



# Lesson 1 | Warmup

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This is a Pixel Bots exercise. In Pixel Bots we will program bots to paint pictures using Code Elements.

## Code Elements

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## Problem 1

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Pixel Bot Read Code: You are a pixel bot. Read the code and paint the picture.





# Lesson 1 | Worksheet 1

This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Example



1	↑
2	→
3	🎨

## Problems

You are a pixel bot. Read the code and paint the picture.



1	→
2	→
3	🎨
4	↑



1	→
2	🎨
3	↑
4	🎨





# Lesson 1 | Worksheet 1 (cont'd)



1	↓
2	↖
3	←
4	↗



1	↖
2	←
3	↖
4	↓
5	↖



1	↖
2	↑
3	↖
4	↑
5	↖





# Lesson 10 | Warm-up

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This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements

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up()                      down()  
left()                    right()  
paint()

## Problems

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You are a coder. On the code line paper, write code to command the pixel bot to paint the picture.



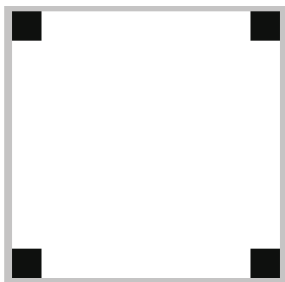


# Lesson 11 | Worksheet

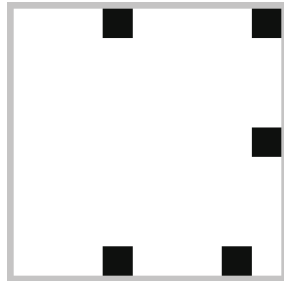
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

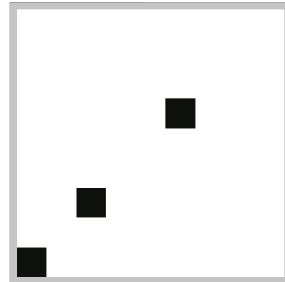
You are a coder. Write code to command the pixel bot to paint the pictures.



