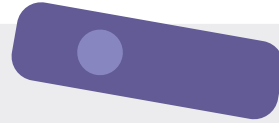


matatalab **EDU**

Uitdagings boekje



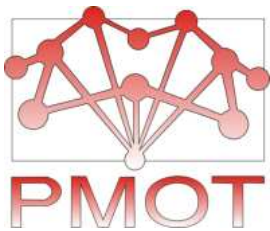
TAK



techniek als kapstok

Uitgave van PMOT

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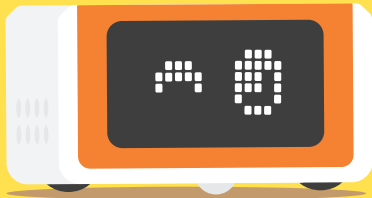
Niets uit deze uitgave mag worden verveelvoudigd en/of openbaar gemaakt door middel van druk, fotokopie, microfilm, computersoftware, of op welke andere wijze dan ook zonder voorafgaande toestemming van de PMOT, dan uitsluitend voor eigen gebruik op de eigen school.

01

Hallo

Ik ben VinciBot!

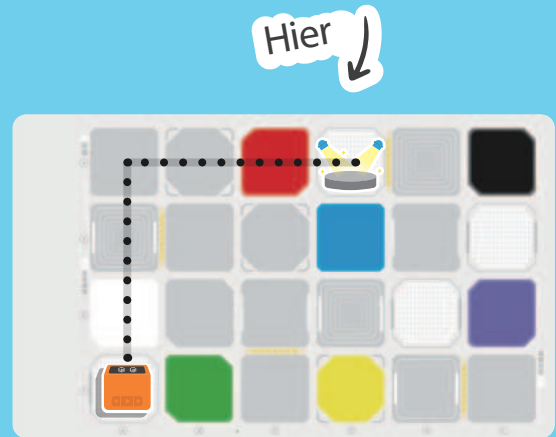
Hallo ,
Ik ben VinciBot!



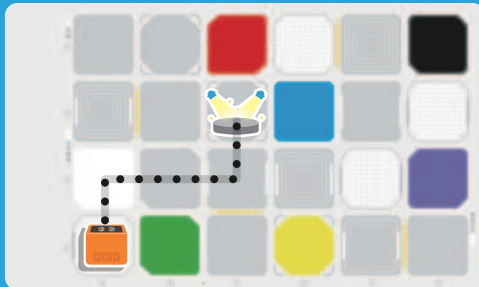
```
when triangle Key pressed
  move forward for 20 cm
  turn left for 720 degrees
  show image [cat] for 1 seconds
  show image [cat] for 1 seconds
  write Hi
  wait 1 seconds
  show image [cat]
  Say Hallo ik ben VincoBot! until done
  emotion happy
```



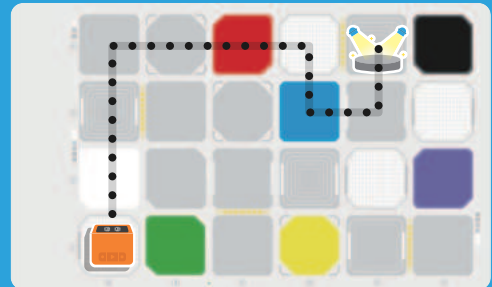
02 VinciBot is een Superstar!



Uitdaging 01



Uitdaging 02



03

De regenboog lamp

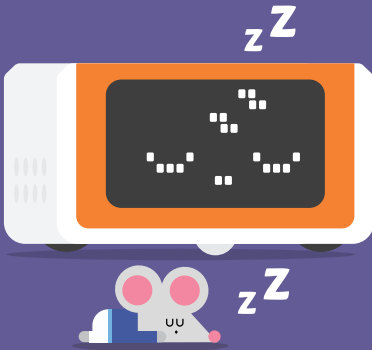
Make a paper lampshade



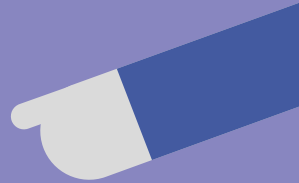
```
When triangle key pressed
  forever
    set all LEDs to color red brightness 100 %
    Wait 1 seconds
    set all LEDs to color green brightness 100 %
    Wait 1 seconds
    set all LEDs to color yellow brightness 100 %
    Wait 1 seconds
    set all LEDs to color blue brightness 100 %
    Wait 1 seconds
    set all LEDs to color orange brightness 100 %
    Wait 1 seconds
    set LED's array
    Wait 2 seconds
```



