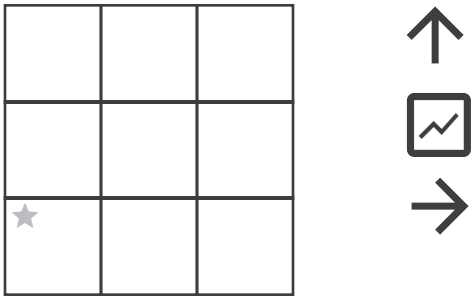
# Lesson 1 | Warmup

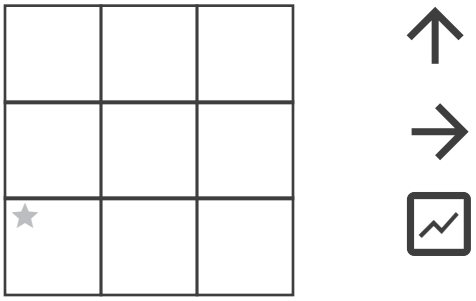
This is a Pixel Bots exercise. In Pixel Bots we will program bots to paint pictures using Code Elements.

## Code Elements

## Problem 1

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



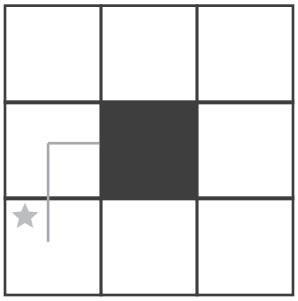


# Lesson 1 | Worksheet 1

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

## Code Elements

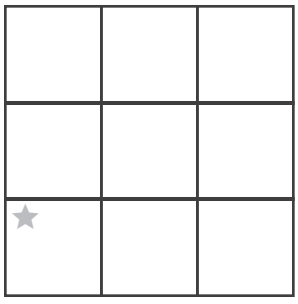
## Example



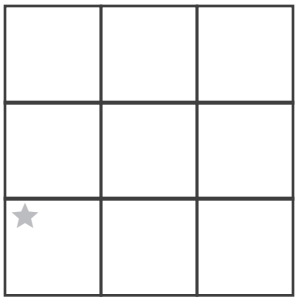
```
1 ↑
2 →
3 ⟋
```

## Problems

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

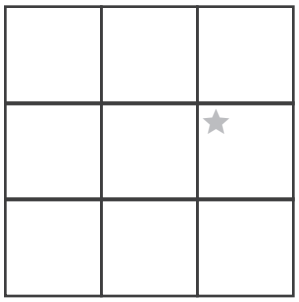


```
1 →
2 →
3 ⟋
4 ↑
```

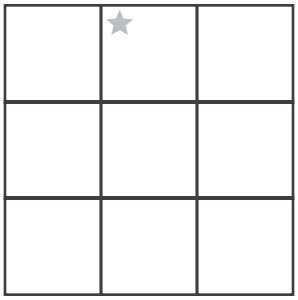


```
1 →
2 ⟋
3 ↑
4 ⟋
```

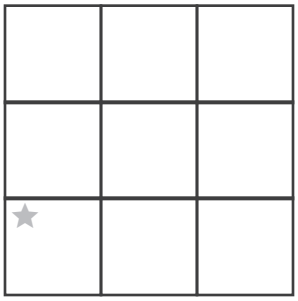
# Lesson 1 | Worksheet 1 (cont'd)



| | |
|---|---|
| 1 | ↓ |
| 2 | ☑ |
| 3 | ← |
| 4 | ☑ |



| | |
|---|---|
| 1 | ☑ |
| 2 | ← |
| 3 | ☑ |
| 4 | ↓ |
| 5 | ☑ |



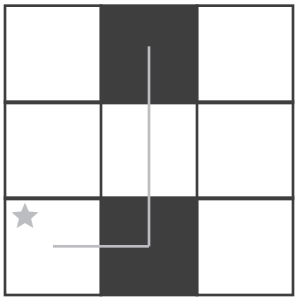
| | |
|---|---|
| 1 | ☑ |
| 2 | ↑ |
| 3 | ☑ |
| 4 | ↑ |
| 5 | ☑ |

