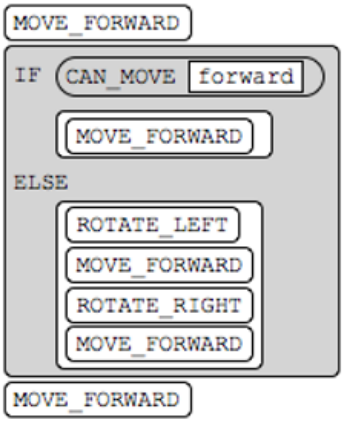
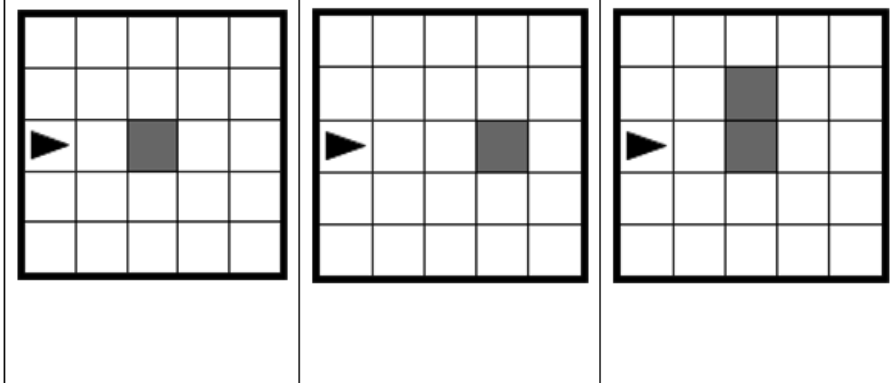
AP Computer Science Principles
Ticket Out the Door
Set 28: If-Else Statements

Name _____ Period _____

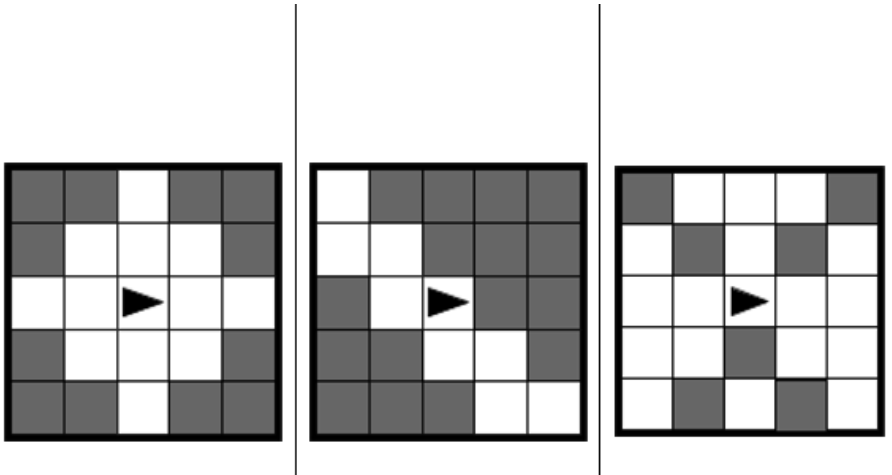
Skill 28.01 Exercises 1 thru 3

Basic If-Statements





```
IF (CAN_MOVE (left))
{
  ROTATE_LEFT ()
  MOVE_FORWARD ()
}
ELSE
{
  ROTATE_RIGHT()
  MOVE_FORWARD ()
}
IF (CAN_MOVE (right))
{
  ROTATE_RIGHT ()
}
ELSE
{
  ROTATE_LEFT ()
}
MOVE_FORWARD ()
```



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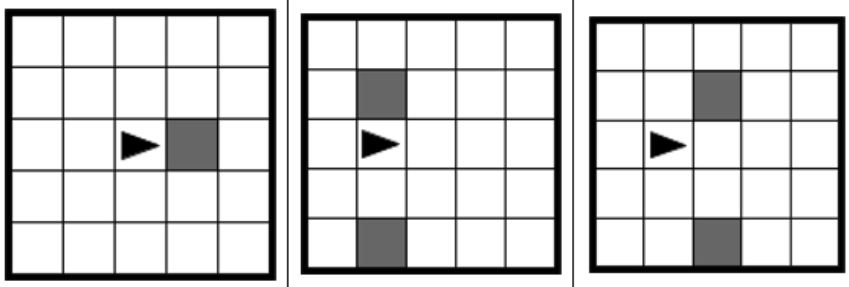
Nested If-Else Statements

```
IF (CAN_MOVE (forward))
{
  IF (CAN_MOVE (left))
  {
    ROTATE_LEFT ()
  }
  ELSE{
    ROTATE_RIGHT ()
}
MOVE_FORWARD ()
}
ELSE
{
  ROTATE_LEFT ()
  ROTATE_LEFT ()
}
MOVE_FORWARD ()
```



