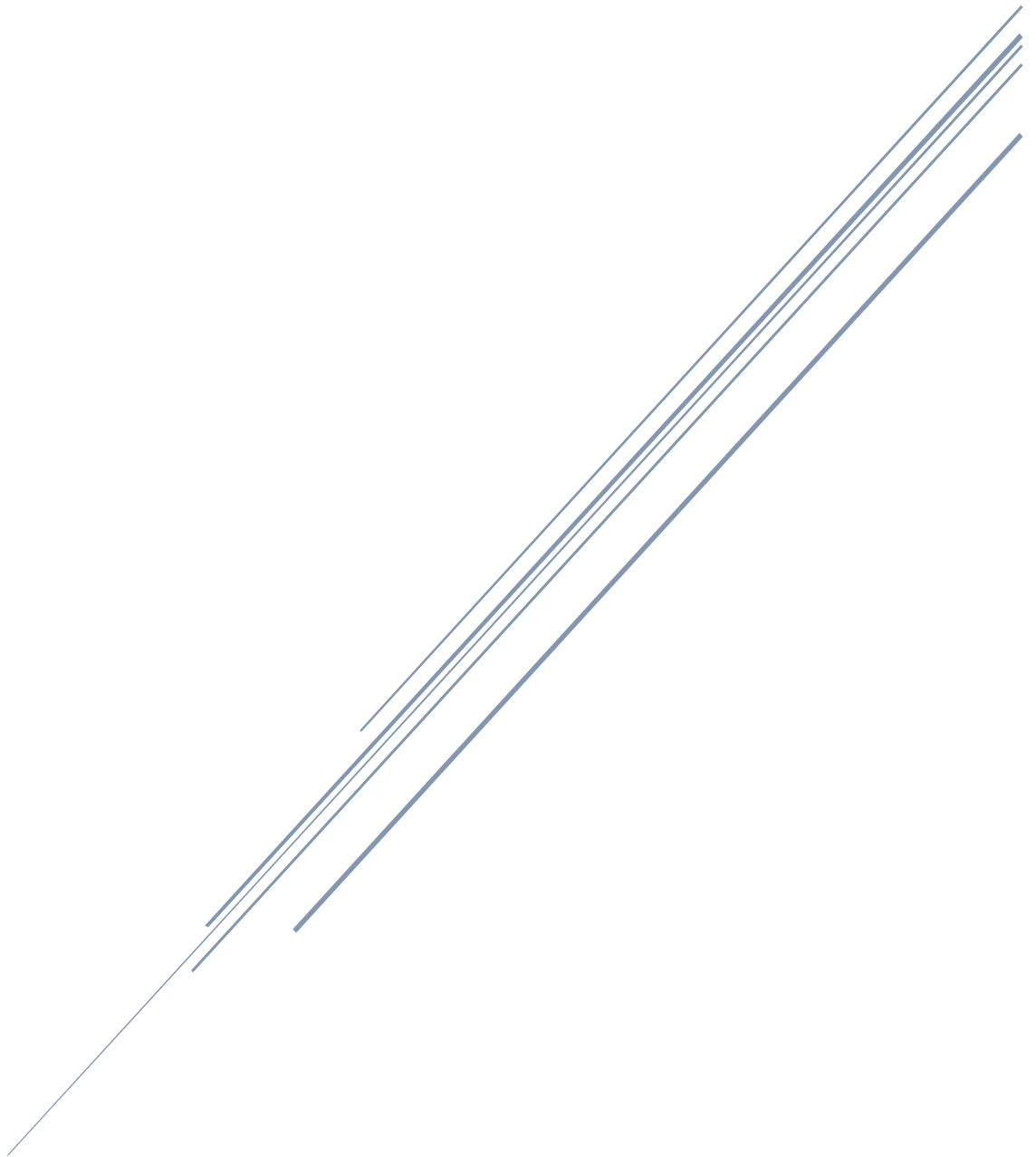


# PROGRAMMEREN EN INFORMATICA VOOR HAVO/ VWO BOVENBOUW

## Antwoorden



## INHOUDSOPGAVE

|                                                   |    |
|---------------------------------------------------|----|
| Hoofdstuk 1 Het oplossen van een probleem .....   | 2  |
| Hoofdstuk 2 De Computer .....                     | 4  |
| Hoofdstuk 3 De computer kiest Selectie/keuze..... | 6  |
| Hoofdstuk 4 De computer op herhaling .....        | 8  |
| Hoofdstuk 5 Modulaire programmeren.....           | 14 |

