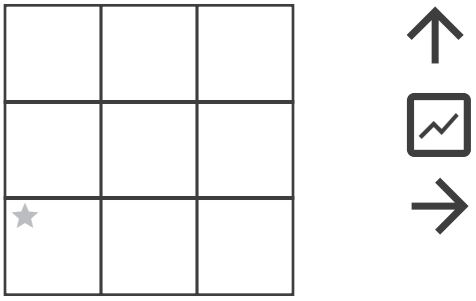
Lesson 1 | Warmup

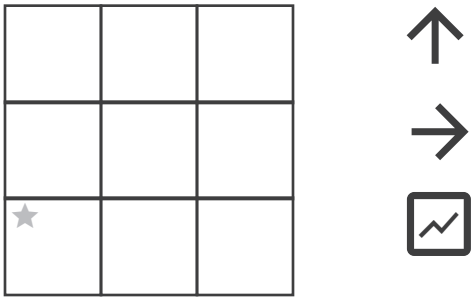
This is a Pixel Bots exercise. In Pixel Bots we will program bots to paint pictures using Code Elements.

Code Elements

Problem 1

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



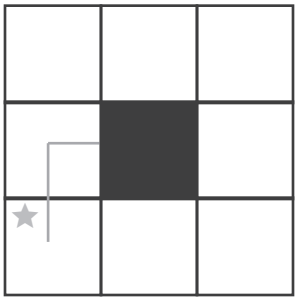


Lesson 1 | Worksheet 1

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

Code Elements

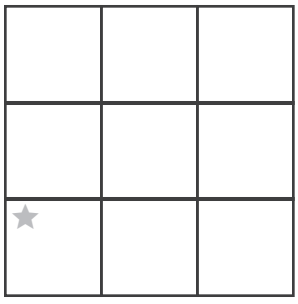
Example



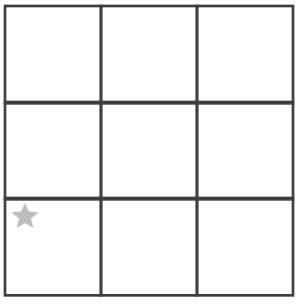
```
1 ↑
2 →
3 ⟋
```

Problems

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

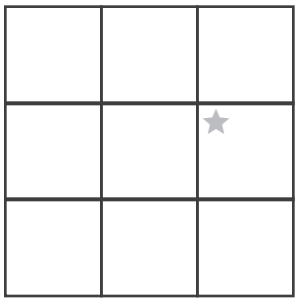


```
1 →
2 →
3 ⟋
4 ↑
```

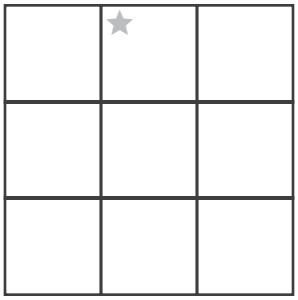


```
1 →
2 ⟋
3 ↑
4 ⟋
```

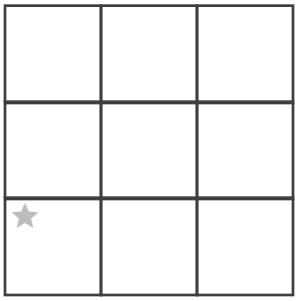
Lesson 1 | Worksheet 1 (cont'd)



1	↓
2	☑
3	←
4	☑



1	☑
2	←
3	☑
4	↓
5	☑



1	☑
2	↑
3	☑
4	↑
5	☑

Lesson 10 | Warm-up

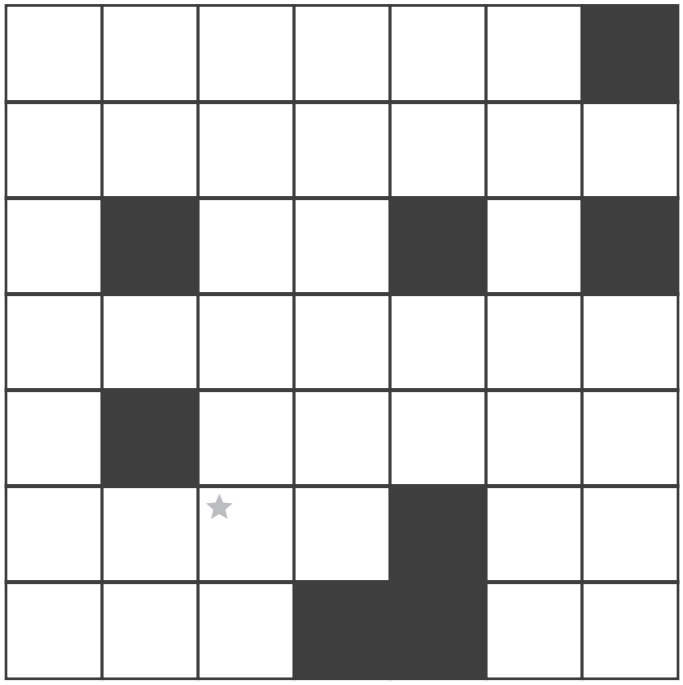
This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Code Elements

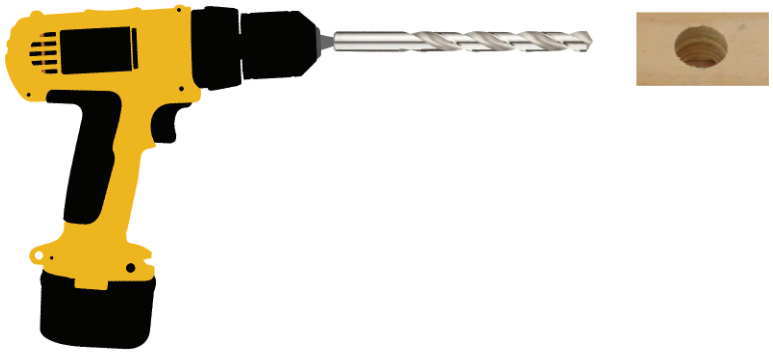
```
up()          down()
left()        right()
paint()
```

Problems

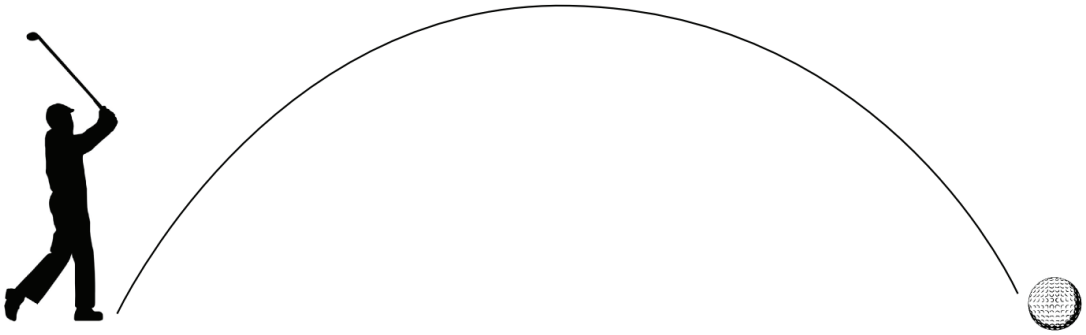
You are a coder. On the code line paper, write code to command the pixel bot to paint the picture.