04

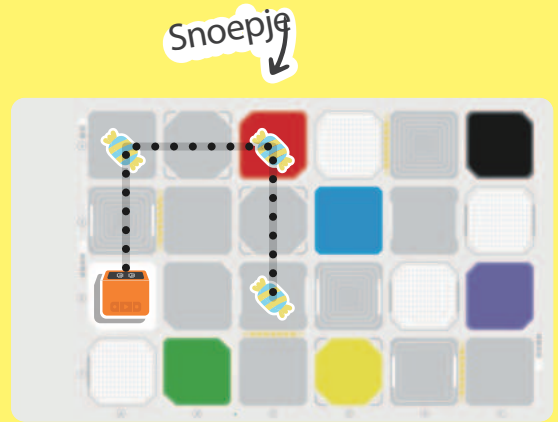
Ik ben
slaperig

```
when triangle key pressed
repeat 5
  show image [bed icon] for 1 seconds
  show image [pill icon] for 1 seconds
  show image [robot icon]
  say: Ik ben slaperig until done
  turn left 1080 degrees
  say: Het is slaaptijd until done
  turn off screen
```

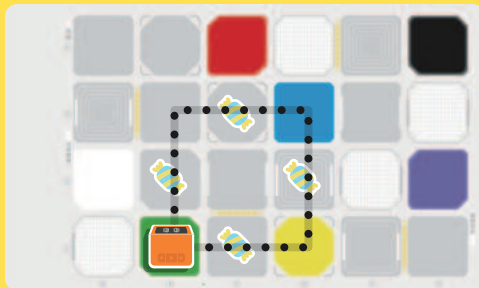


05 Snoepreis

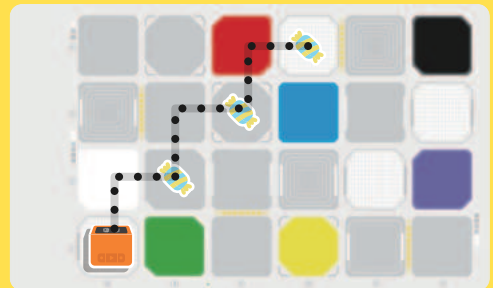
```
when triangle key pressed
repeat 3
  move forward for 20 cm
  emotion joyful
  turn right for 90 degrees
```



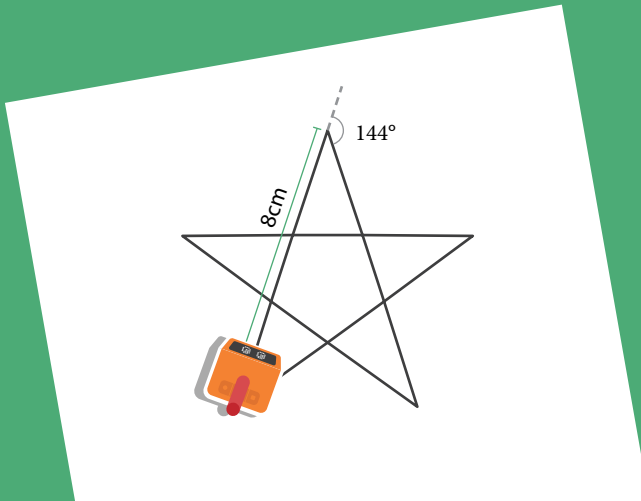
Uitdaging 01



Uitdaging 02



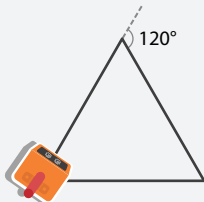
06 VinciBot is een Artiest !



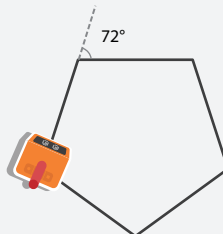
```

when triangle key pressed
repeat 5
  move forward for 8 cm
  turn right for 144 degrees
  
```

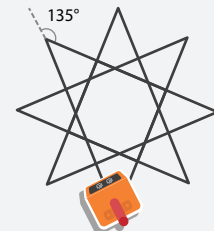
Uitdaging 01



Uitdaging 02



Uitdaging 03



07

《Twinkle Twinkle Little Star》

1 1 | 5 5 | 6 6 | 5 - | 4 4 | 3 3 | 2 2 | 1 - |
 Twin-kle, twin-kle, lit-tle star, how I won-der what you are!