## Antwoorden PSD stencil

### Hoofdstuk 1 Het oplossen van een probleem

#### Opdracht 1.1

|                      |
|----------------------|
| Pak tas              |
| Doe schriften in tas |
| Doe boeken in tas    |
| Ga naar school       |

#### Opdracht 1.2

|                     |
|---------------------|
| Pak fiets           |
| Zet tas op je fiets |
| Rijdt naar school   |
| Ga naar school      |

#### Opdracht 1.3

**Deur is dicht** is geen opdracht.

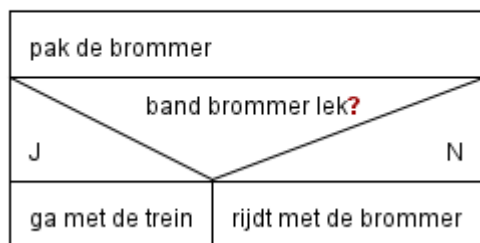
#### Opdracht 1.4

| A JA              | B NEE          |
|-------------------|----------------|
| Pak sleutel       | Doe deur open  |
| Doe deur van slot | Ga naar binnen |
| Doe deur open     |                |
| Ga naar binnen    |                |

#### Opdracht 1.5

1. Fout: je kunt geen ja of nee zeggen. Het is een opdracht/bevel
2. Goed: je kunt hier wel ja of nee zeggen
3. Fout: je kunt geen ja of nee zeggen.

#### 1.6



#### 1.7



#### Opdracht 1.8

- 1a Pak de fiets
- 1b Pak de auto
- 1c Pak de fiets
- 2 ga liften

### Opdracht 1.9

|   |                        |                   |                        |
|---|------------------------|-------------------|------------------------|
| J | minder dan 5 onv?      |                   | N                      |
|   | bevorder leerling      | J                 | meer dan 6 onv?        |
|   | bevorder leerling niet | J                 | 60 pnt of meer         |
|   |                        | bevorder leerling | bevorder leerling niet |

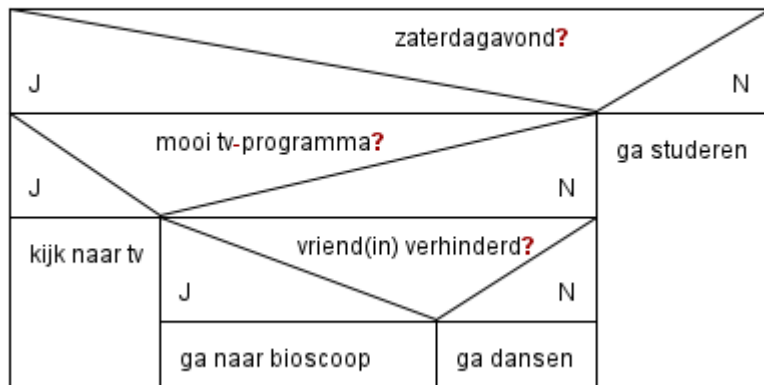
### opdracht 1.10

|   |             |             |                                |
|---|-------------|-------------|--------------------------------|
| J | 1 exemplaar |             | N                              |
|   | 50% korting | J           | 2 t/m 5 exemplaren             |
|   | 40% korting | J           | langer dan 1 jaar in voorraad? |
|   |             | 30% korting | 10% korting                    |

### Opdracht 1.11

|   |               |          |               |
|---|---------------|----------|---------------|
| J | jonger dan 21 |          | N             |
|   | neem niet aan | J        | HAVO-diploma? |
|   | neem aan      | J        | SBO-diploma?  |
|   |               | neem aan | neem niet aan |

### Opdracht 1.12



## Hoofdstuk 2 De Computer

### Opdracht 2.1

| GEHEUGENTABEL |    |    |
|---------------|----|----|
| C1            | C5 | P  |
| 7             |    |    |
|               | 10 |    |
| 17            |    |    |
|               | 27 |    |
|               |    | 44 |

### Opdracht 2.2

| GEHEUGENTABEL |   |    |     |
|---------------|---|----|-----|
| A             | B | C  | D   |
| 7             |   |    |     |
|               | 7 |    |     |
|               |   | 10 |     |
|               |   |    | 980 |

### Opdracht 2.3

| GEHEUGENTABEL |     |    |    |    |    |
|---------------|-----|----|----|----|----|
| E             | F   | G  | H  | I  | J  |
| -97           |     |    |    |    |    |
|               | 155 |    |    |    |    |
|               |     | 39 |    |    |    |
|               |     |    | 20 |    |    |
|               |     |    |    | 34 |    |
|               |     |    |    |    | 10 |