Lesson 7 | Worksheet 1



1) This is a drill. A drill creates holes by spinning a drill bit. How would you create a bigger hole with a drill bit? Bit creative.



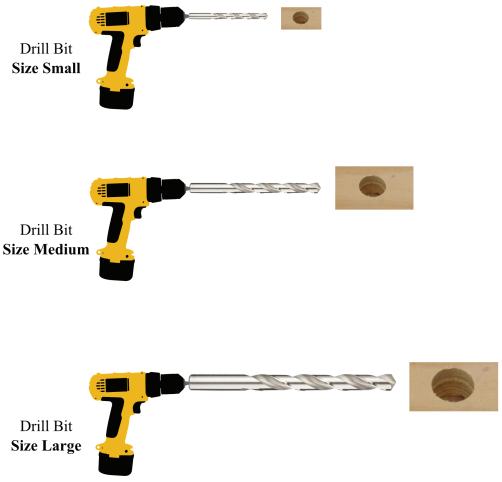
2) This is a golfer. A golfer hits a golf ball with a golf club. How would the golfer hit the ball further? Be creative.

Lesson 7 | Worksheet 1 (cont'd)

Now try programming the drill to create 3 different size holes using one coding element.

Code Elements

```
drill(size)
```

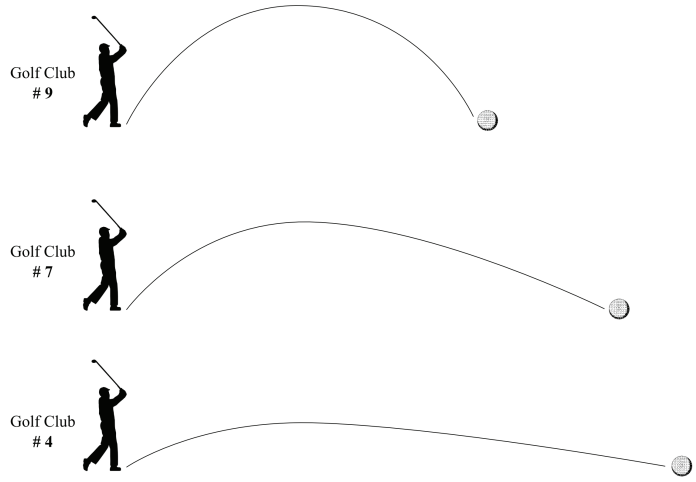


1
2
3
4
5
6

Program the golfer to hit the ball 3 different distances.

Code Elements

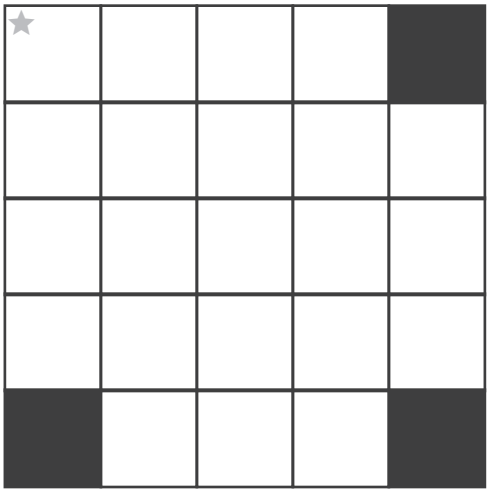
```
swing(club)
```



1
2
3
4
5
6

Lesson 7 | Worksheet 1 (cont'd)

5) Now it's time to return to Pixel Bot. Can you come up with a way to paint the picture in 6 lines? Think about problems 3 and 4.



1	
2	
3	
4	
5	
6	

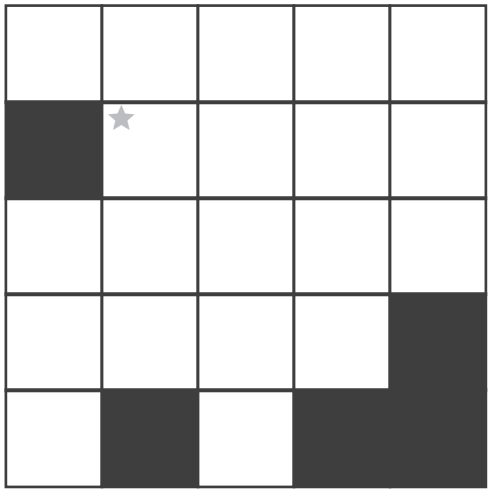
6) What are the similarities between drilling, golf, and moving the pixel bot multiple steps?

Lesson 7 | Worksheet 2

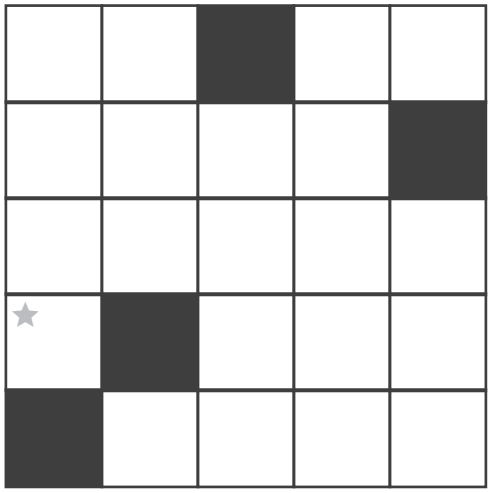
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Problems

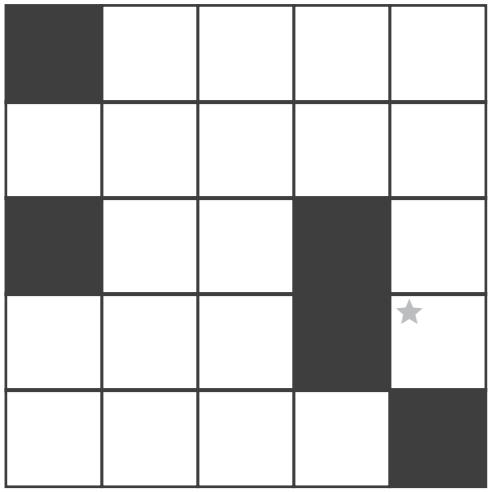
You are a coder. Write code to command the pixel bot to paint the pictures.