# Lesson 2 | Warmup

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

## Code Elements

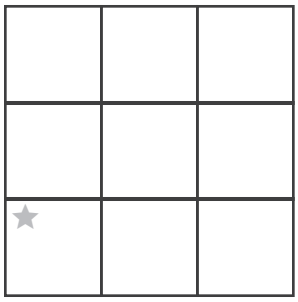
## Example



| | |
|---|---|
| 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 | ▣ |

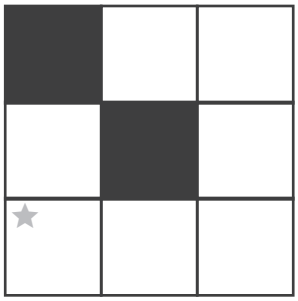
# Lesson 2 | Worksheet 1

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.



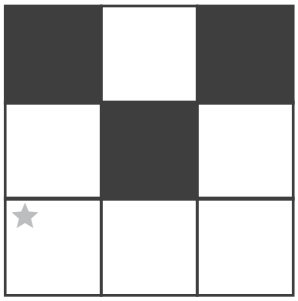
```
1
2
3
4
5
6
```

# Lesson 4 | Worksheet 1

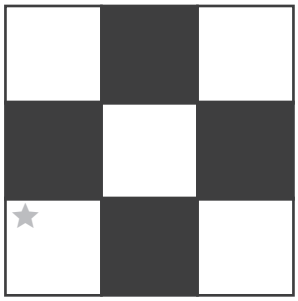
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

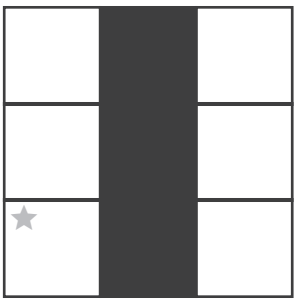
You are a coder. Write code to command the pixel bot to paint the pictures.



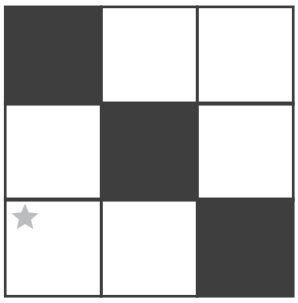
☐ done
☐ explained



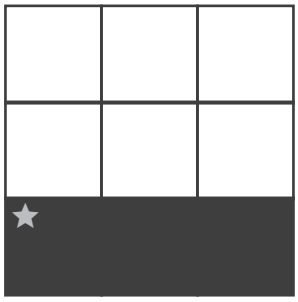
☐ done
☐ explained



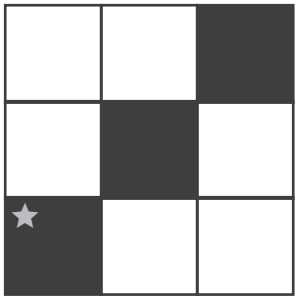
☐ done
☐ explained



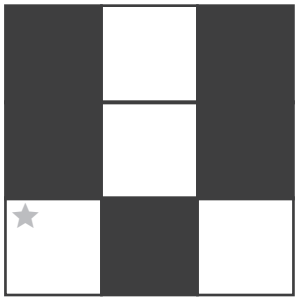
☐ done
☐ explained



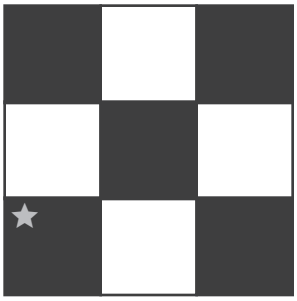
☐ done
☐ explained



☐ done
☐ explained



☐ done
☐ explained



☐ done
☐ explained

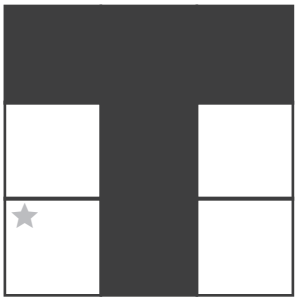
# Lesson 4 | Exit Ticket

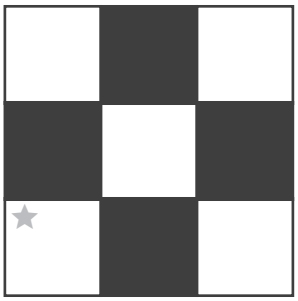
This is a Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Code Elements