### Opdracht 2.6

**KAP** := 750

**PROC** := 6

**MND** := 3

**RENTE** := (KAP \* PROC \* MND)/1200

SCHRIJF **RENTE**

### Opdracht 2.7

| GEHEUGEN TABEL |    |    |   |
|----------------|----|----|---|
| G1             | G2 | S  | V |
| 9              |    |    |   |
|                | 3  |    |   |
|                |    | 12 |   |
|                |    |    | 6 |

| UITVOER |
|---------|
| 6, 12   |

### Opdracht 2.10

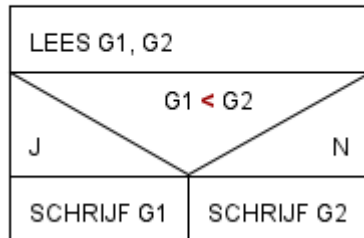
|                  |
|------------------|
| <b>2.10</b>      |
| LEES <b>X, Y</b> |
| <b>G := X</b>    |
| <b>X := Y</b>    |
| <b>Y := G</b>    |

| GEHEUGENTABEL |   |   |
|---------------|---|---|
| X             | Y | G |
| 2             |   |   |
|               | 6 |   |
|               |   | 2 |
| 6             |   |   |
|               | 2 |   |

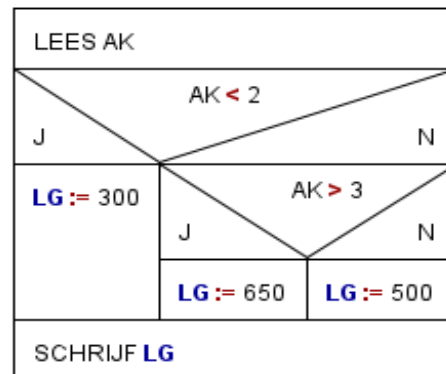
Als voorbeeld neem X is 2 en Y is 6.