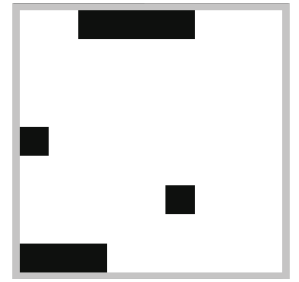
☐ done  
☐ explained



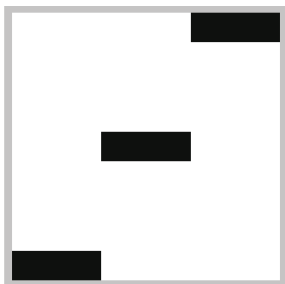
☐ done  
☐ explained



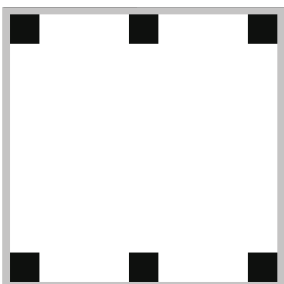
☐ done  
☐ explained



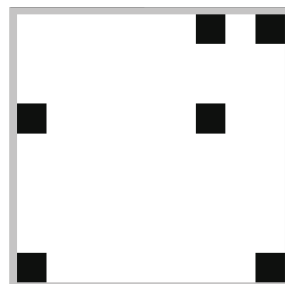
☐ done  
☐ explained



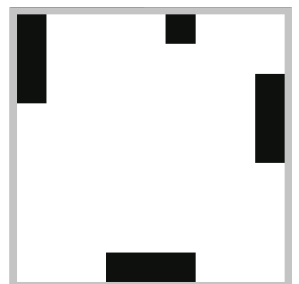
☐ done  
☐ explained



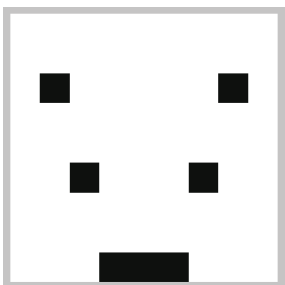
☐ done  
☐ explained



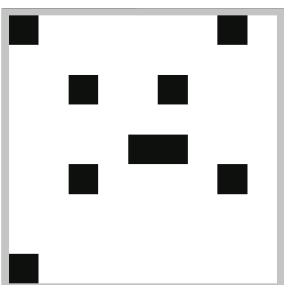
☐ done  
☐ explained



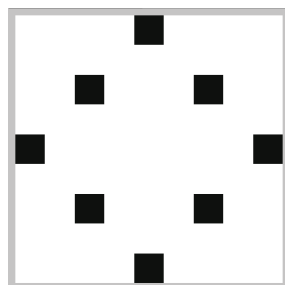
☐ done  
☐ explained



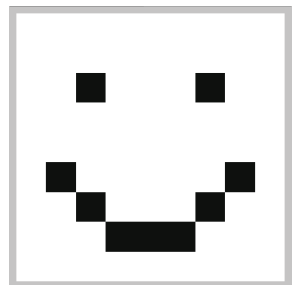
☐ done  
☐ explained



☐ done  
☐ explained



☐ done  
☐ explained



☐ done  
☐ explained





# Lesson 11 | Exit Ticket

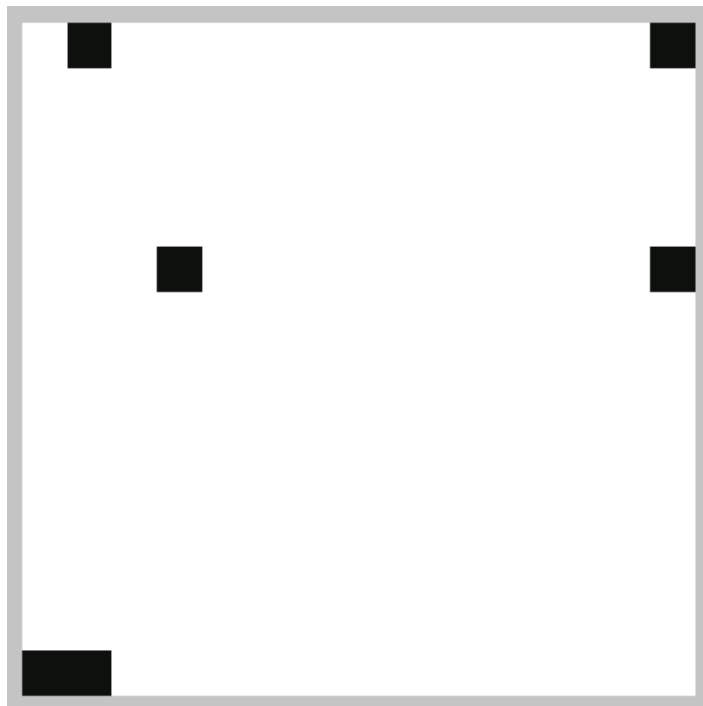
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This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

---

You are a coder. Write code to command the pixel bot to paint the picture.

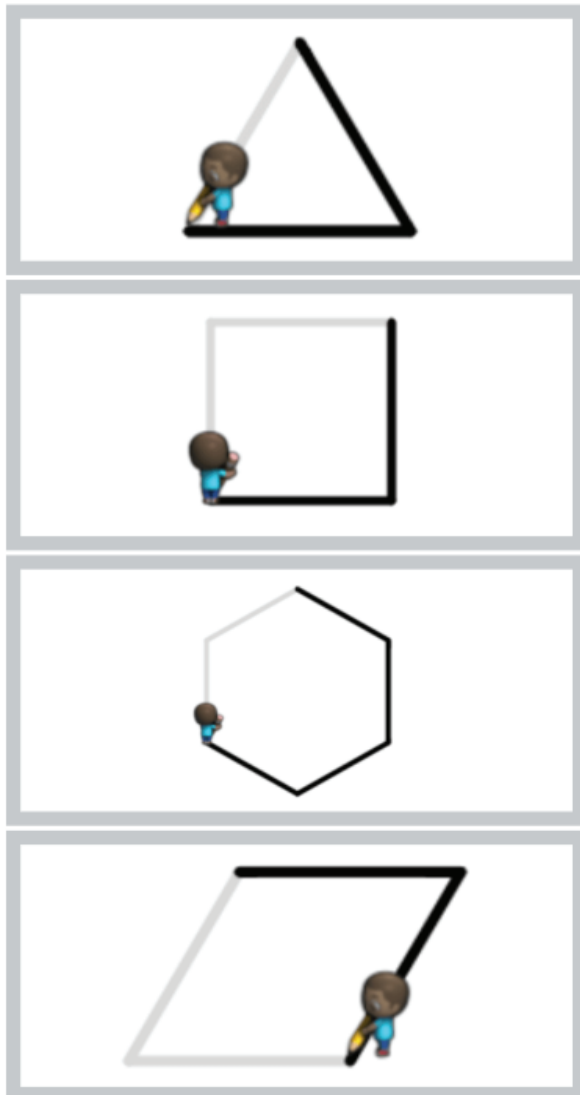


Code Link



# { } Lesson 12 | Exit Ticket

Match the artist with the blocks of code that complete the shape he is drawing.



```
move forward ▾ by 100 pixels  
turn right ▾ by 120 degrees  
move forward ▾ by 100 pixels
```

```
move forward ▾ by 100 pixels  
turn right ▾ by 90 degrees  
move forward ▾ by 100 pixels
```

```
move forward ▾ by 100 pixels  
turn right ▾ by 60 degrees  
move forward ▾ by 100 pixels
```

```
turn right ▾ by 120 degrees  
move forward ▾ by 100 pixels
```





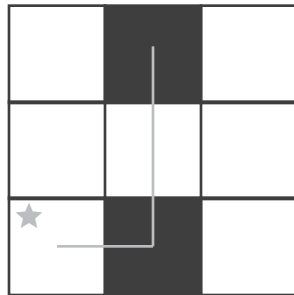
## Lesson 2 | Warmup

This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

### Code Elements



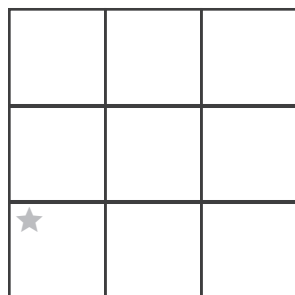
### Example



1	→
2	🖍
3	↑
4	↑
5	🖍

### Problems

You are a pixel bot. Read the code and paint the picture.



1	↑
2	→
3	🖍
4	↑
5	→
6	🖍
7	↓
8	↓
9	🖍







# Lesson 2 | Worksheet 1

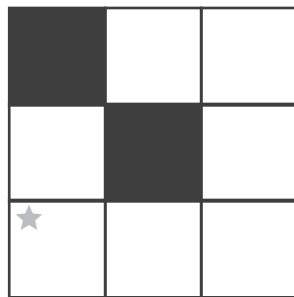
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1	
2	
3	
4	
5	
6	





## Lesson 3 | Warmup

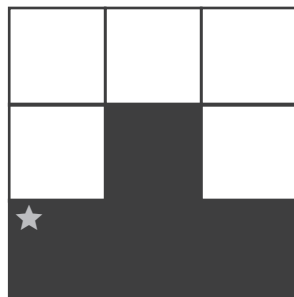
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

### Code Elements



### Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1	
2	
3	
4	
5	
6	
7	
8	
9	
10	





