

Arrays: Mouse Trail

In this program we will practice using arrays to create a trail for our mouse. To do this, we need to keep track of the previous positions of our mouse. Then, we need to bump the oldest position off the list, shift all of the values up one, and add the current position on the end.

```
int[] xpos = new int[50];
int[] ypos = new int[50];

void setup() {
  size(800, 600);
}

void draw() {
  background(255);
  shiftTrail();
  addCurrentPosition();
  showTrail();
}

void shiftTrail() {
  // move each value of the list up one
  // this makes room for a new value
  // to be added to the end of the list
  for (int i = 0; i < xpos.length-1; i++) {
    xpos[i] = xpos[i+1];
    ypos[i] = ypos[i+1];
  }
}

void addCurrentPosition() {
  // Update the last spot in the array with the mouse location.
  xpos[xpos.length-1] = mouseX;
  ypos[ypos.length-1] = mouseY;
}

void showTrail() {
  for (int i = 0; i < xpos.length; i++) {
    // color gets darker and size gets bigger for each item in list
    noStroke();
    fill(255-i*5);
    circle(xpos[i], ypos[i], i);
  }
}
```

Challenges

- Try changing the size of the trail.
- Make the trail fade slower or faster.