### Hoofdstuk 3 De computer kiest Selectie/keuze

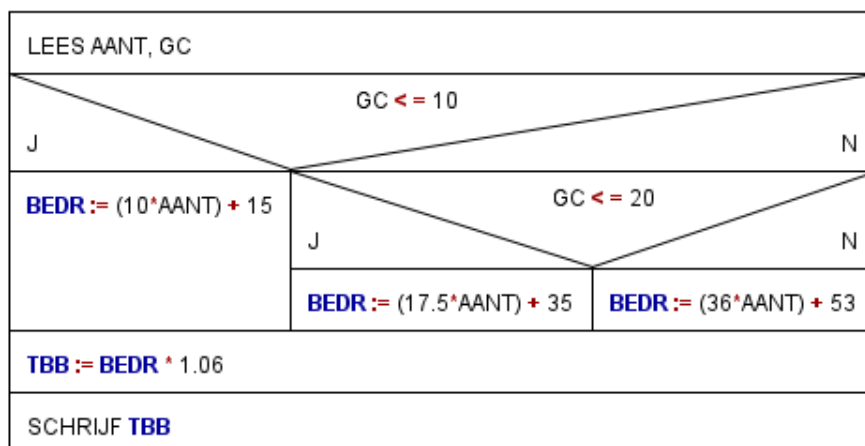
3.1



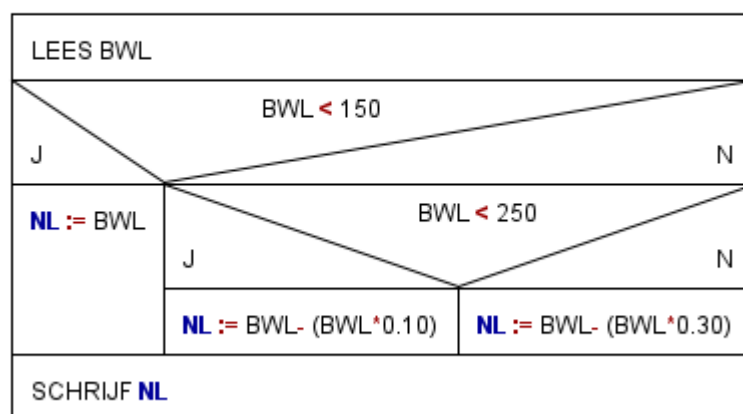
3.2



3.9



3.10



### 3.12

|                                                                            |                                              |
|----------------------------------------------------------------------------|----------------------------------------------|
| LEES AGU, UURL                                                             |                                              |
| <b>OWUL</b> := UURL * 1.5                                                  |                                              |
| <div> <div>AGU &gt; 38</div> <div> <div>J</div> <div>N</div> </div> </div> |                                              |
| <b>OVERU</b> := AGU - 38<br><b>NL</b> := 38 * UURL                         | <b>OVERU</b> := 0<br><b>NL</b> := AGU * UURL |
| <b>OWL</b> := OVERU * OWUL                                                 |                                              |
| <b>BL</b> := NL + OWL                                                      |                                              |
| SCHRIJF <b>BL</b>                                                          |                                              |

### 3.13

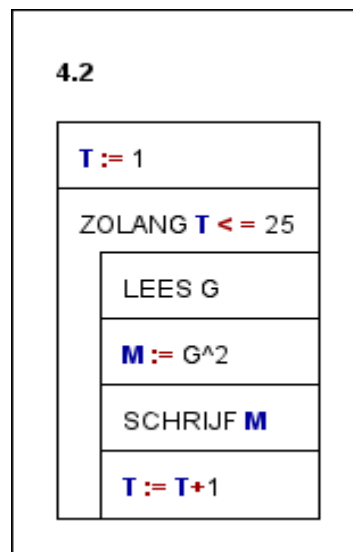
|                                                                          |                   |
|--------------------------------------------------------------------------|-------------------|
| LEES SP, L, J                                                            |                   |
| <div> <div>SP = 1</div> <div> <div>J</div> <div>N</div> </div> </div>    |                   |
| <b>CON</b> := 150                                                        | <b>CON</b> := 225 |
| <div> <div>L &gt; 40</div> <div> <div>J</div> <div>N</div> </div> </div> |                   |
| <b>CON</b> := CON - 25                                                   |                   |
| <div> <div>J &gt; 10</div> <div> <div>J</div> <div>N</div> </div> </div> |                   |
| <b>CON</b> := CON - 25                                                   |                   |
| SCHRIJF <b>CON</b>                                                       |                   |

## Hoofdstuk 4 De computer op herhaling

### Opdracht 4.1

| GEHEUGEN TABEL |   |    |
|----------------|---|----|
| G              | T | U  |
| 3              | 1 | 3  |
|                | 2 | 6  |
|                | 3 | 9  |
|                | 4 | 12 |
|                | 5 | 15 |
|                | 6 | 18 |
|                | 7 | 21 |
|                | 8 | 24 |
|                | 9 |    |