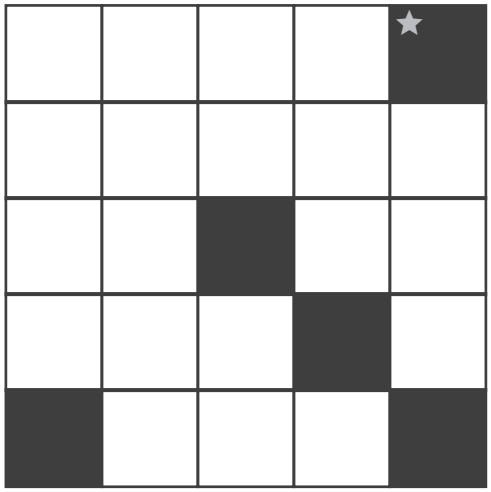
☐ done
☐ explained



☐ done
☐ explained



☐ done
☐ explained



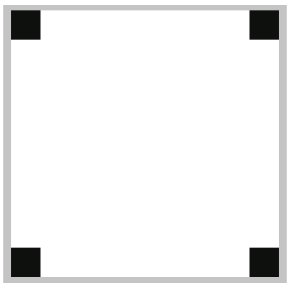
☐ done
☐ explained

Lesson 11 | Worksheet

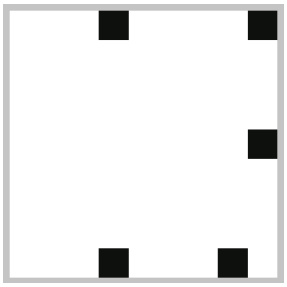
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Problems

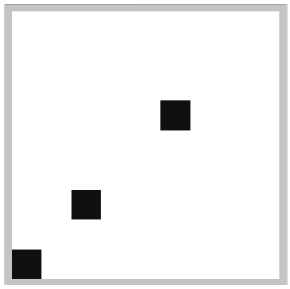
You are a coder. Write code to command the pixel bot to paint the pictures.



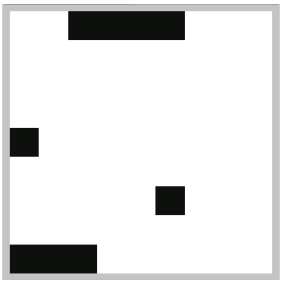
☐ done
☐ explained



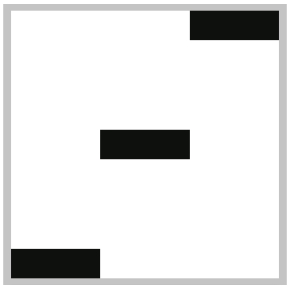
☐ done
☐ explained



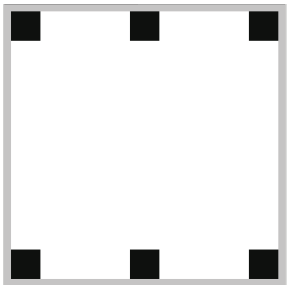
☐ done
☐ explained



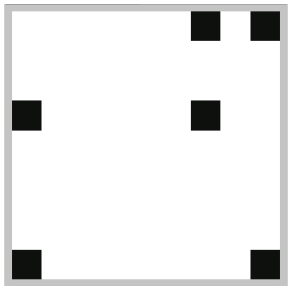
☐ done
☐ explained



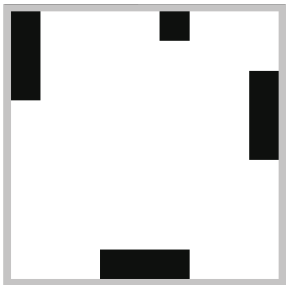
☐ done
☐ explained



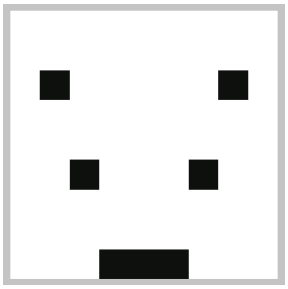
☐ done
☐ explained



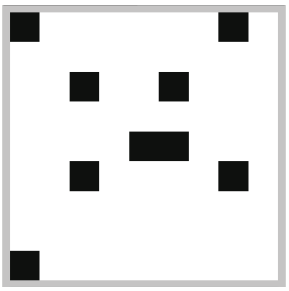
☐ done
☐ explained



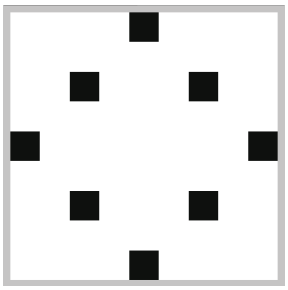
☐ done
☐ explained



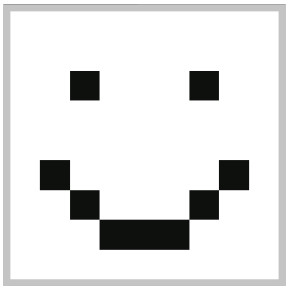
☐ done
☐ explained



☐ done
☐ explained



☐ done
☐ explained



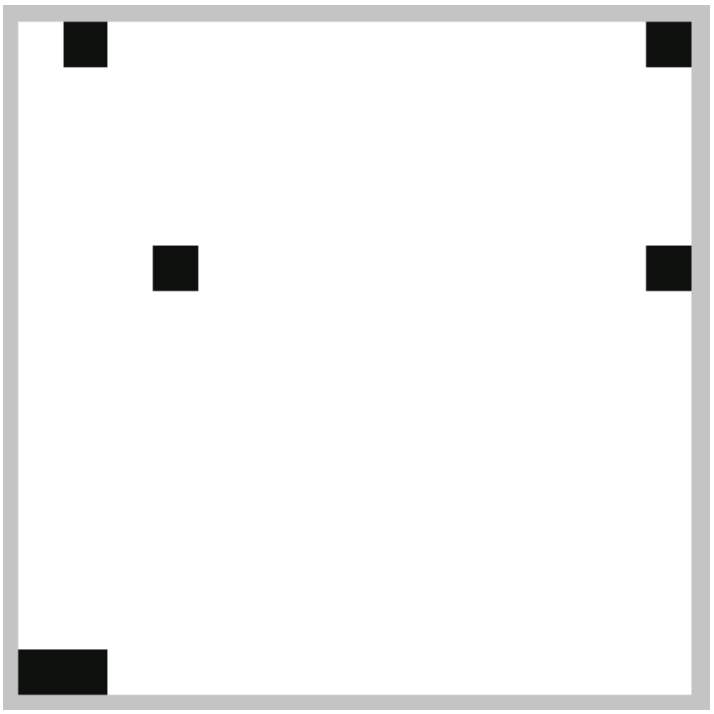
☐ done
☐ explained

Lesson 11 | Exit Ticket

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

Problems

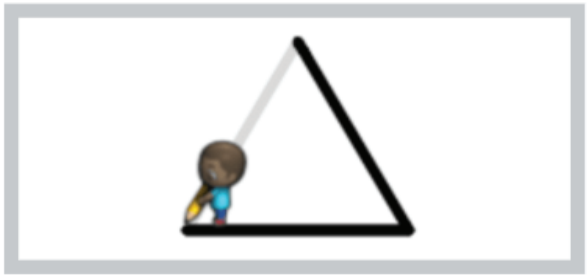
You are a coder. Write code to command the pixel bot to paint the picture.