## Problem

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





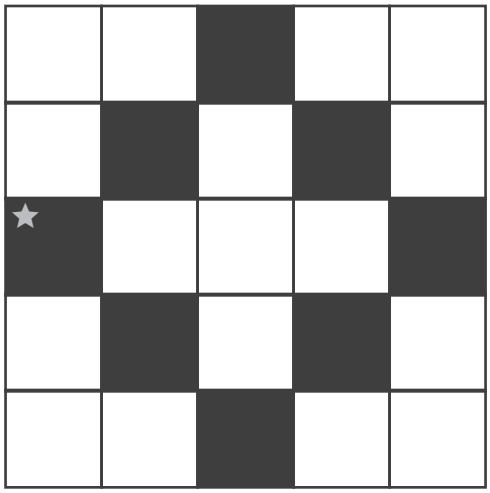
# Lesson 6 | Warmup

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

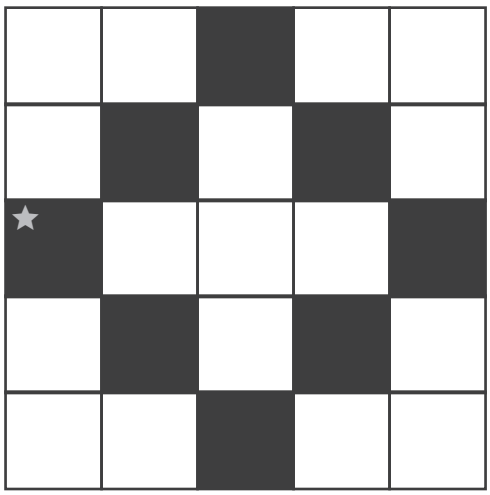
This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## 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
8
9
10
11
12
13
14
15
```