# Lesson 3 | Worksheet 1

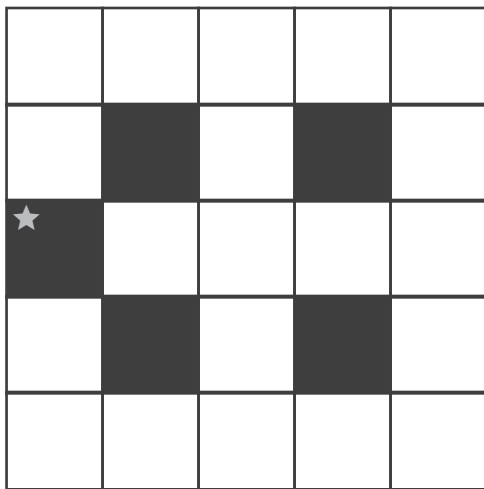
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

11	
12	
13	
14	
15	
16	
17	
18	
19	
20	





# Lesson 3 | Worksheet 2

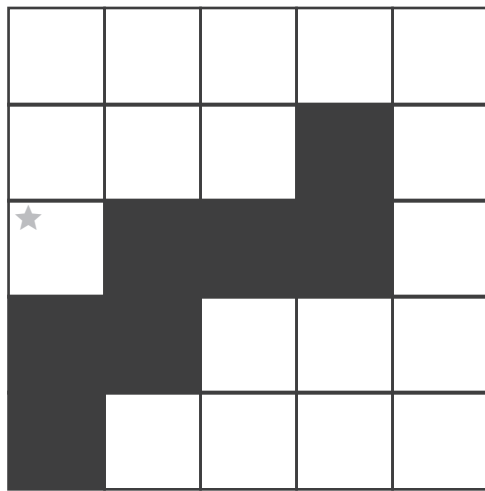
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1  
2  
3  
4  
5  
6  
7  
8  
9  
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11  
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13  
14  
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16  
17  
18  
19  
20





# Lesson 3 | Worksheet 3

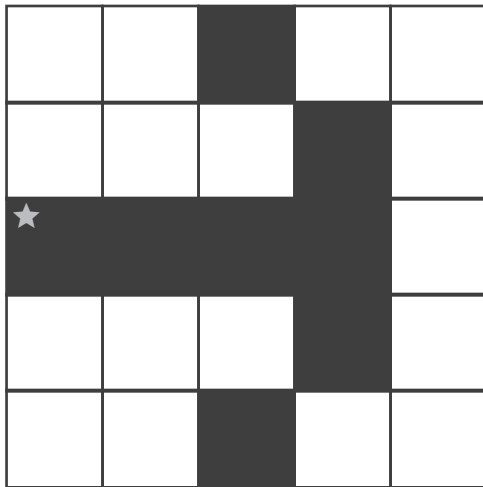
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1  
2  
3  
4  
5  
6  
7  
8  
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12  
13  
14  
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16  
17  
18  
19  
20





# Lesson 3 | Worksheet 4

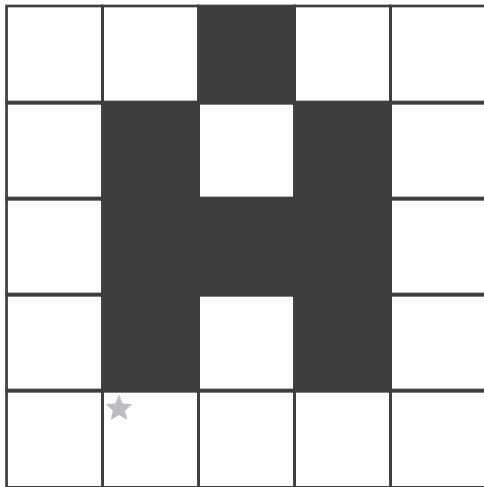
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

11	
12	
13	
14	
15	
16	
17	
18	
19	
20	





## Lesson 3 | Exit Ticket

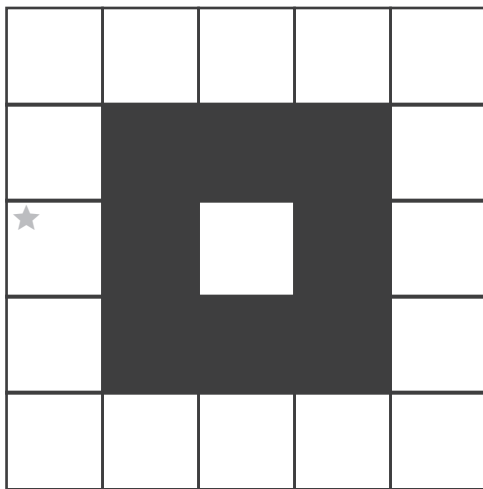
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

### Code Elements



### Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1  
2  
3  
4  
5  
6  
7  
8  
9  
10

11  
12  
13  
14  
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16  
17  
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19  
20



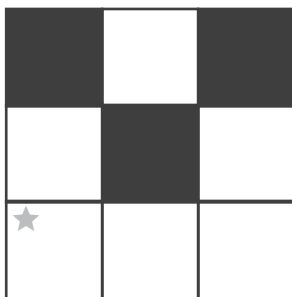


# Lesson 4 | Worksheet 1

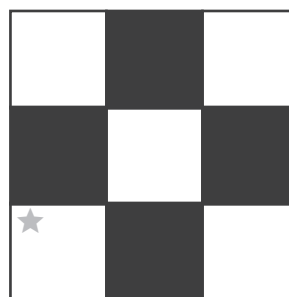
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

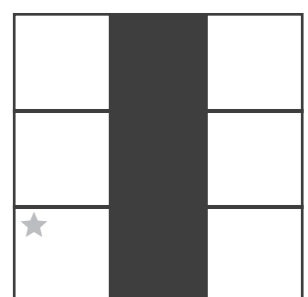
You are a coder. Write code to command the pixel bot to paint the pictures.