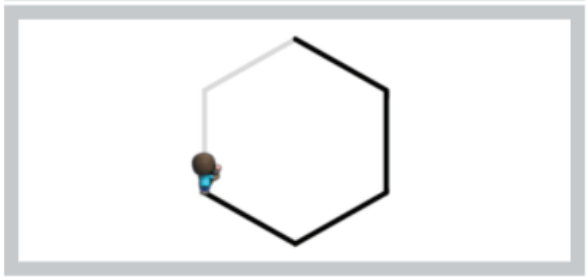


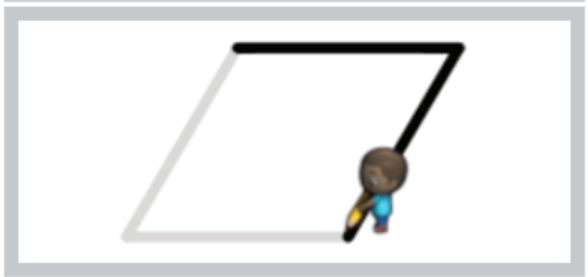
Code Link

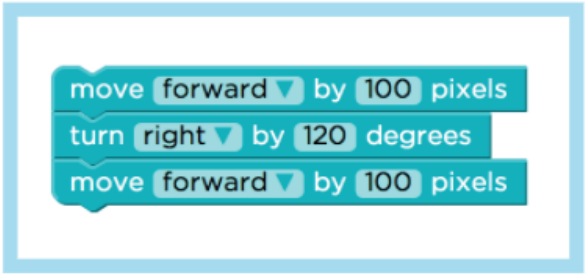
Lesson 12 | Exit Ticket

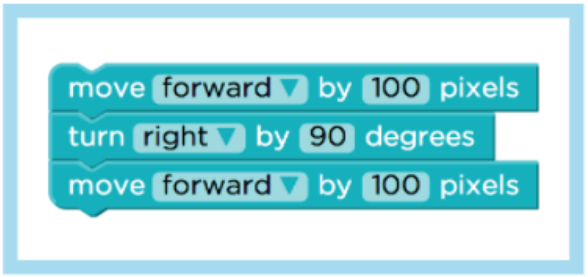
Match the artist with the blocks of code that complete the shape he is drawing.

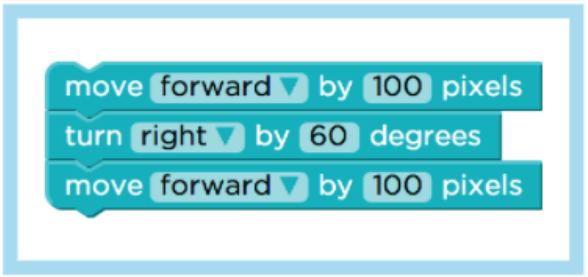


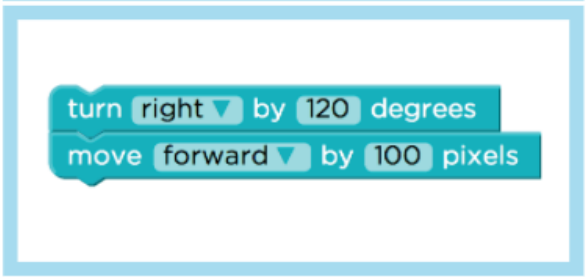










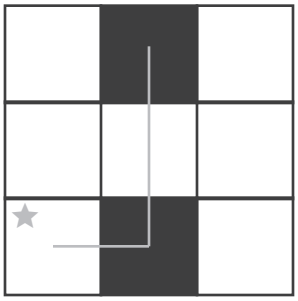


Lesson 2 | Warmup

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

Code Elements

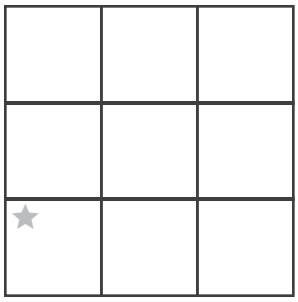
Example



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	▣

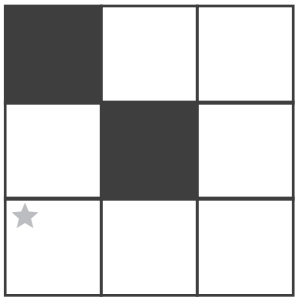
Lesson 2 | Worksheet 1

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
```

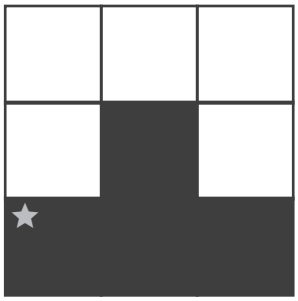
Lesson 3 | Warmup

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
```

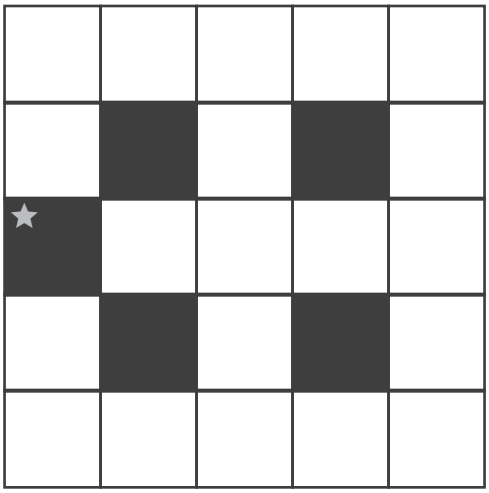
Lesson 3 | Worksheet 1

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		11	
2		12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

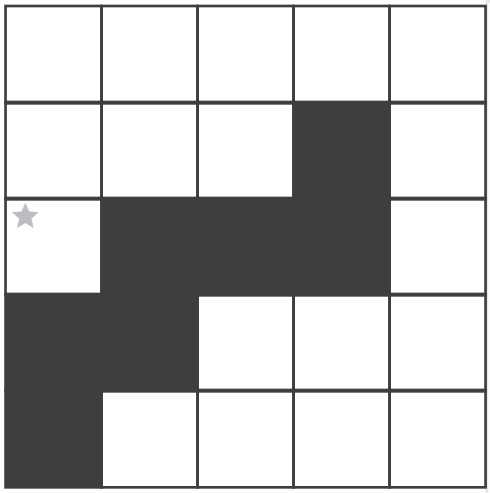
Lesson 3 | Worksheet 2

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.



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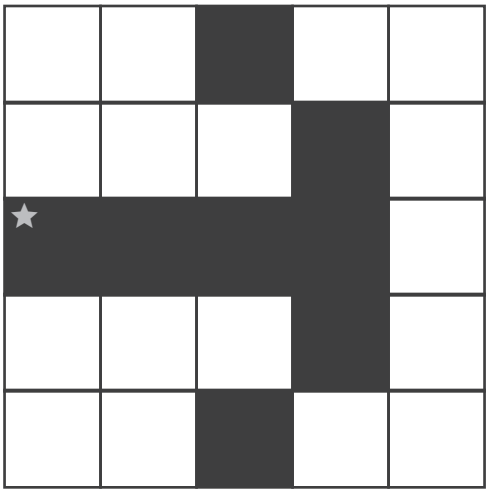
Lesson 3 | Worksheet 3

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.



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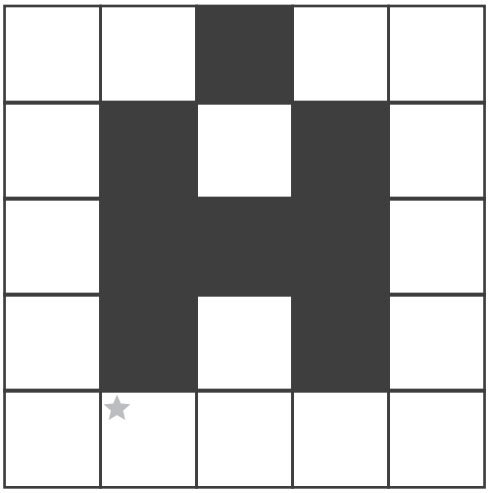
Lesson 3 | Worksheet 4

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.