Skill 30.02 Exercise 1

Below is the start of a program. Write an if-else statement that checks whether or not someone is old enough to drive. If they are 16 or older, indicate to the user that they are old enough to drive. Otherwise, indicate to the user how long they need to wait until they can drive.

```
var age = prompt("What is your age");
```

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Skill 30.02 Exercise 2

Consider the following students and their corresponding gpa's. Notice their rank is out of order! Write a program that puts the students in the correct order – include else statements this time. The gpa and rank of each student can be accessed using the following syntax: Bart.gpa, Bart.rank

	gpa	**rank**
var Bart	3.5	1
var Bugs	3.8	3
var Kyle	3.1	2

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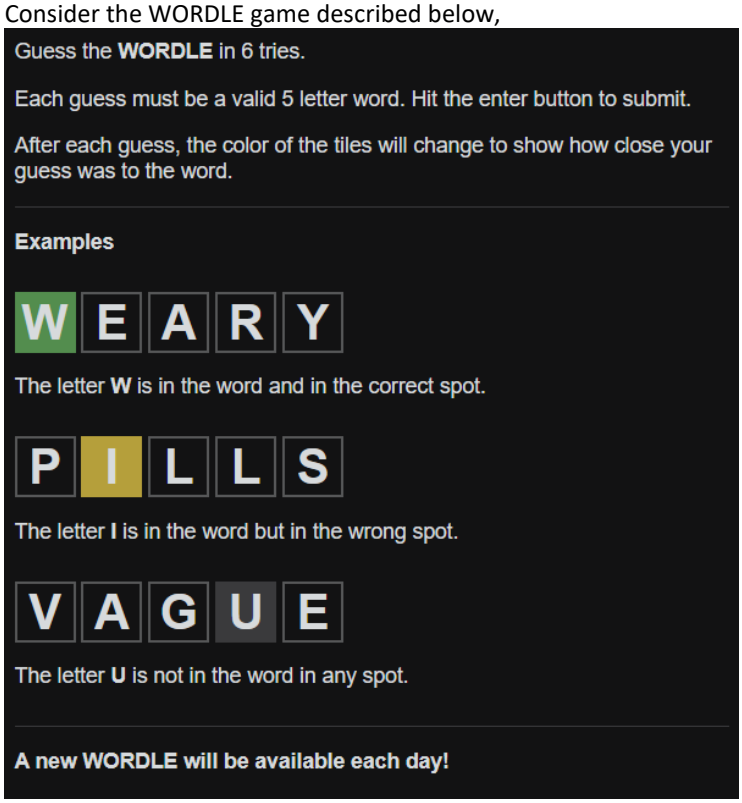
Skill 30.03 Exercise 1

Consider the WORDLE game described below,



The following code can be used to create the first row of letter boxes.

```
var dim = 50;
function makeLetterBox(d, xPos, yPos, id){
var b = document.createElement("div");
b.style.width = d+"px";
b.style.height = d+"px";
b.style.position = "absolute";
b.style.left = xPos + "px";
b.style.top = yPos + "px";
b.style.border = "blue thin solid";
b.style.fontSize = "2em";
b.style.textAlign = "center";
b.style.paddingTop = "5px";
b.style.color = "white";
b.style.innerHTML = "";
b.id = id;
document.body.append(b);
return b;
}
```

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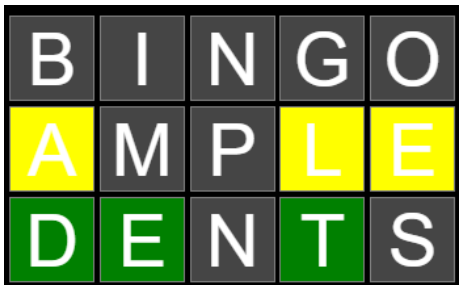
```
var b0 = makeLetterBox(dim, dim*0, dim*0, 0);
var b1 = makeLetterBox(dim, dim*1, dim*0, 1);
var b2 = makeLetterBox(dim, dim*2, dim*0, 2);
var b3 = makeLetterBox(dim, dim*3, dim*0, 3);
var b4 = makeLetterBox(dim, dim*4, dim*0, 4);
```

The code above displays the following.

Below represents possible scenarios when the user types a guess,



The word to guess is defined below,

```
wordToGuess = wordBank[Math.floor(Math.random()*wordBank.length)];
```

Write an algorithm that could be used to check the first letter of the guess. Your algorithm should get the letter from the first box only (innerHTML) and compare it to each letter in the word. If the letter is not in the word, the background of the box should be changed to GRAY. If the letter is in the word, but not in the correct location, the background color of the box should be changed to YELLOW. If the letter is in the word and in the correct location, the box should be changed to GREEN.

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