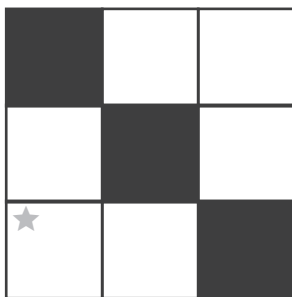
- ☐ done
- ☐ explained



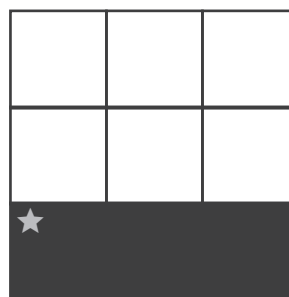
- ☐ done
- ☐ explained



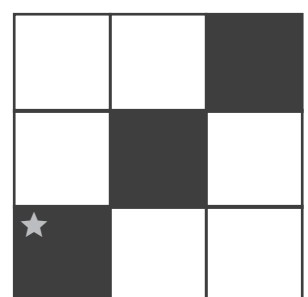
- ☐ done
- ☐ explained



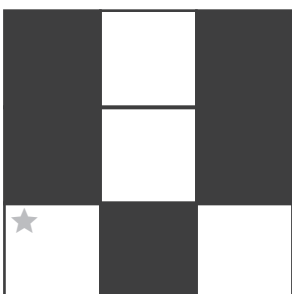
- ☐ done
- ☐ explained



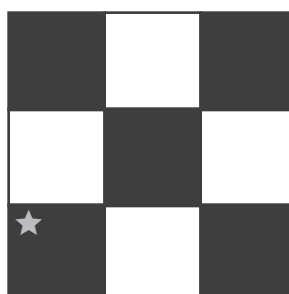
- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



- ☐ done
- ☐ explained







# Lesson 4 | Exit Ticket

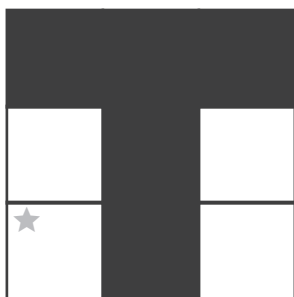
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



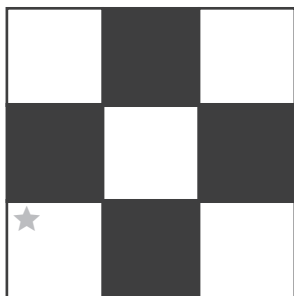
## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1  
2  
3  
4  
5  
6


7  
8  
9  
10  
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12

1  
2  
3  
4  
5  
6


7  
8  
9  
10  
11  
12






# Lesson 6 | Warmup

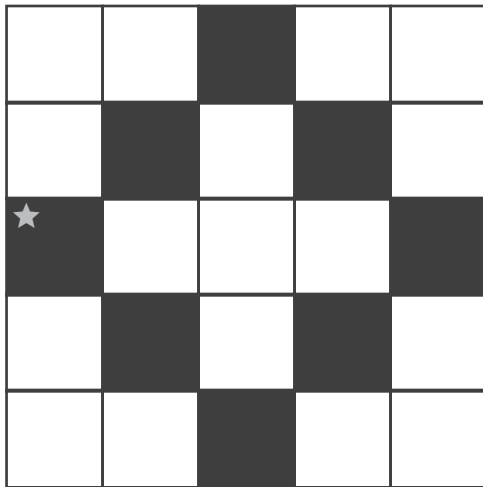
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements



## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	





# Lesson 6 | Worksheet 1

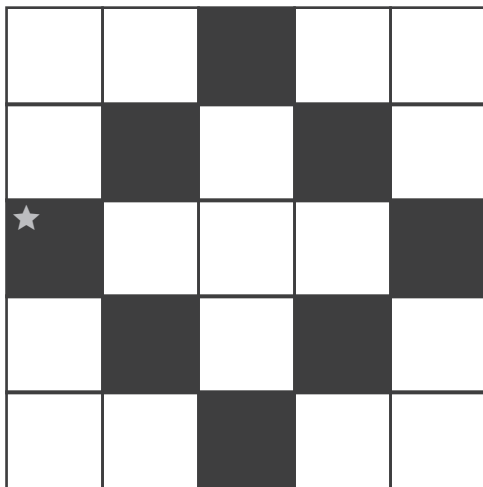
This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements

up()                      down()  
left()                    right()  
paint()

## Problem

You are a coder. Write code to command the pixel bot to paint the picture.



1  
2  
3  
4  
5  
6  
7  
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27  
28  
29  
30





# Lesson 6 | Worksheet 2

---

This is a Dance Bot exercise. In Dance Bot we program bots to dance.

## Code Elements

---

<code>up()</code>	<code>down()</code>
<code>left()</code>	<code>right()</code>
<code>spinLeft()</code>	<code>spinRight()</code>
<code>wait()</code>	

## Problem

---

You are a coder. Write code to command your bot to perform the same dance your teacher is doing.

1		16	
2		17	
3		18	
4		19	
5		20	
6		21	
7		22	
8		23	
9		24	
10		25	
11		26	
12		27	
13		28	
14		29	
15		30	

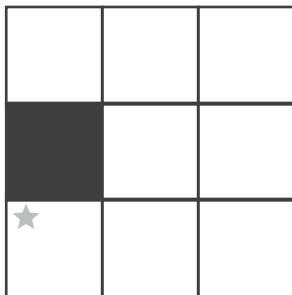


# Lesson 7 | Worksheet 1

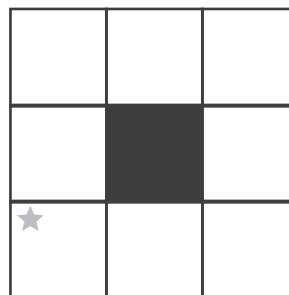
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

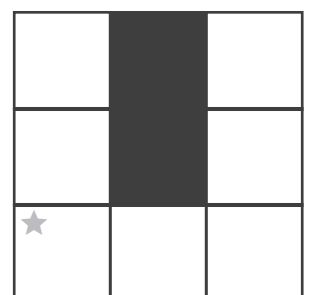
You are a coder. Write code to command the pixel bot to paint the pictures.