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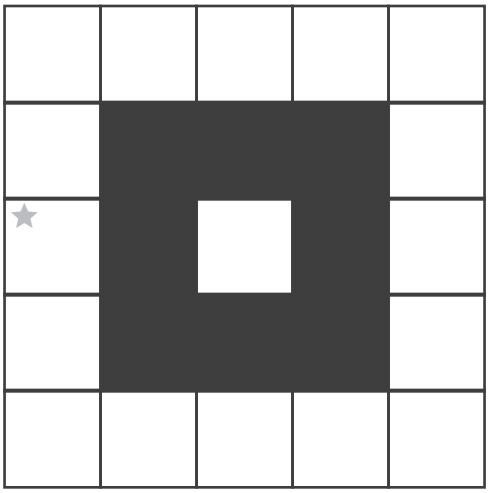
Lesson 3 | Exit Ticket

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.



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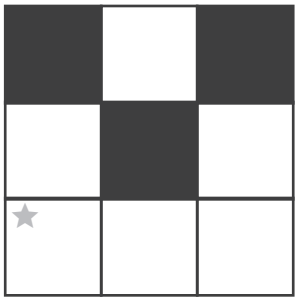
Lesson 4 | Worksheet 1

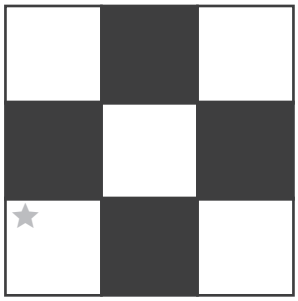
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Problems

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



☐ done
☐ explained



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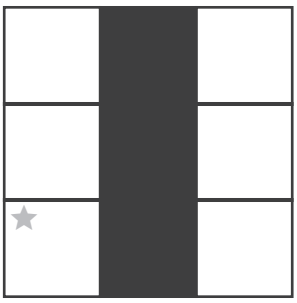
☐ explained



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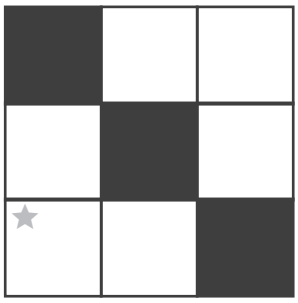

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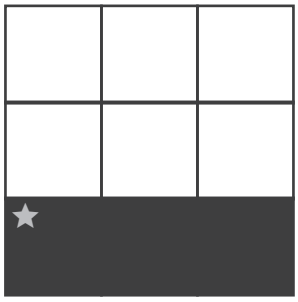

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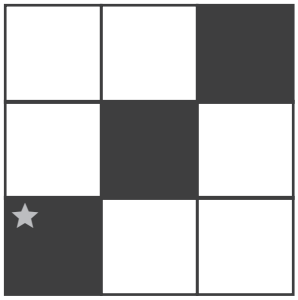
☐ explained



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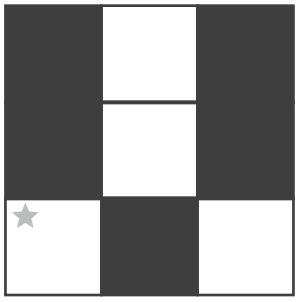
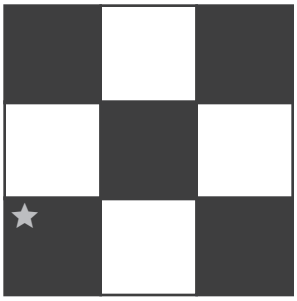
☐ explained



☐ done
☐ explained



☐ done
☐ explained

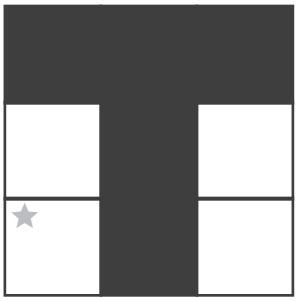
Lesson 4 | Exit Ticket

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.



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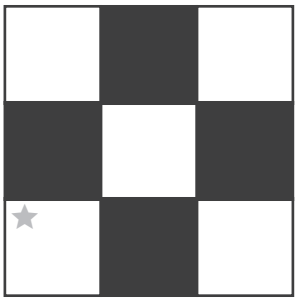

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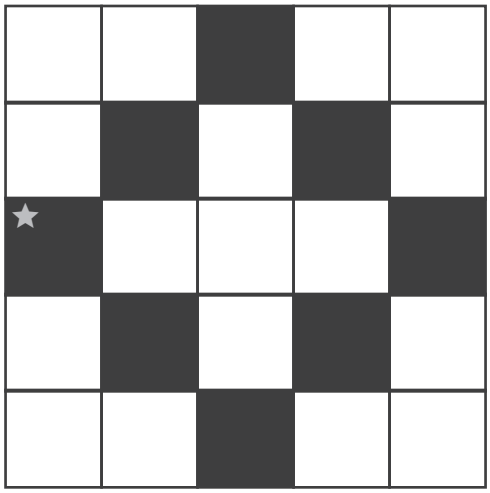
Lesson 6 | Warmup

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.



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Lesson 6 | Worksheet 1

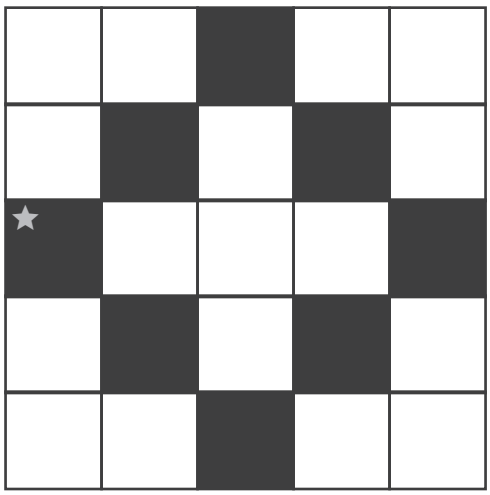
This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Code Elements

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

Problem

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



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Lesson 6 | Worksheet 2

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

Code Elements

```
up()            down()
left()          right()
spinLeft()      spinRight()
wait()
```

Problem

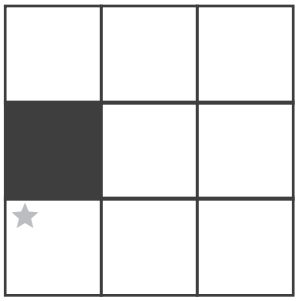
You are a coder. Write code to command your bot to perform the same dance your teacher is doing.