| UITVOER |
|---------|
| 3       |
| 6       |
| 9       |
| 12      |
| 15      |
| 18      |
| 21      |
| 24      |

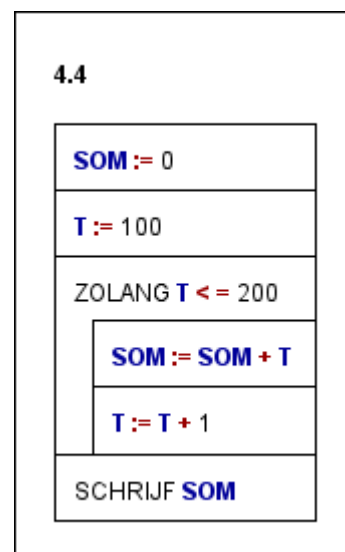


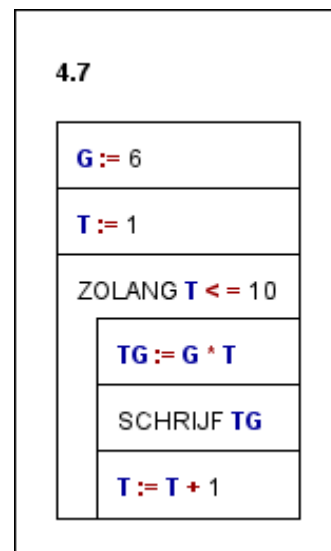
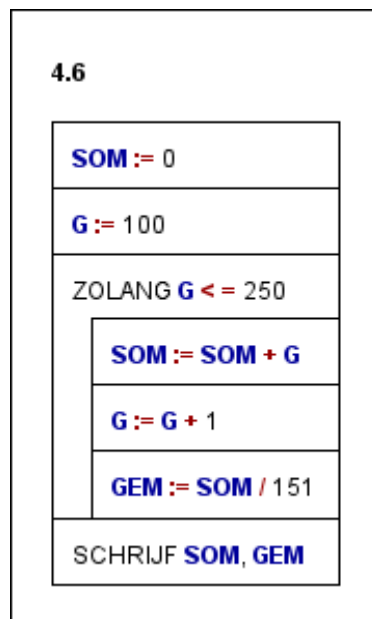
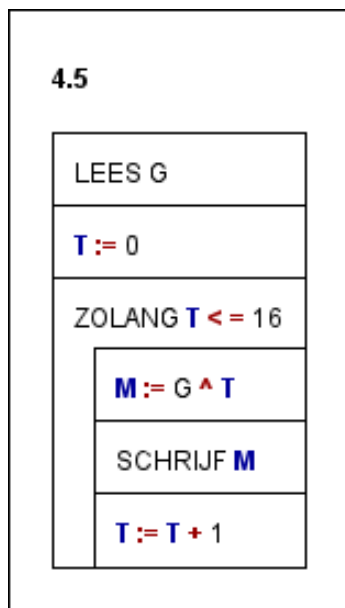
### Opdracht 4.3

| GEHEUGEN TABEL |     |  |
|----------------|-----|--|
| T              | SOM |  |
| 11             | 0   |  |
| 12             | 11  |  |
| 13             | 25  |  |
| 14             | 36  |  |
| 15             | 50  |  |
| 16             | 65  |  |
| 17             | 81  |  |
| 18             | 98  |  |
| 19             | 116 |  |
| 20             | 135 |  |
| 21             | 155 |  |

| UITVOER |
|---------|
| 155     |

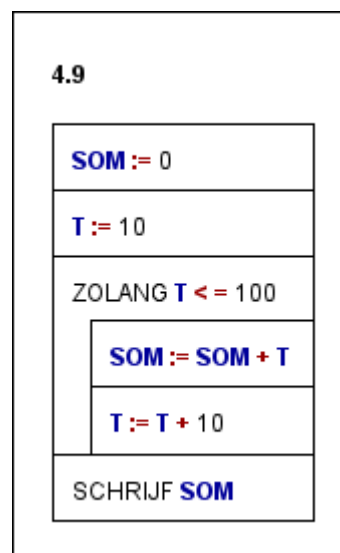
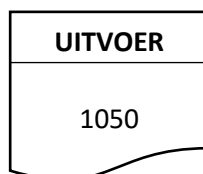
- De som van de getallen 11 t/m 20
- Je moet altijd bij T 1 optellen, je kunt dat niet bij de SOM doen.



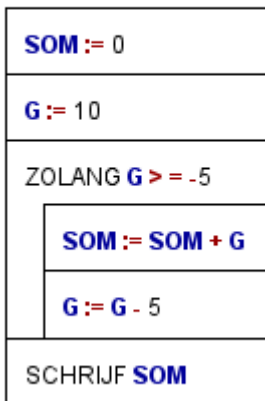


#### Opdracht 4.8

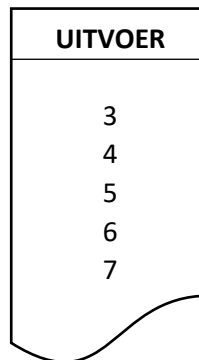
| GEHEUGEN TABEL |   |     |     |
|----------------|---|-----|-----|
| SOM            | G | T   | U   |
| 0              | 2 | 75  | 150 |
| 150            |   | 80  | 160 |
| 310            |   | 85  | 170 |
| 480            |   | 90  | 180 |
| 660            |   | 95  | 190 |
| 850            |   | 100 | 200 |
| 1050           |   | 105 | 210 |



