University of Idaho

Moscow, ID

Camp…

- Learning and using JAVA through a Processing IDE
- Taught by U of I professors
- Monitored and sponsored by the National Security Association

Cyber Security

vs.

JAVA Programming

Processing?

IDE

- Integrated Development Environment
- A different form of Eclipse

rainbow_dots | Processing 3.1.1

File Edit Sketch Debug Tools Help

Java ▾

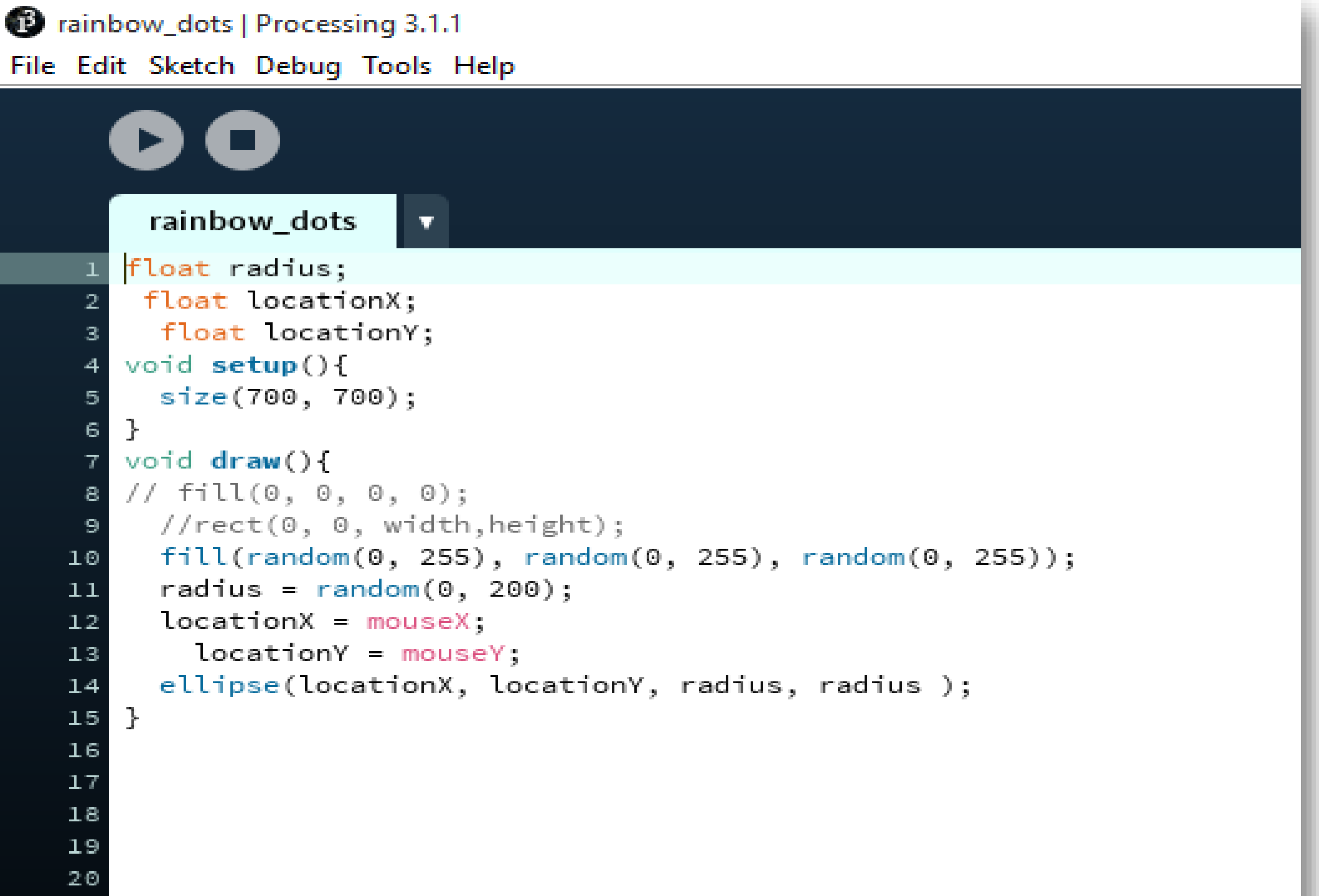
rainbow_dots ▾

```
float radius;
 float locationX;
  float locationY;
void setup(){
  size(700, 700);
}
void draw(){
// fill(0, 0, 0, 0);
  //rect(0, 0, width,height);
  fill(random(0, 255), random(0, 255), random(0, 255));
  radius = random(0, 200);
  locationX = mouseX;
    locationY = mouseY;
  ellipse(locationX, locationY, radius, radius );
}
```