5 5 | 4 4 | 3 3 | 2 - | 5 5 | 4 4 | 3 3 | 2 - |
 Up a - love the sky so high, like a dia-mond in the sky.



```

when robot start
  forever
    show image [robot] for 1 seconds
    show image [mouse] for 1 seconds
  
```

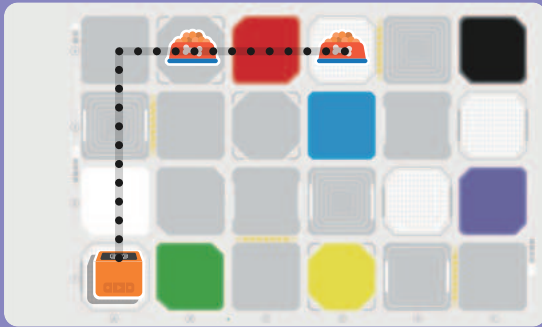
```

when triangle key pressed
  De eerste 2 regels
  repeat 2
    play note 67 for 0.25 beats
    play note 67 for 0.25 beats
    play note 65 for 0.25 beats
    play note 65 for 0.25 beats
    play note 64 for 0.25 beats
    play note 64 for 0.25 beats
    play note 64 for 0.25 beats
    play note 62 for 0.5 beats
  The first 2 lines
  
```

```

define The first 2 lines
  play note 60 for 0.25 beats
  play note 60 for 0.25 beats
  play note 67 for 0.25 beats
  play note 67 for 0.25 beats
  play note 69 for 0.25 beats
  play note 69 for 0.25 beats
  play note 67 for 0.5 beats
  play note 65 for 0.25 beats
  play note 65 for 0.25 beats
  play note 64 for 0.25 beats
  play note 64 for 0.25 beats
  play note 64 for 0.25 beats
  play note 62 for 0.25 beats
  play note 62 for 0.25 beats
  play note 60 for 0.5 beats
  
```

08 De schattige puppy



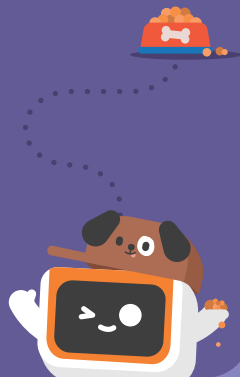
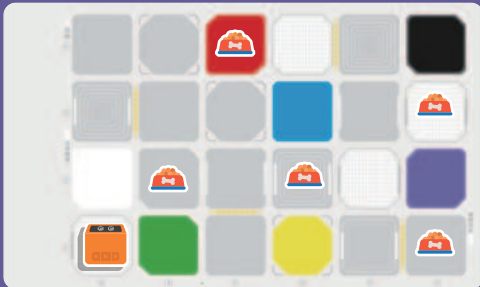
```

when triangle key pressed
  move forward for 30 cm
  turn right for 90 degrees
  move forward for 10 cm
  puppy's performance
  move forward for 20 cm
  puppy's performance
  
```

```

define puppy's performance
  turn left for 360 degrees
  sound animal dog
  repeat 2
    show image [doghouse] for 0.5 seconds
    show image [doghouse] for 0.5 seconds
  
```

Uitdaging



09

Mag ik je
vriend zijn?

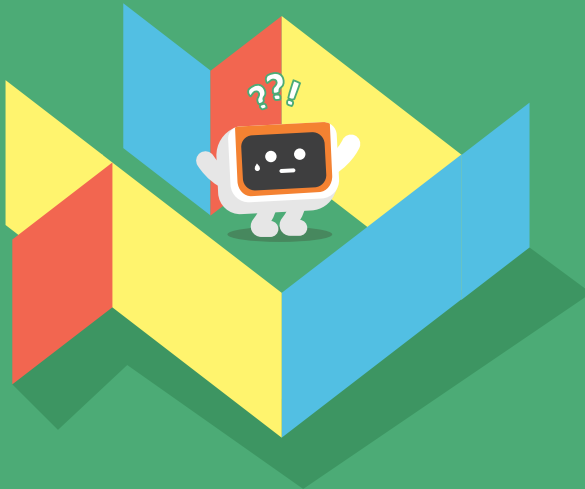


```
when triangle key pressed
  show image [ ]
  start moving forward with 100 % speed
```

```
when obstacle distance > 10
  stop moving
  write Hi
  Say: Mag ik je vriend zijn? until done
  emotion happy
  turn off screen
```



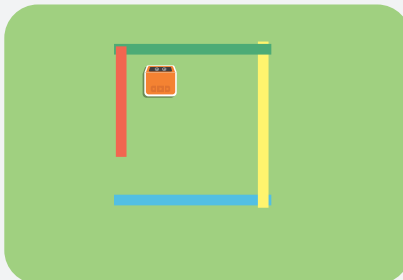
10 Ontsnap uit het doolhof



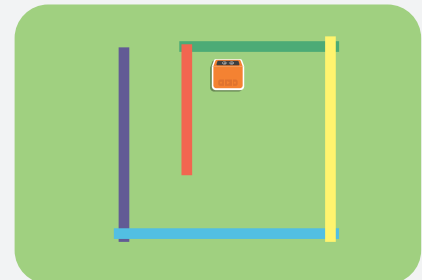
```

when triangle key pressed
  forever
    if (get obstacle distance 10) then
      turn right for 90 degrees
    else
      start moving forward with 80 % speed
  
```

Doolhof 01



Doolhof 02



Bouw een doolhof

11

Volg mij!