Lesson 7 | Worksheet 1

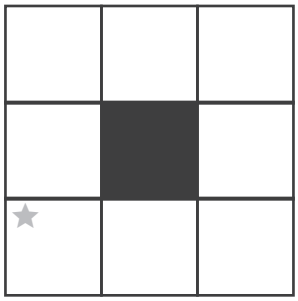
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Problems

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



☐ done
☐ explained



☐ done
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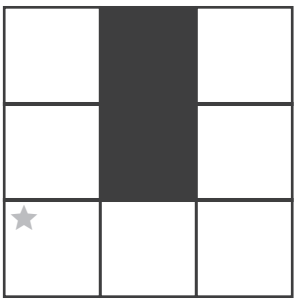

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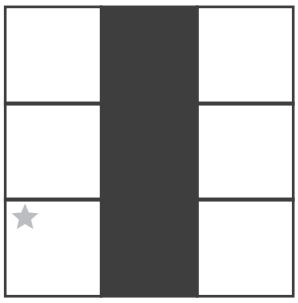
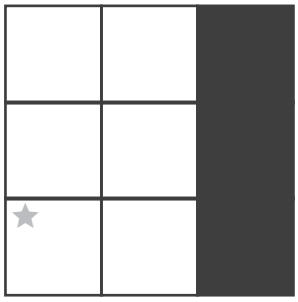
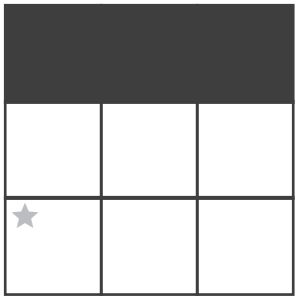


☐ done
☐ explained



☐ done
☐ explained



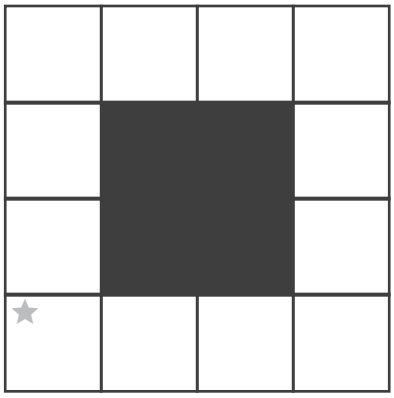
☐ done
☐ explained

Lesson 7 | Worksheet 2

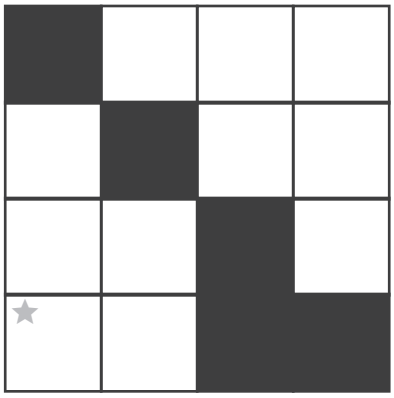
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Problems

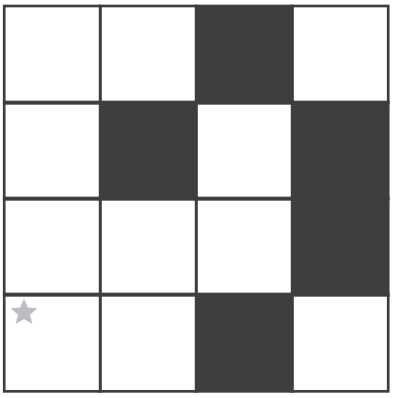
You are a coder. Write code to command the pixel bot to paint the pictures.



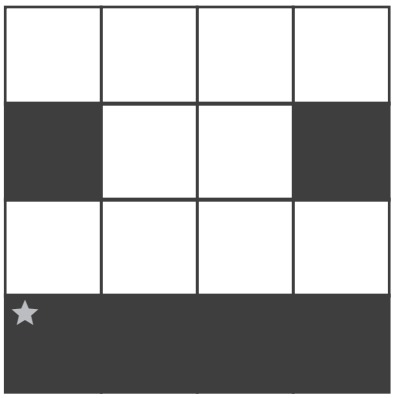
☐ done
☐ explained



☐ done
☐ explained



☐ done
☐ explained



☐ done
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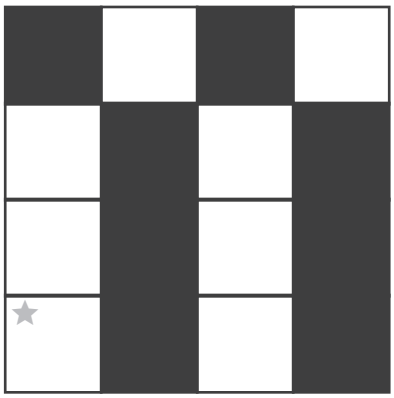
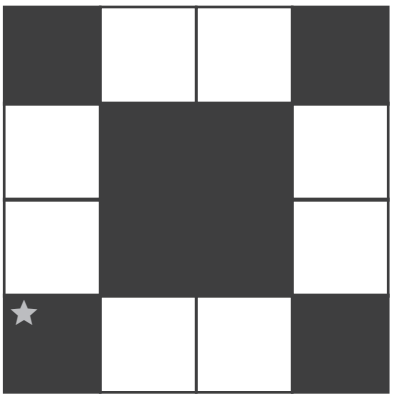


☐ done
☐ explained



☐ 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

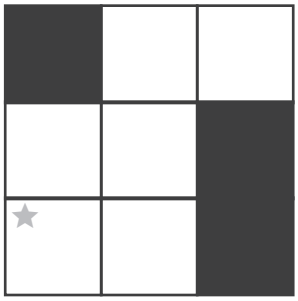
```
up()          down()
left()        right()
paint()
```

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.



```
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```

Lesson 8 | Warm-up

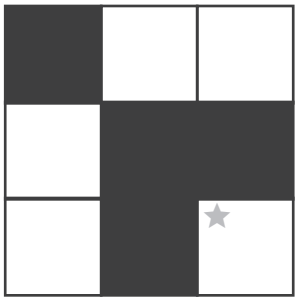
This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

Code Elements

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

Problems

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



```
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```

Lesson 8 | Exit Ticket

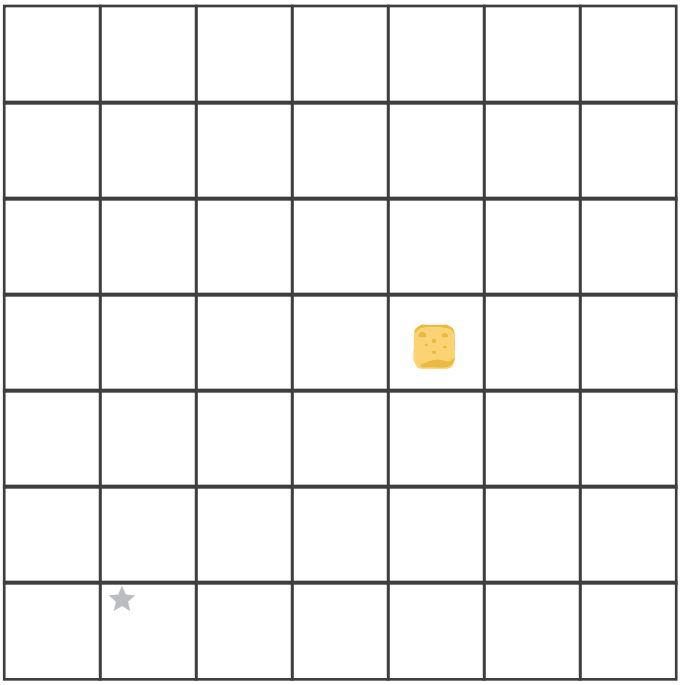
This is a Mouse Bot JavaScript exercise. In Mouse Bot we program the bot to eat the cheese.