```
16
17
18
19
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21
22
23
24
25
26
27
28
29
30
```

# 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

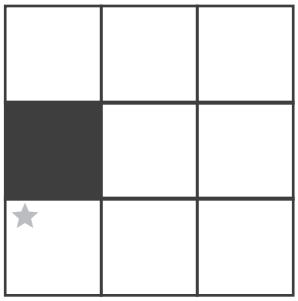
You are a coder. Write code to command your bot to perform the same dance your teacher is doing.

# Lesson 7 | Worksheet 1

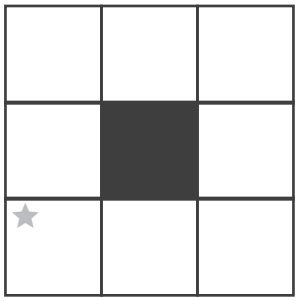
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

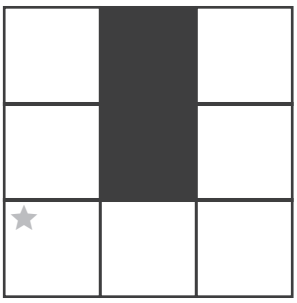
You are a coder. Write code to command the pixel bot to paint the pictures.



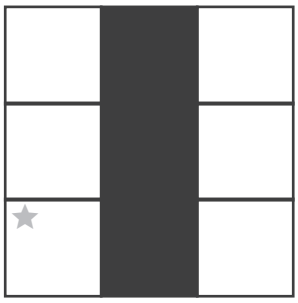
☐ done
☐ explained



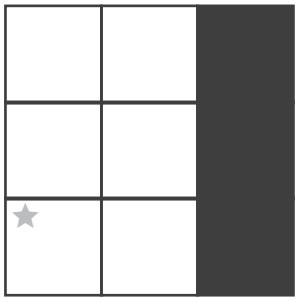
☐ done
☐ explained



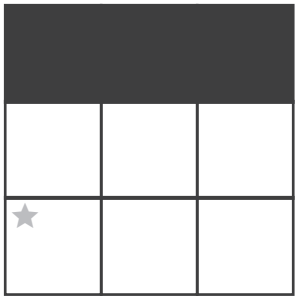
☐ done
☐ explained



☐ done
☐ explained



☐ done
☐ explained



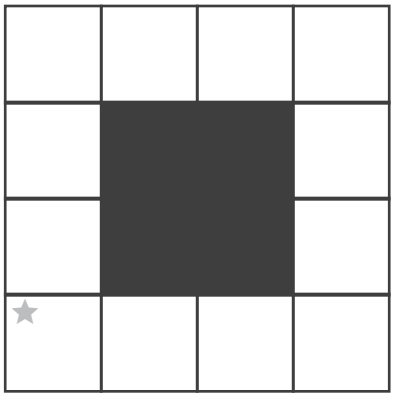
☐ done
☐ explained

# Lesson 7 | Worksheet 2

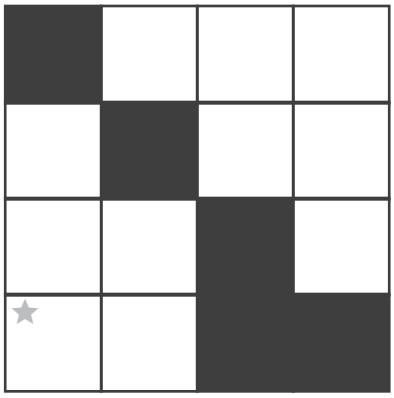
This is an online Pixel Bots exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## Problems