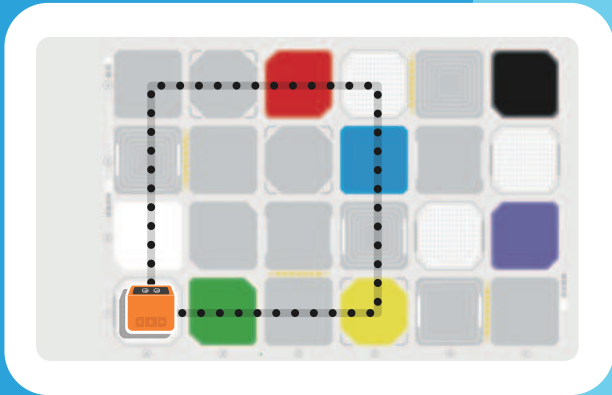


```
when triangle key pressed
  forever
    if (get obstacle distance > 5) then
      start moving forward with 100 % speed
    else
      stop moving
      repeat 2
        show image [robot head] for 0.5 seconds
        show image [robot head] for 0.5 seconds
      emotion surprised
      say: Waar ben je?
```



12

Het kleuren beest

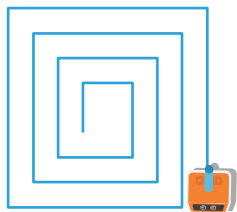


```

when triangle key pressed
  forever
    move forward for 30 cm voor 60 % speed
    turn right for 90 degrees
    if is color red detected? then
      sound emotion sad
    if is color green detected? then
      sound emotion hum
    if is color yellow detected? then
      sound emotion laugh
  
```



14 Spiraalpatroon



```

when triangle key pressed
  set x to 3
  repeat 10
    repeat 2
      move forward for x cm
      turn right for 90 degrees
    change x by 2
  
```



```

when triangle key pressed
  set x to 2
  repeat 30
    move forward for x cm
    turn right for 72 degrees
    change x by 0.5
  
```



```

when triangle key pressed
  set x to 3
  repeat 20
    move forward for x cm
    turn right for 120 degrees
    change x by 2
  
```


15

Schiet machine

Build a basket on VinciBot as shown below



```
when triangle key pressed
  turn off screen
  set X to 0
  forever
    if (get obstacle distance < 5) then
      sound game score
      change X by 1
      write X
      wait 1 seconds
```



16

Brandweerauto



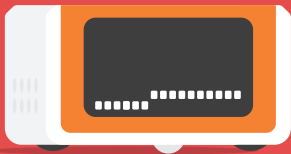
```

when triangle key pressed
  set x to 0
  wait 1 seconds
  forever
    if ((loudness) > 70) and (x = 0) then
      set x to 1
      sound traffic fire engine bell
      start moving forward with 100 %speed
    if ((get obstacle distance) < 5) then
      stop moving
      action look around
      sound others water flow until do
  stop all
  
```



17

Markeer lichten



```
when triangle key pressed
  turn off screen
  show image [ ]
  set x to 0
  set y to 1

  forever
    wait 0.1 seconds
    set pixel at x y: y to 100
    set pixel at x y: y - 1 to 0
    change x by 1
    if x > 15 then
      change y by 1
      set x to 0
    if y > 7 then
      show image [ ]
      set y to 1

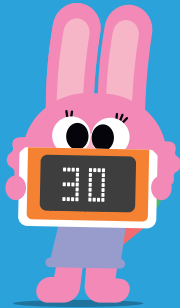
when robot start
  forever
    sing jingle bell until do
```

18

Spirometer

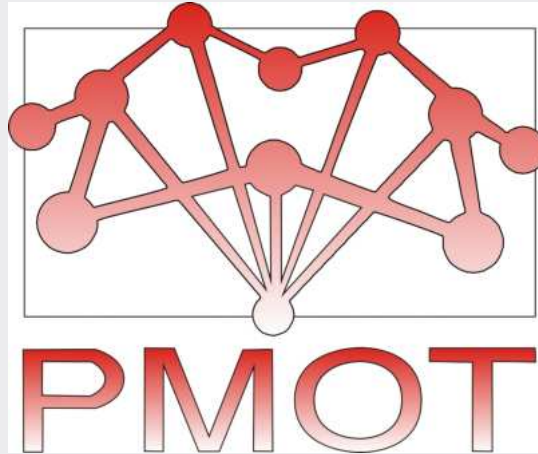


2



```

when triangle key pressed
  turn of screen
  set X to 0
  set Y to 0
  wait 0.5 seconds
  forever
    if ((loudnes) > 40) then
      set pixels at x: X y: Y to 100
      wait 0.2 seconds
      change X by 1
      if (X > 15) then
        change Y by 1
        set X to 0
      if ((volume) > 20) then
        wait 1 seconds
        write Y * 16 + X
      stop all
  
```

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