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.



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Lesson 9 | Warm Up

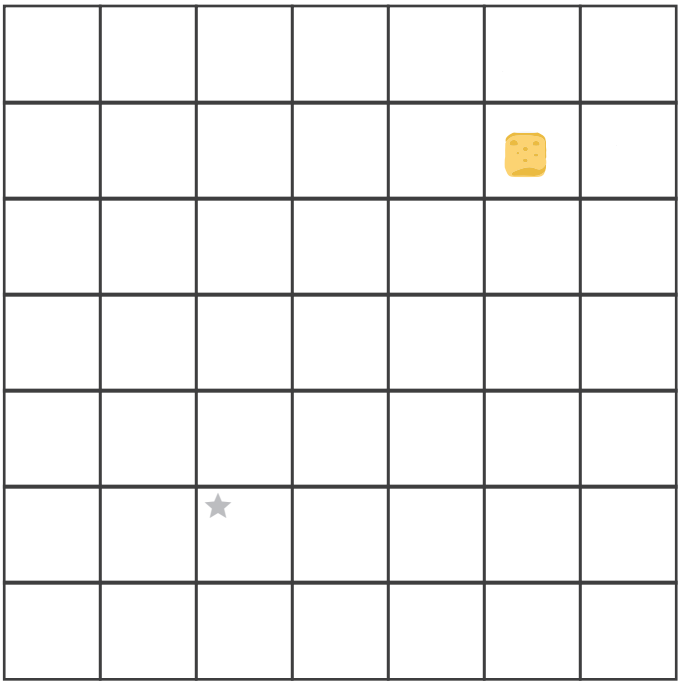
This is a Mouse Bot JavaScript exercise. In Mouse Bot we program the bot to eat the cheese.