Console Errors

Search the web and Windows

12:48 PM
9/2/2016


rainbow_dots | Processing 3.1.1
File Edit Sketch Debug Tools Help
rainbow_dots
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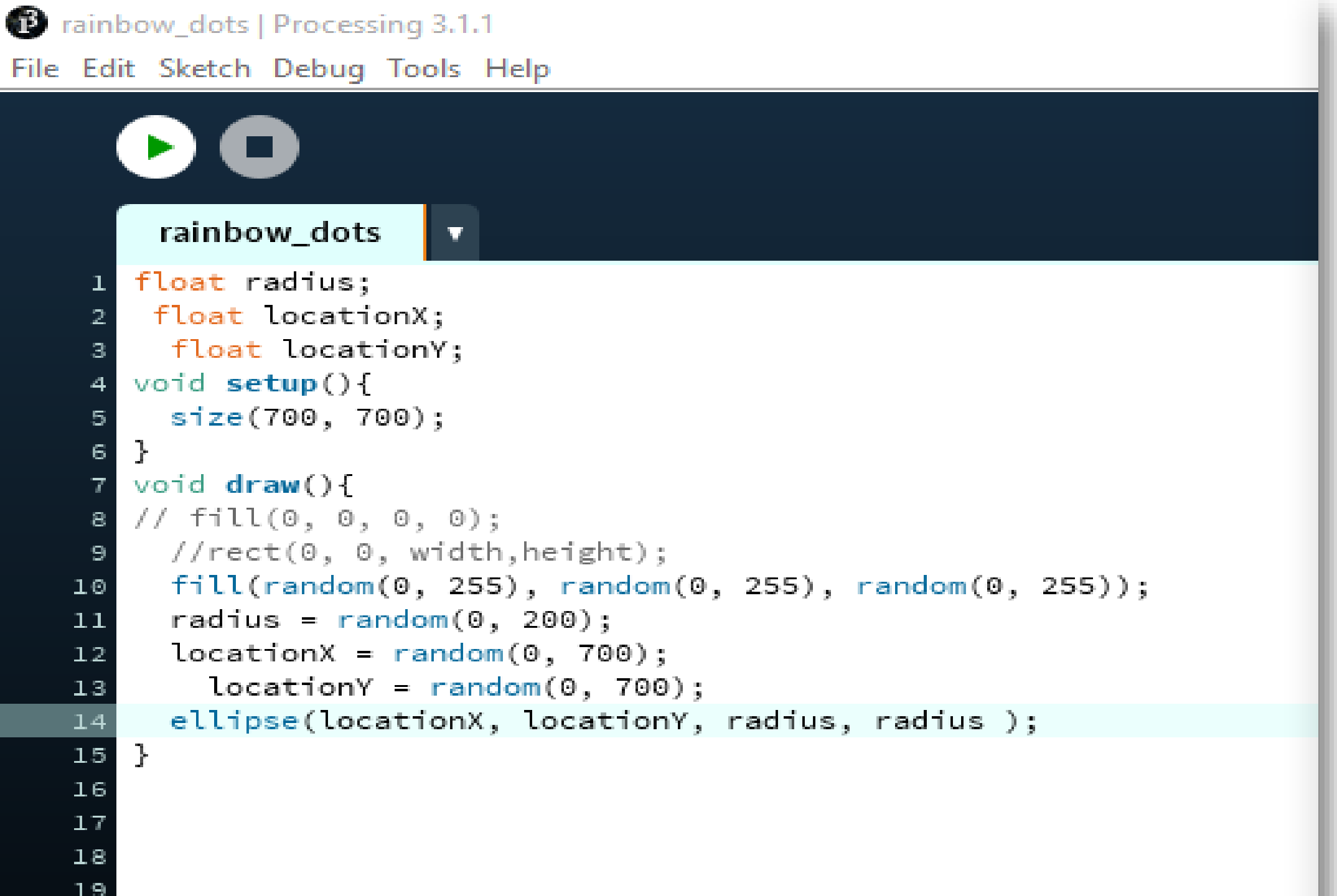
//rect(0, 0, width,height);
fill(random(0, 255), random(0, 255), random(0, 255));
radius = random(0, 200);
locationX = mouseX;
locationY = mouseY;
ellipse(locationX, locationY, radius, radius);
}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//rect(0, 0, width,height);
fill(random(0, 255), random(0, 255), random(0, 255));
radius = random(0, 200);
locationX = random(0, 700);
locationY = random(0, 700);
ellipse(locationX, locationY, radius, radius);
}