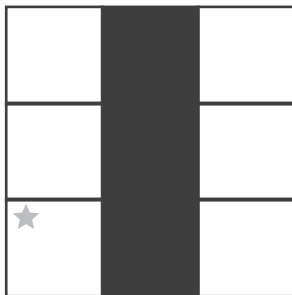
- ☐ done
- ☐ explained



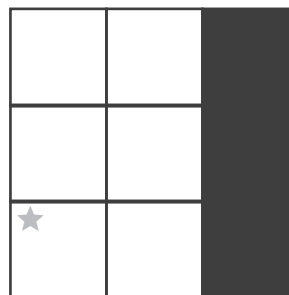
- ☐ done
- ☐ explained



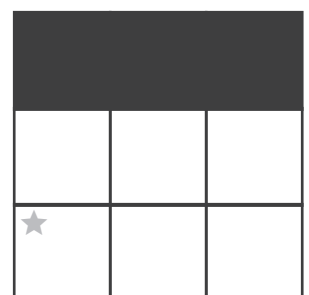
- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



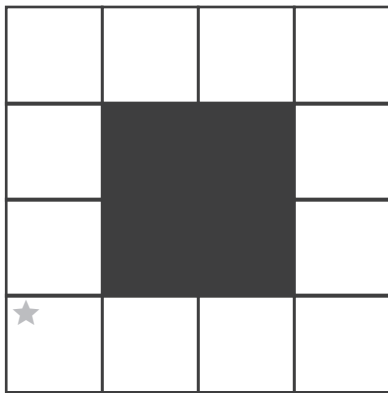


# Lesson 7 | Worksheet 2

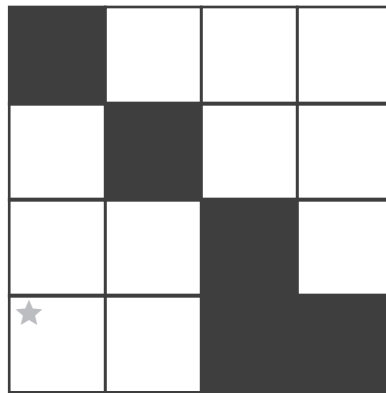
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

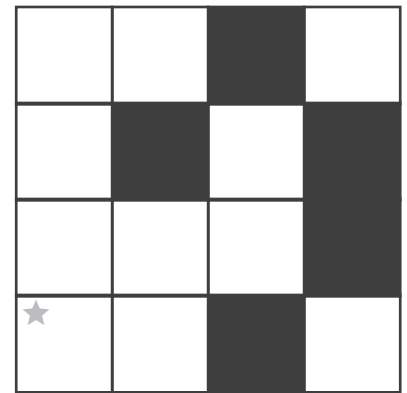
You are a coder. Write code to command the pixel bot to paint the pictures.



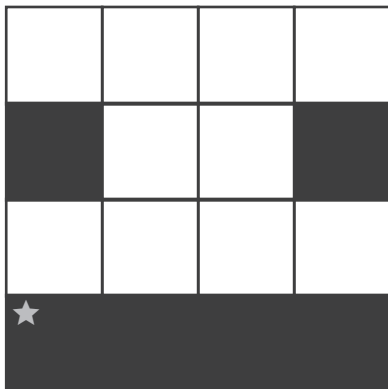
- ☐ done
- ☐ explained



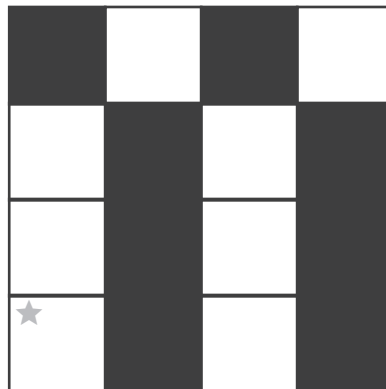
- ☐ done
- ☐ explained



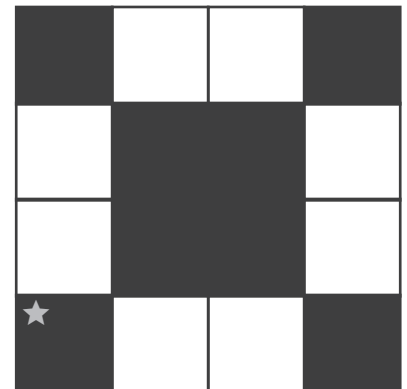
- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



- ☐ done
- ☐ explained



- ☐ done
- ☐ explained





# Lesson 7 | Exit Ticket

---

This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements

---

up()                      down()  
left()                    right()  
paint()

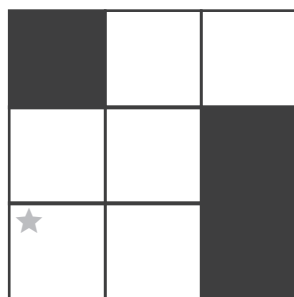
## Problems

---

1) Which of the following has a syntax error:

- a. up()
- b. down()
- c. right)
- d. left()

2) You are a coder. Write code to command the pixel bot to paint the picture.