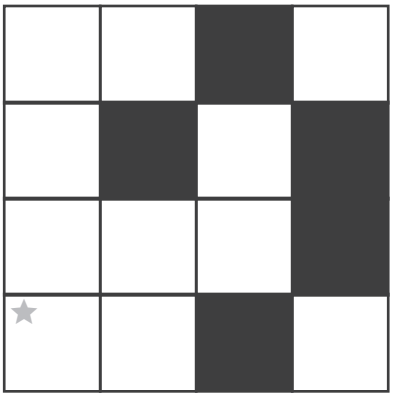
You are a coder. Write code to command the pixel bot to paint the pictures.



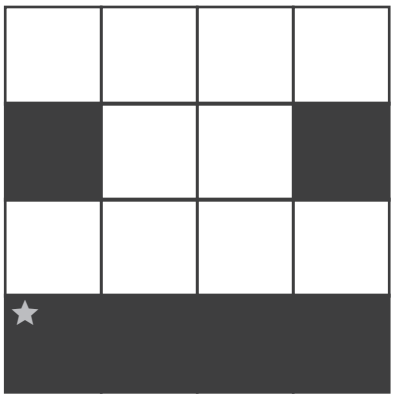
☐ done
☐ explained



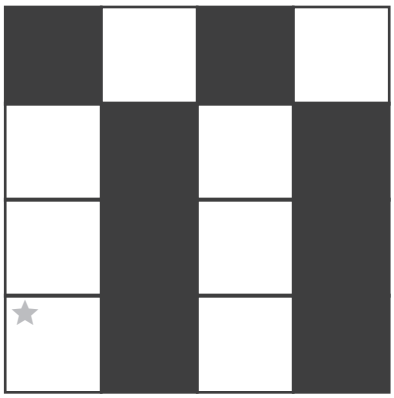
☐ done
☐ explained



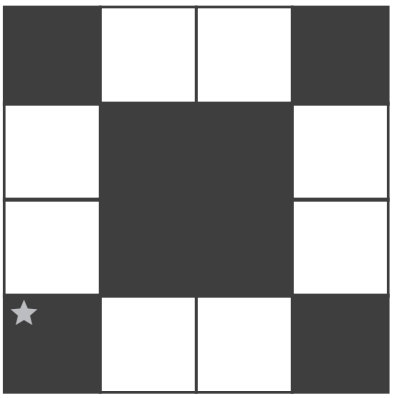
☐ done
☐ explained



☐ 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

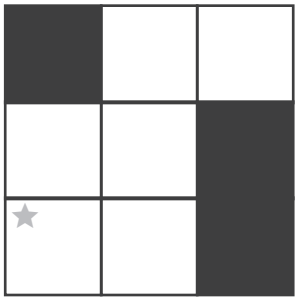
```
up()          down()
left()        right()
paint()
```

## 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

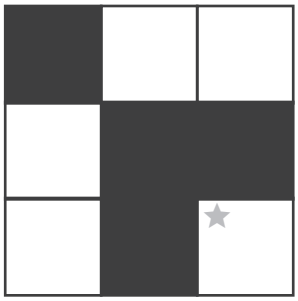
This is a Pixel Bots JavaScript exercise. In Pixel Bots we program bots to paint pictures using Code Elements.

## 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

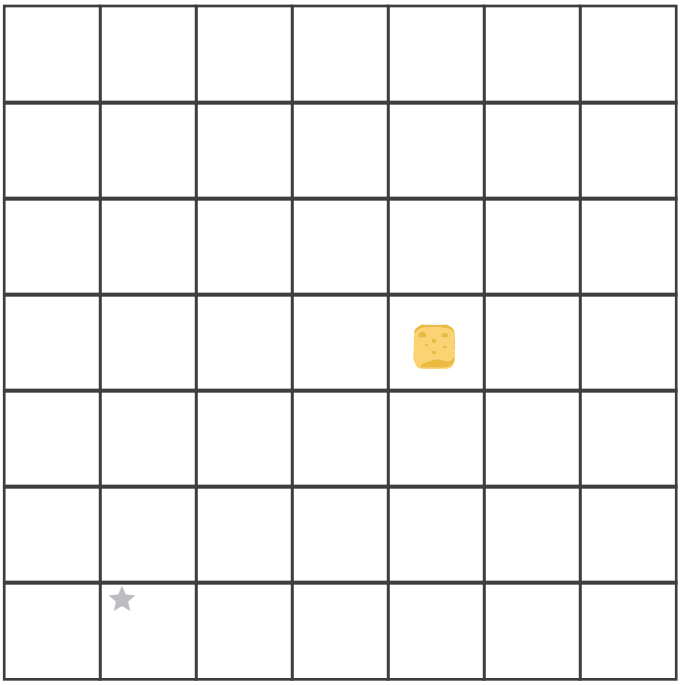
This is a Mouse Bot JavaScript exercise. In Mouse Bot we program the bot to eat the cheese.

## Code Elements

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

## Problems

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



