yield a + b[0]
6                  for x in suspenso(b[0], b[1:]):
7                          yield x
8  for x in suspenso(17, [3, 7, 7]):
9          print(x)
```

GLOBAL	
suspenso	proc
x	~~20~~ ~~10~~ ~~14~~ 7
pc	~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~ ~~9~~ ~~8~~

IMPRIME: 20 10 14 7