1	
2	
3	
4	
5	
6	
7	
8	
9	





# Lesson 8 | Warm-up

---

This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements

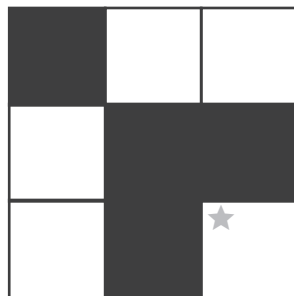
---

up()                      down()  
left()                    right()  
paint()

## Problems

---

You are a coder. Write code to command the pixel bot to paint the picture.



1	
2	
3	
4	
5	
6	
7	
8	
9	
10	







# Lesson 8 | Exit Ticket

---

This is a Mouse Bot JavaScript exercise. In Mouse Bot we program the bot to eat the cheese.

## Code Elements

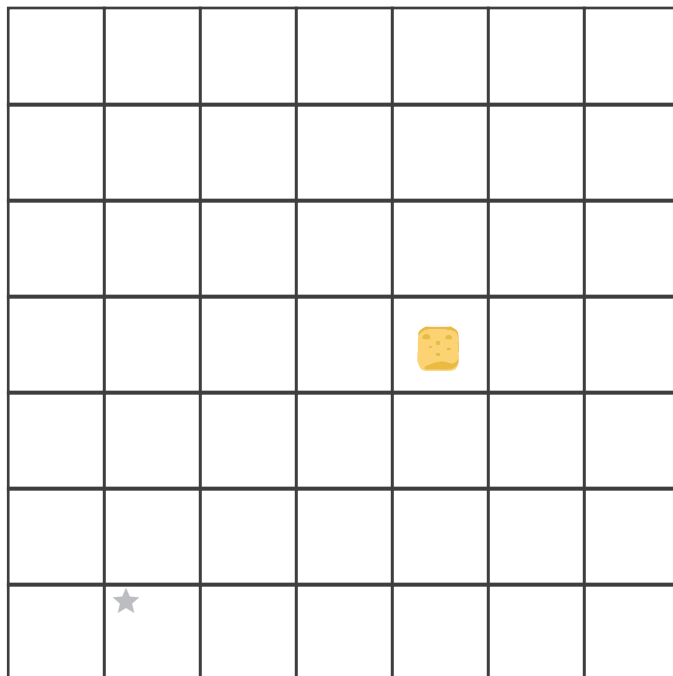
---

faceUp()      move()  
faceRight()    getCheese()

## Problems

---

You are a coder. Assuming the Mouse Bot starts at the star facing the right, write code to get the cheese.



1  
2  
3  
4  
5  
6  
7  
8





# Lesson 9 | Warm Up

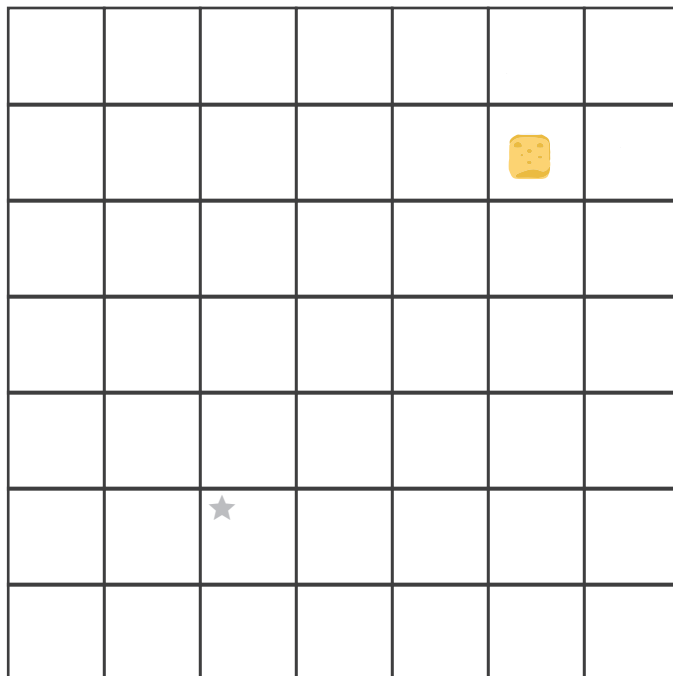
This is a Mouse Bot JavaScript exercise. In Mouse Bot we program the bot to eat the cheese.

## Code Elements

faceUp()  
faceRight()  
move()  
getCheese()

## Problems

You are a coder. Assuming the Mouse Bot starts at the star facing the right, write code to get the cheese.



1	
2	
3	
4	
5	
6	
7	
8	
9	
10	





# Coders & Bots

---

## Coders

---



**Navigator.** You are responsible for the overall plan for the program. Guide the Writer and keep track of what your program is doing.



**Writer.** Add code to your program. Pay attention to syntax.

## Bots

---



**Stepper.** Step through the program and read each step aloud. Keep your finger on the step you are reading.



**Actor.** Listen carefully to each line of code the Stepper says aloud. Using the materials available, show what each line of code does.

# { } Coding Paper

---

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

11	
12	
13	
14	
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# Coding Paper