```
1
2
3
4
5
6
7
8
```

# Lesson 9 | Warm Up

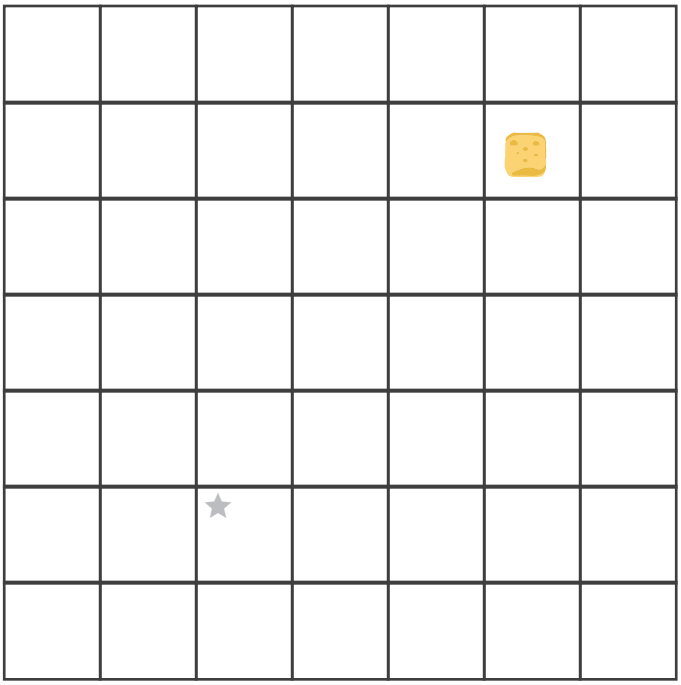
This is a Mouse Bot JavaScript exercise. In Mouse Bot we program the bot to eat the cheese.

## Code Elements

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

## 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
```

