

# Functions practice

# Defining Simple Methods

```
ReturnType Identifier ( ParameterList ) {  
    Body  
}
```

- `ReturnType` is the type of value returned from the method/function.
- `Identifier` is the name of the method/function.
- `ParameterList` is a list of variables that will be used to pass information into the method. These are called the formal parameters.
- `Body` is a list of statements and declarations describing the action performed by this method.

```
void setup() {  
    size(400,400);  
    background(255);  
}  
  
int xPos = 0;  
int yPos = 0;  
  
void draw() {  
    background(255);  
    drawCircles(xPos % width, yPos % height);  
    xPos++;  
    yPos++;  
}
```

Write the drawCircles function such that one blue circle starts in the bottom right corner and moves to the upper left corner, and one red circle starts from the bottom left corner and moves to the upper right corner. The circles should move at the same speed, and also wrap back around to their starting position once they go off the edge. The circles can have a diameter of 50.

```
void setup() {
    size(400,400);
    background(255);
}

int xPos = 0;
int yPos = 0;
void draw() {
    background(255);
    drawCircles(xPos % width, yPos % height);
    xPos++;
    yPos++;
}

void drawCircles(int x, int y){
    fill(255, 0, 0);
    ellipse(x, height - y, 50,50);
    fill(0,0,255);
    ellipse(width - x, height - y, 50, 50);
}
```

```
//Draw a checkerboard
```

```
int squareWidth;
```

```
int numRows;
```

```
void setup(){
```

```
    size(400,400);
```

```
    numRows = 8;
```

```
    squareWidth = width/numRows;
```

```
}
```

```
void draw(){
```

```
    for(int i = 0;i < numRows;i++){
```

```
        for(int j = 0;j < numRows;j++){
```

```
            if(i < 4){
```

```
                fill(0,255,0);
```

```
            }
```

```
            else{
```

```
                fill(255,0,0);
```

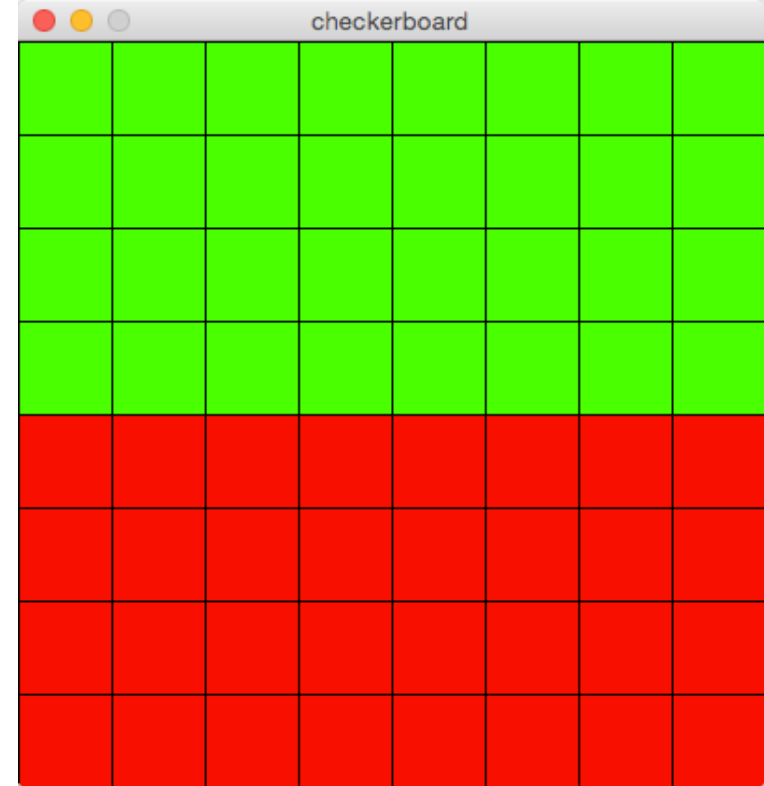
```
            }
```

```
            rect(j*squareWidth,i*squareWidth,squareWidth,squareWidth);
```

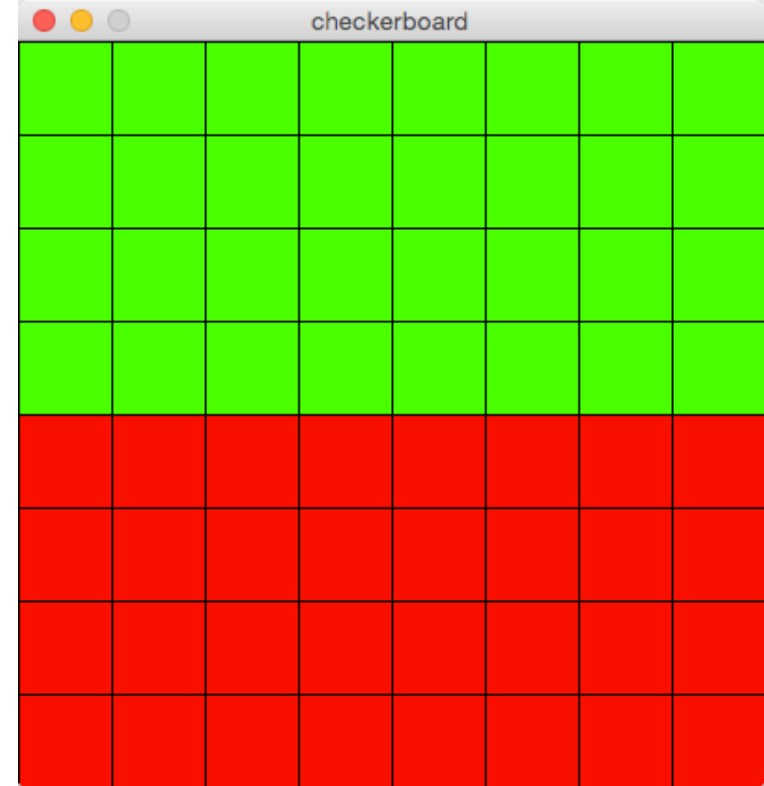
```
        }
```

```
    }
```

```
}
```



```
//Draw a checkerboard
int squareWidth;
int numRows;
void setup(){
    size(400,400);
    numRows = 8;
    squareWidth = width/numRows;
}
void draw(){
    for(int i = 0;i < numRows;i++){
        for(int j = 0;j < numRows;j++){
            if(i < 4)
                drawGreenSquare(j,i);
            else
                drawRedSquare(j,i);
        }
    }
}
```



Write out the functions for drawGreenSquare and drawRedSquare so the program draws what is shown on the screen.

```
void draw(){
    for(int i = 0;i < numRows;i++){
        for(int j = 0;j < numRows;j++){
            if(i < 4)
                drawGreenSquare(j,i);
            else
                drawRedSquare(j,i);
        }
    }
}
```

```
void drawGreenSquare(int x, int y){
    fill(0,255,0);
    rect(x*squareWidth,y*squareWidth,squareWidth,squareWidth);
}
```

```
void drawRedSquare(int x, int y){
    fill(255,0,0);
    rect(x*squareWidth,y*squareWidth,squareWidth,squareWidth);
}
```