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# Coding Paper

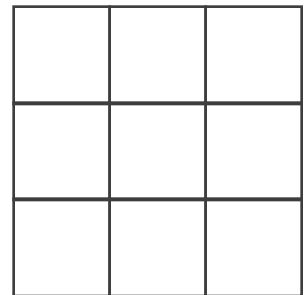
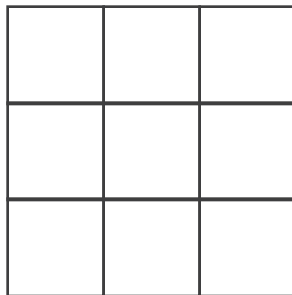
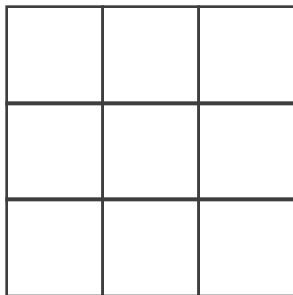
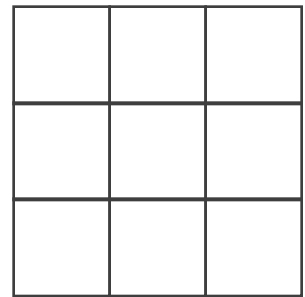
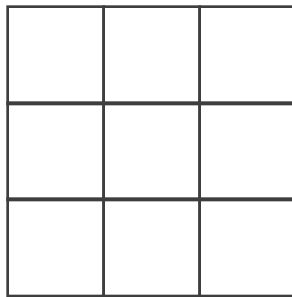
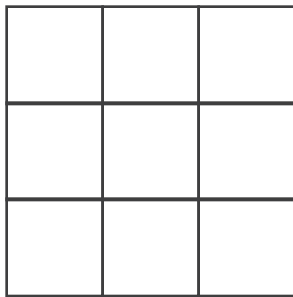
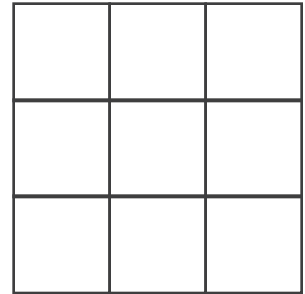
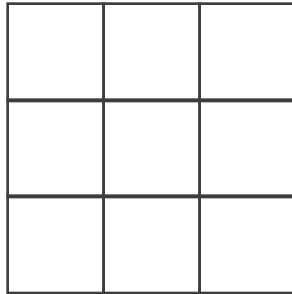
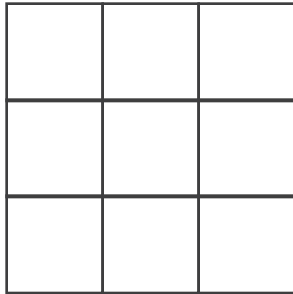
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# Small Pixel Grids

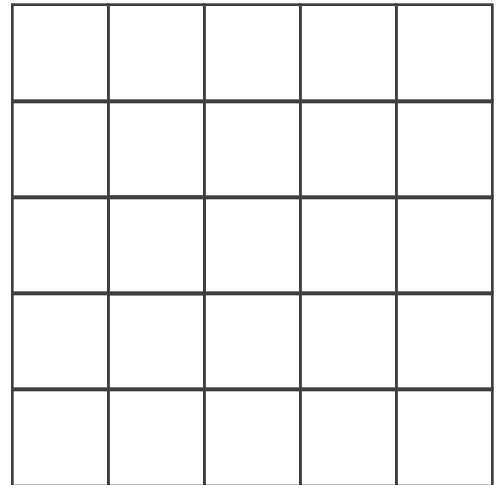
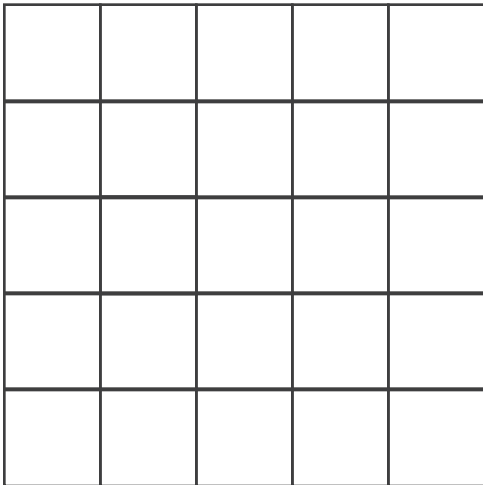
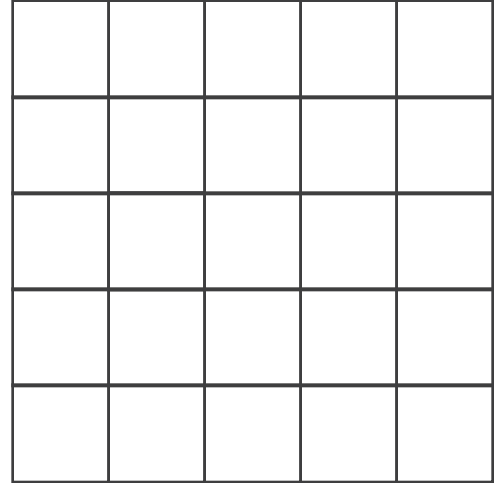
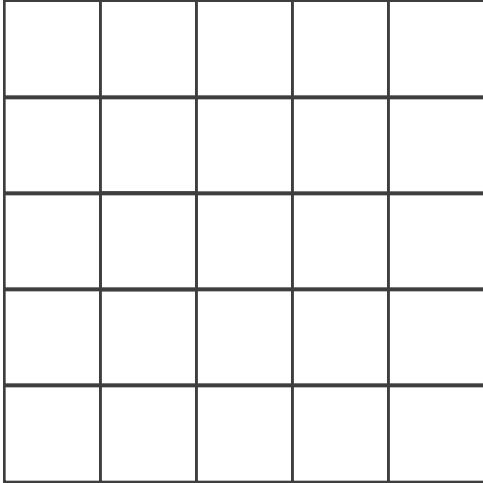
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# Medium Pixel Grids