Code Elements

```
faceUp()      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.



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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

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Coding Paper

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Coding Paper

1		31		61	
2		32		62	
3		33		63	
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15		45		75	
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18		48		78	
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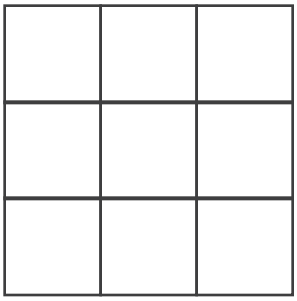
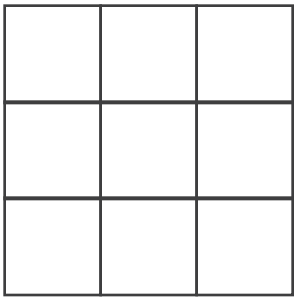
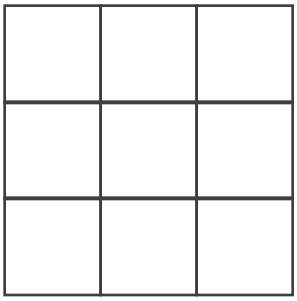
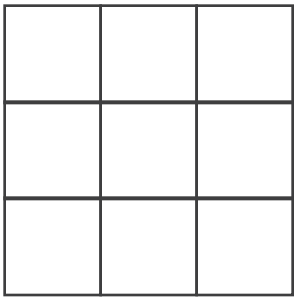
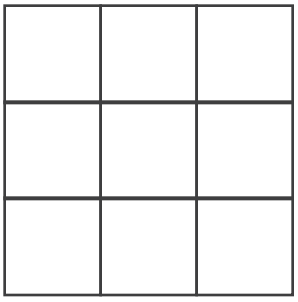
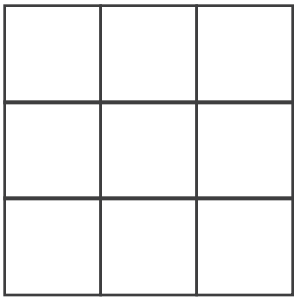
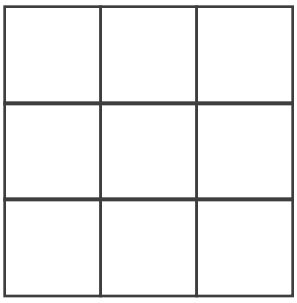
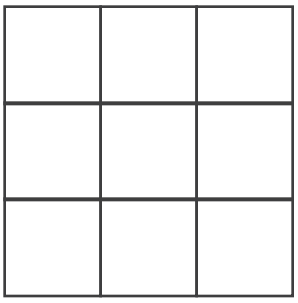
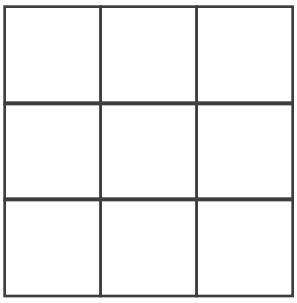
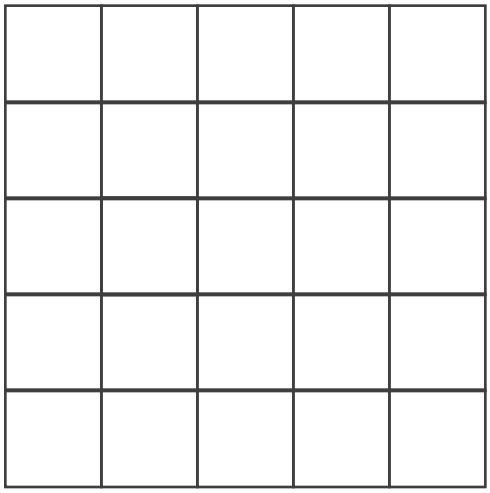
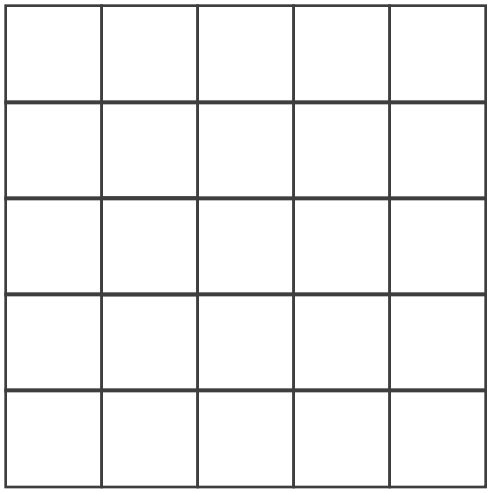
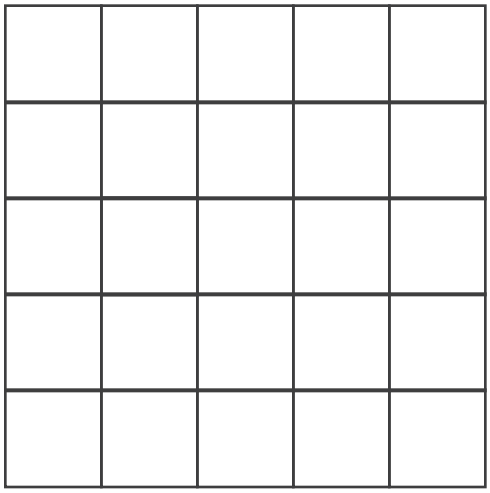
Small Pixel Grids

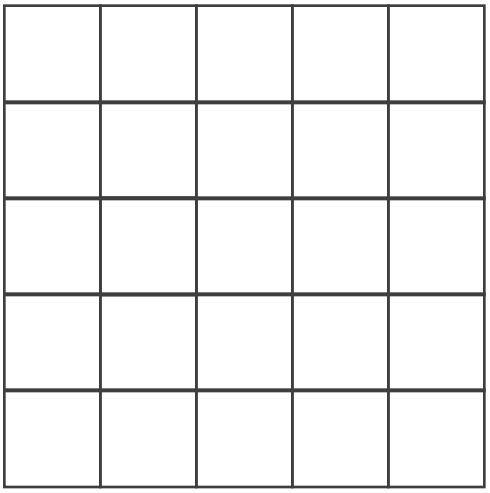










Medium Pixel Grids

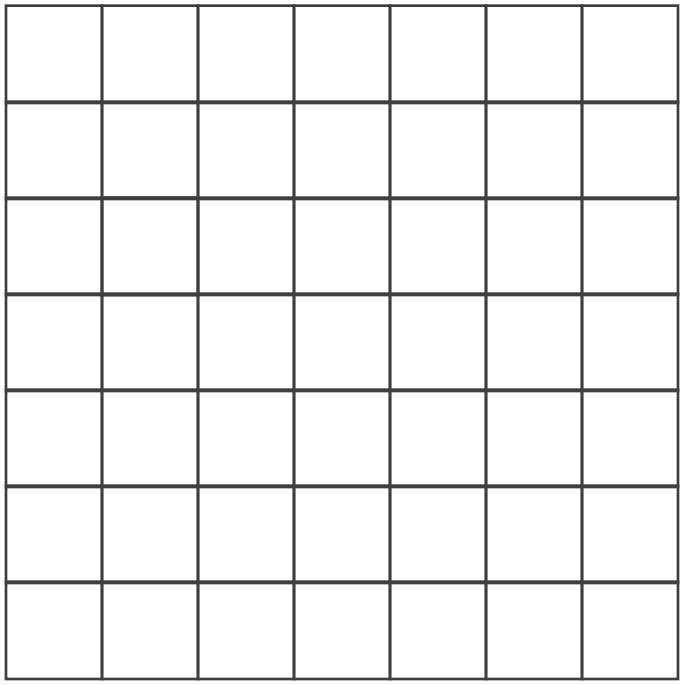


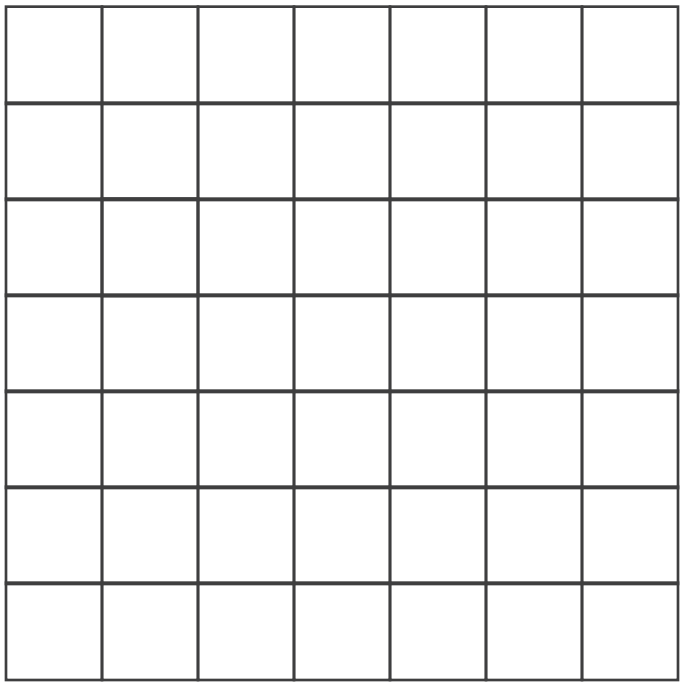




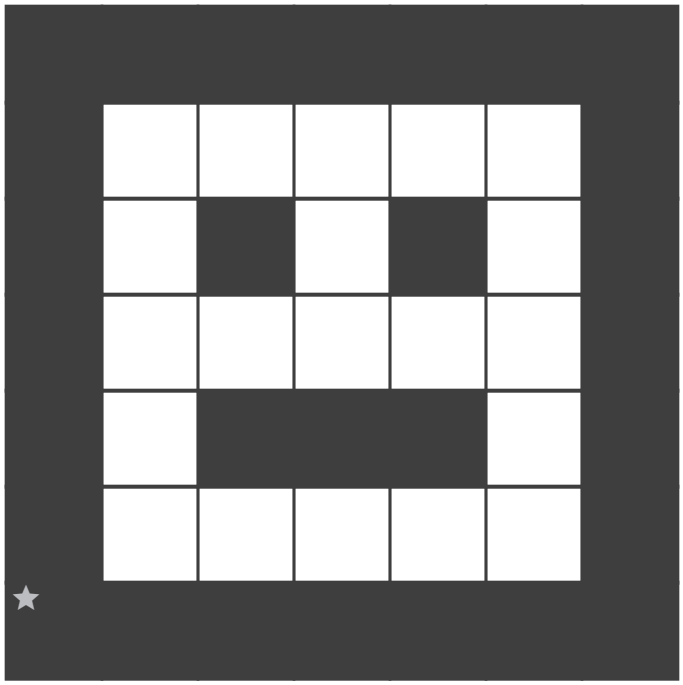


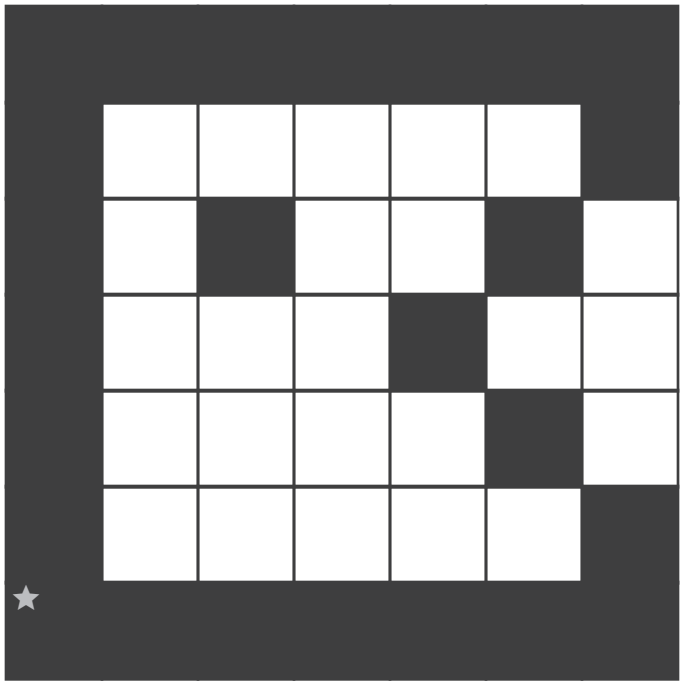
Large Pixel Grids





Challenge Problems - 1





Challenge Problems - 2