# 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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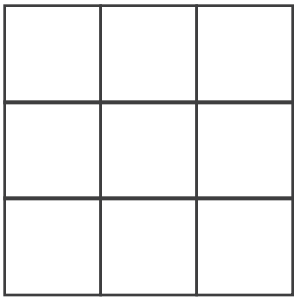
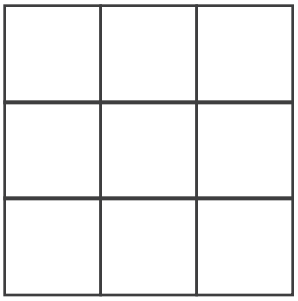
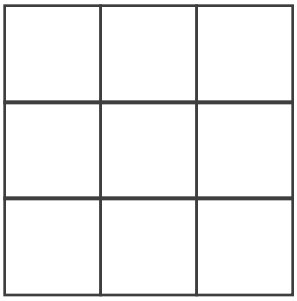
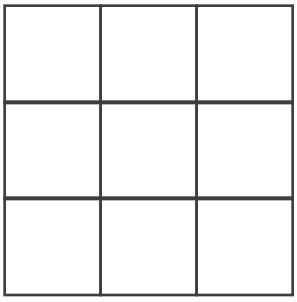
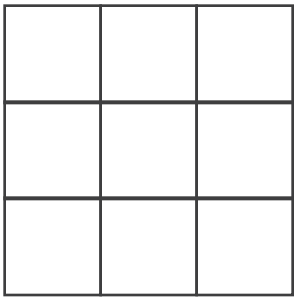
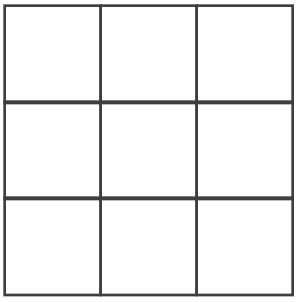
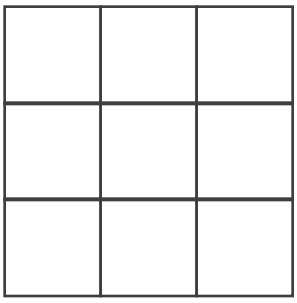
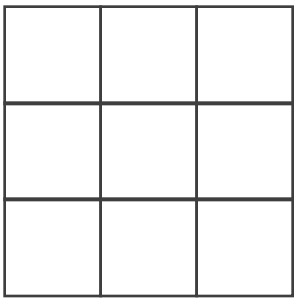
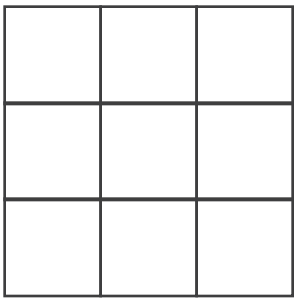
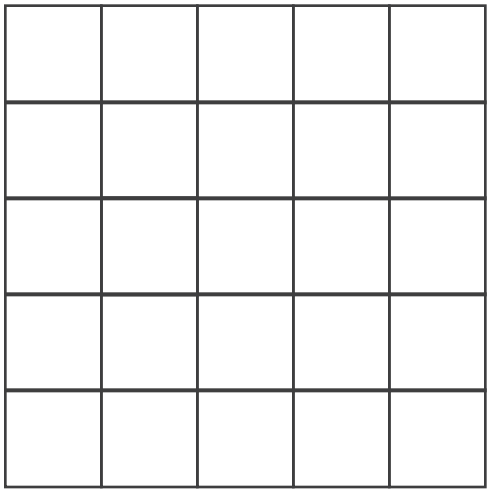
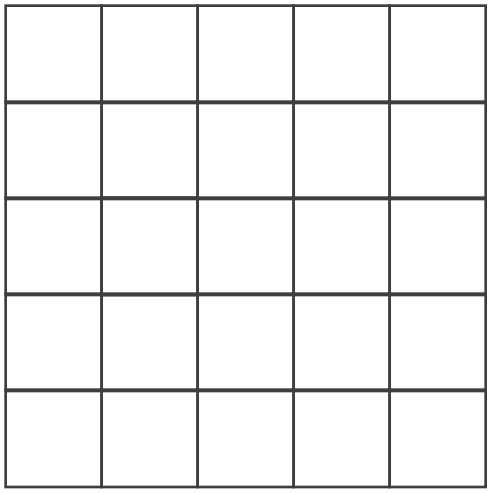
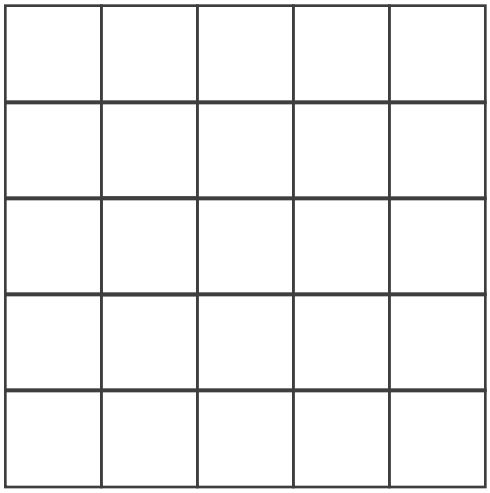
# Small Pixel Grids