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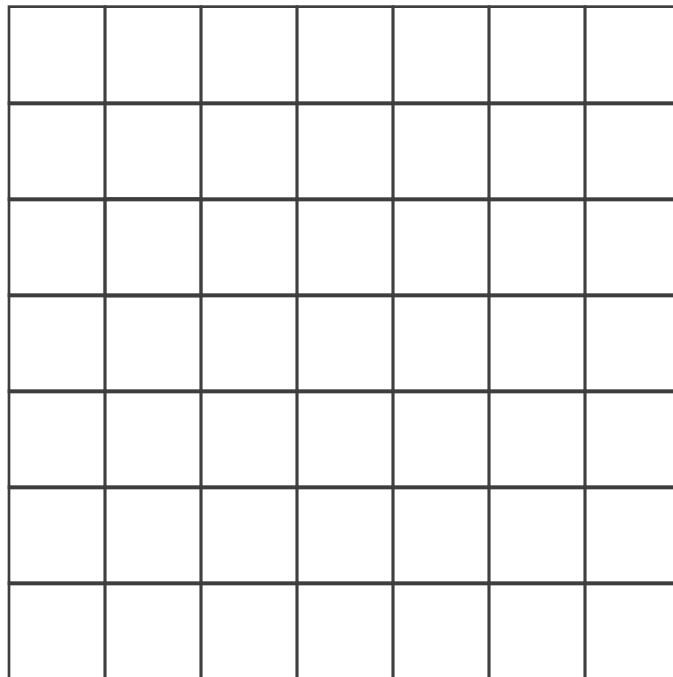
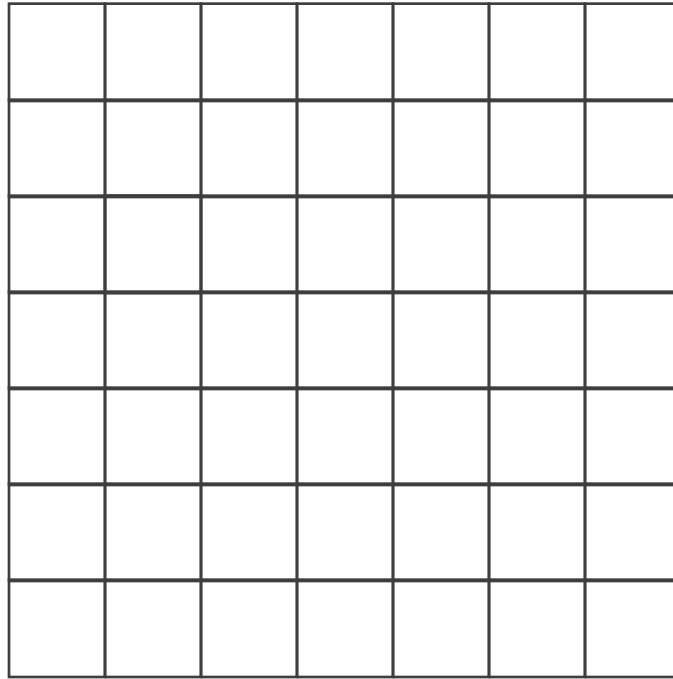






# Large Pixel Grids

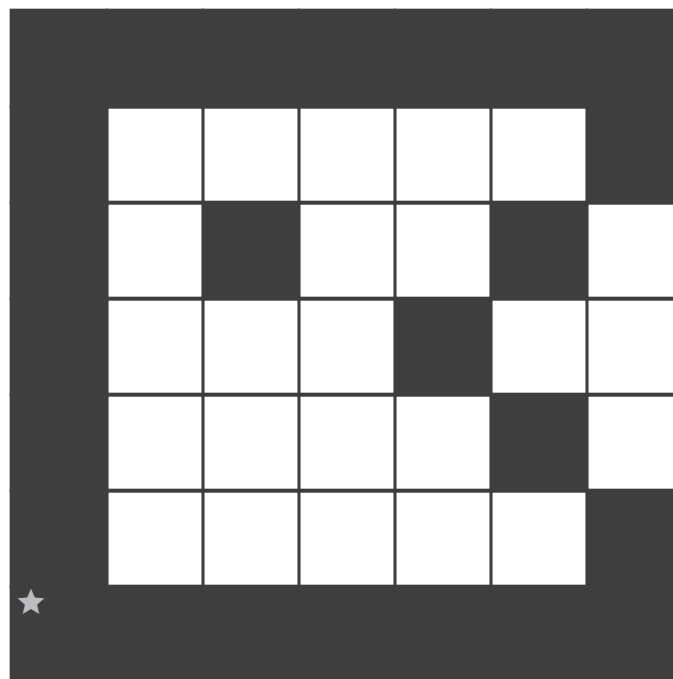
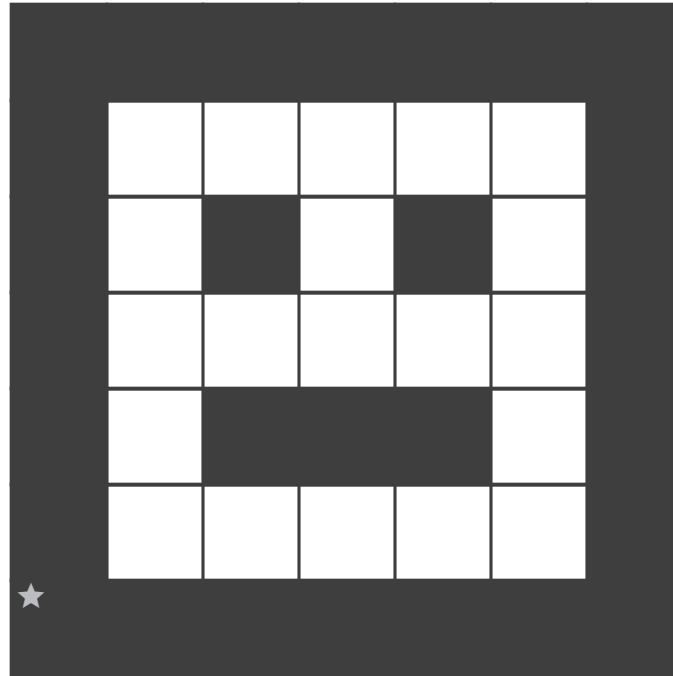
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# Challenge Problems - 1

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## Challenge Problems - 2