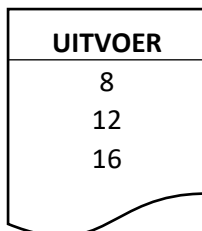
#### 4.10



#### Opdracht 4.11

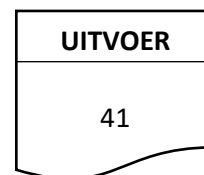


#### Opdracht 4.12

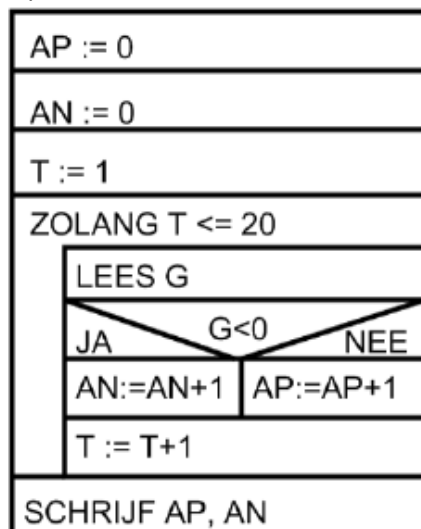


#### Opdracht 4.13

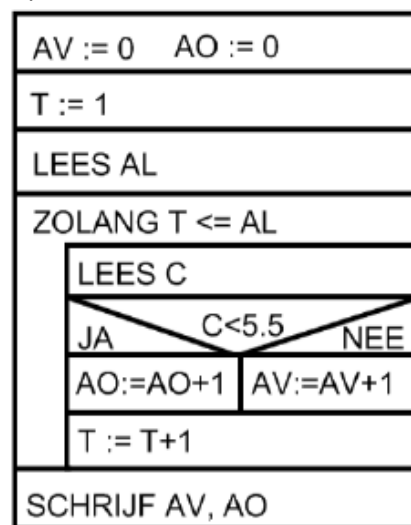
| GEHEUGEN TABEL |   |     |    |
|----------------|---|-----|----|
| SOM            | N | TEL | U  |
| 0              | 5 | 1   | 1  |
|                |   | 2   | 4  |
|                |   | 3   | 9  |
|                |   | 4   | 16 |
| 16             |   |     |    |
|                |   | 5   | 25 |
| 41             |   |     |    |
|                |   | 6   |    |



#### Opdracht 4.14



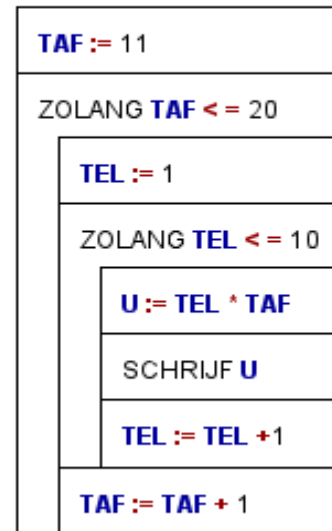
#### Opdracht 4.15



#### Opdracht 4.16

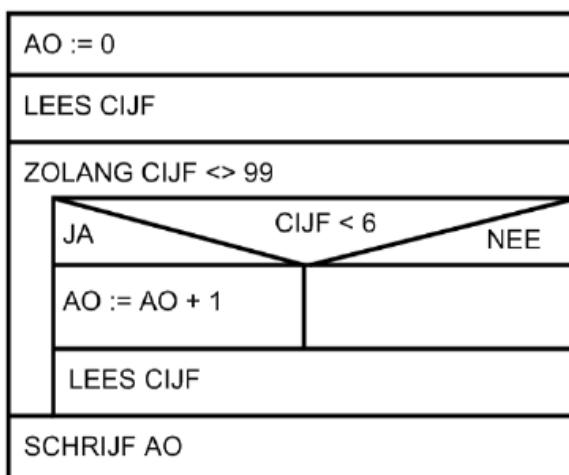
| GEHEUGENTABEL |    |    |
|---------------|----|----|
| T1            | T2 | U  |
| 2             | 8  | 16 |
|               | 12 | 24 |
|               | 16 | 32 |
|               | 20 | 40 |
|               | 24 |    |
| 3             | 8  | 24 |
|               | 12 | 36 |
|               | 16 | 48 |
|               | 20 | 60 |
|               | 24 |    |
| 4             |    |    |