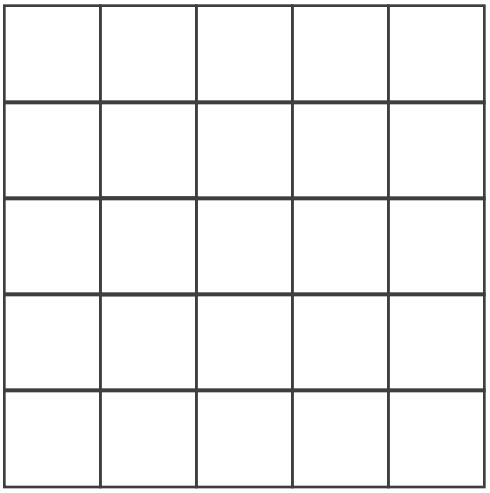










# Medium Pixel Grids

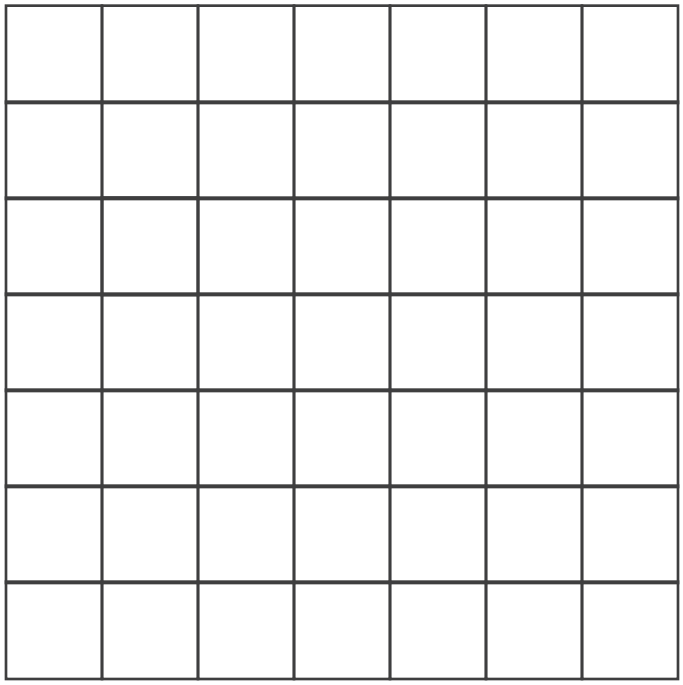


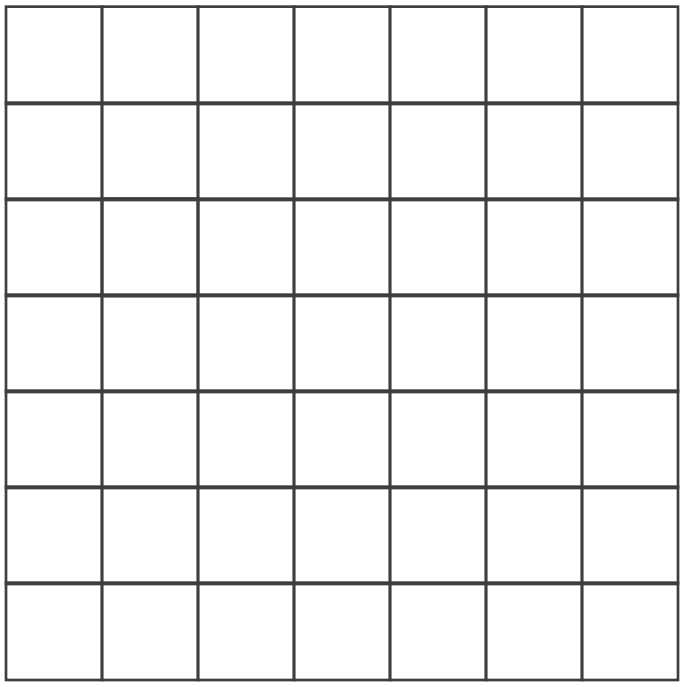




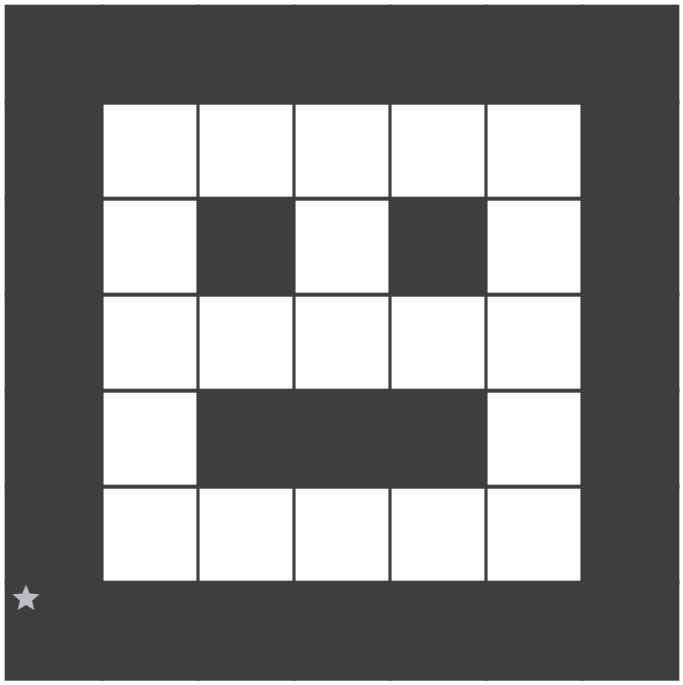


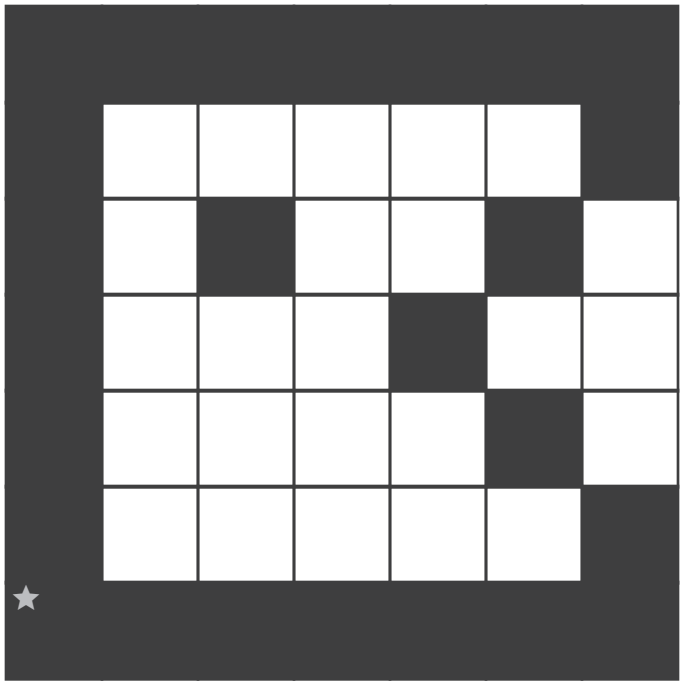
# Large Pixel Grid





# Challenge Problems - 1





# Challenge Problems - 2