#### 4.17

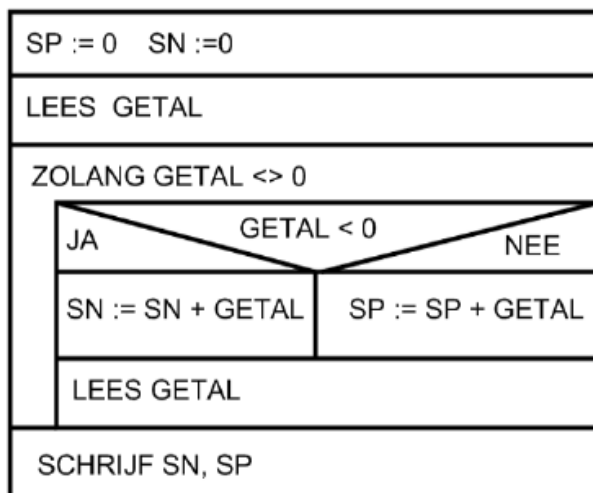


#### Niet tellende lus

#### Opdracht 4.18



Opdracht 4.19

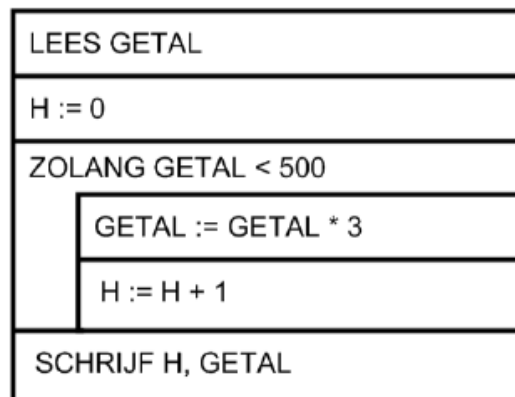


Opdracht 4.20

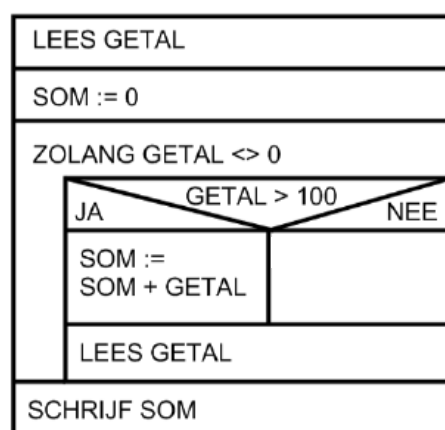
| GEHEUGENTABEL |  |  |  |
|---------------|--|--|--|
| G             |  |  |  |
| 1             |  |  |  |
| 2             |  |  |  |
| 4             |  |  |  |
| 8             |  |  |  |
| 16            |  |  |  |
| 32            |  |  |  |
| 64            |  |  |  |

G := 1  
 ZOLANG G < 50  
 G := G\*2

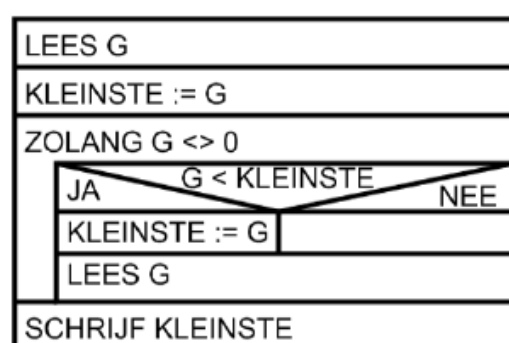
Opdracht 4.21



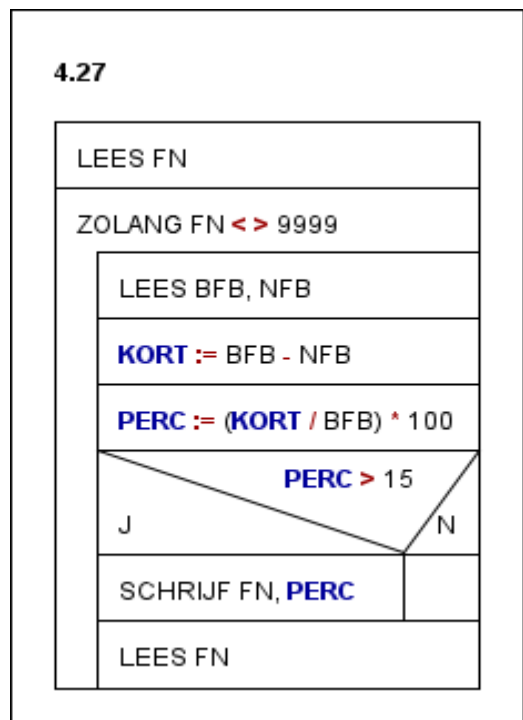
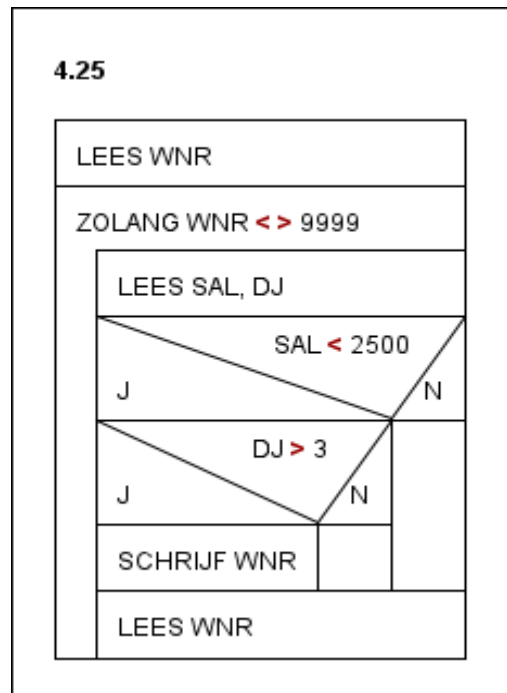
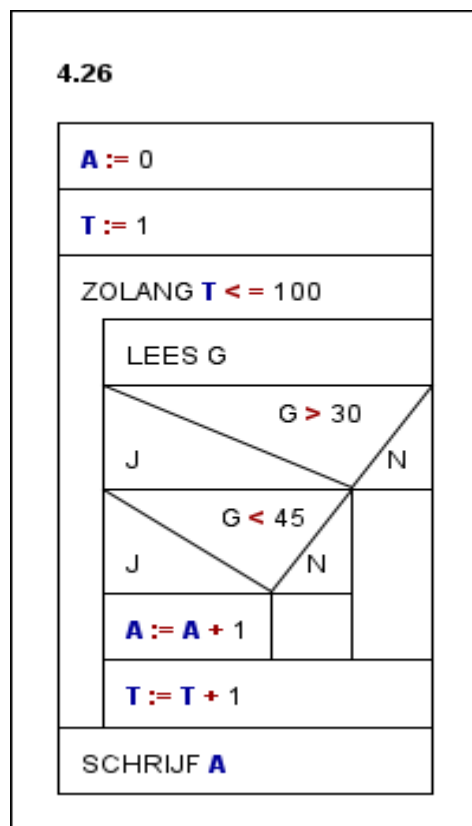
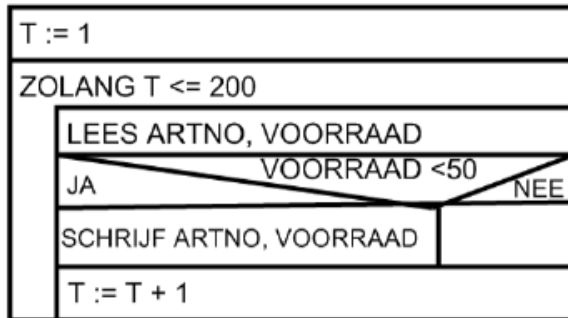
Opdracht 4.22



Opdracht 4.23

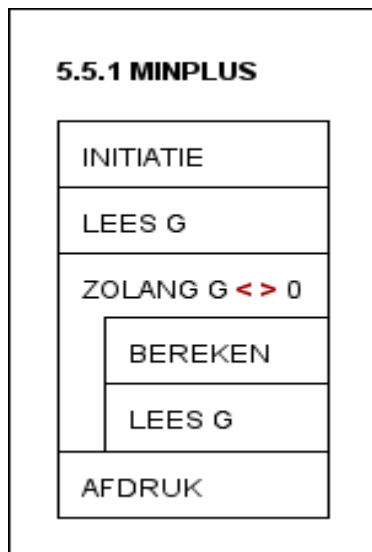


Opdracht 4.24

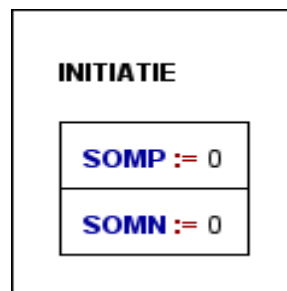


## Hoofdstuk 5 Modulaire programmeren

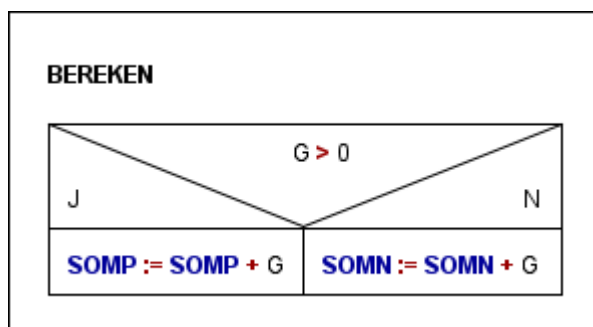
### 5.5.1



### 5.5.2



### 5.5.3



### 5.5.4