rainbow_dots | Processing 3.1.1

File Edit Sketch Debug Tools Help

rainbow_dots

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float radius;
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void setup(){
  size(700, 700);
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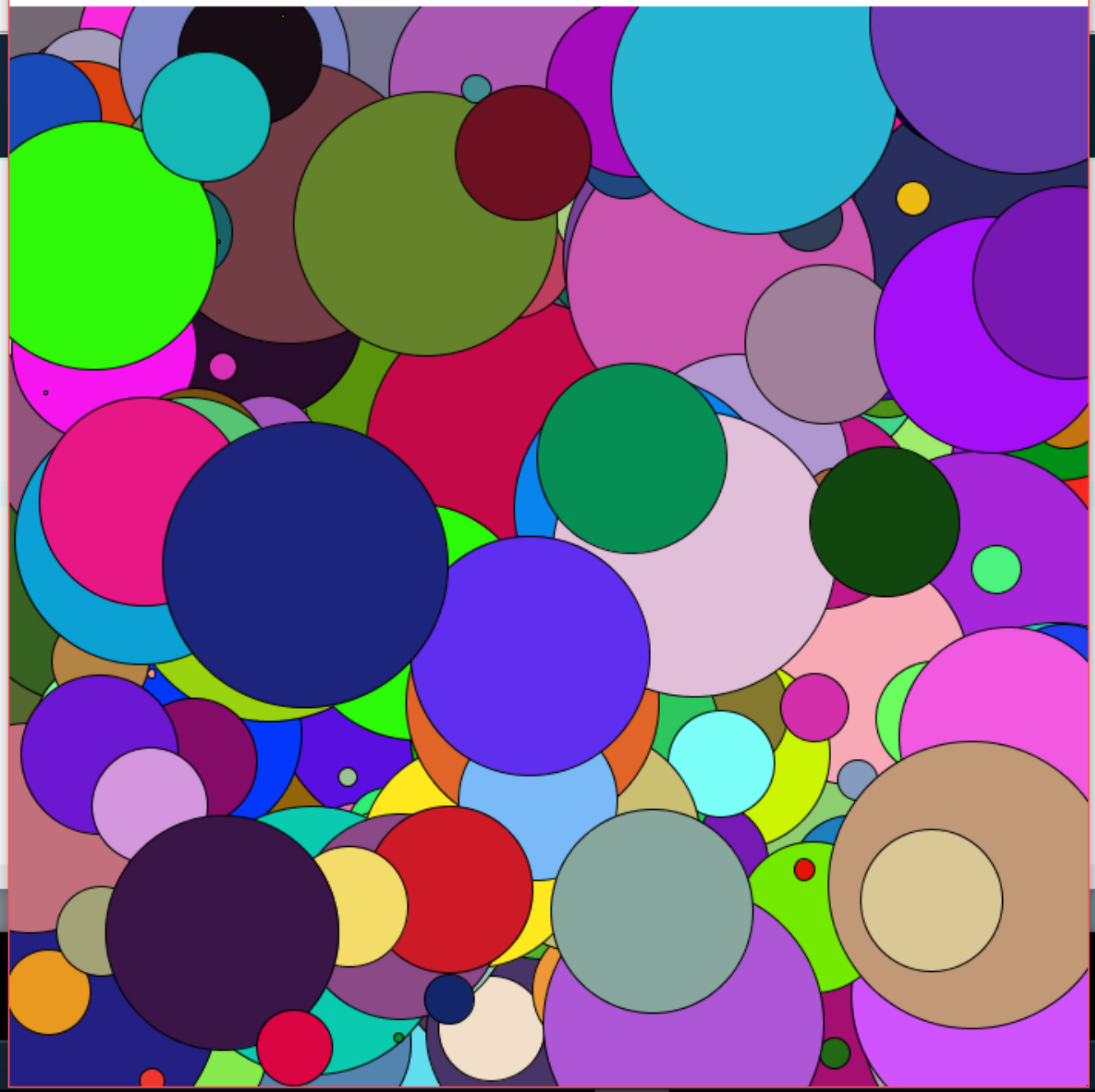
  locationX = random(0, 700);
    locationY = random(0, 700);
  ellipse(locationX, locationY, radius, radius );
}
```

Console Errors

rainbow_dots



Search the web and Windows

6:22 PM
9/1/2016

rainbow_dots | Processing 3.1.1

File Edit Sketch Debug Tools Help

rainbow_dots

```
float radius;
 float locationX;
  float locationY;
void setup(){
  size(700, 700);
}
void draw(){
// fill(0, 0, 0, 0);
  //rect(0, 0, width,height);
  fill(random(0, 255), random(0, 255), random(0, 255));
  radius = random(0, 200);
  locationX = random(0, 700);
    locationY = random(0, 700);
  ellipse(locationX, locationY, 100, 100 );
}
```

rainbow_dots | Processing 3.1.1

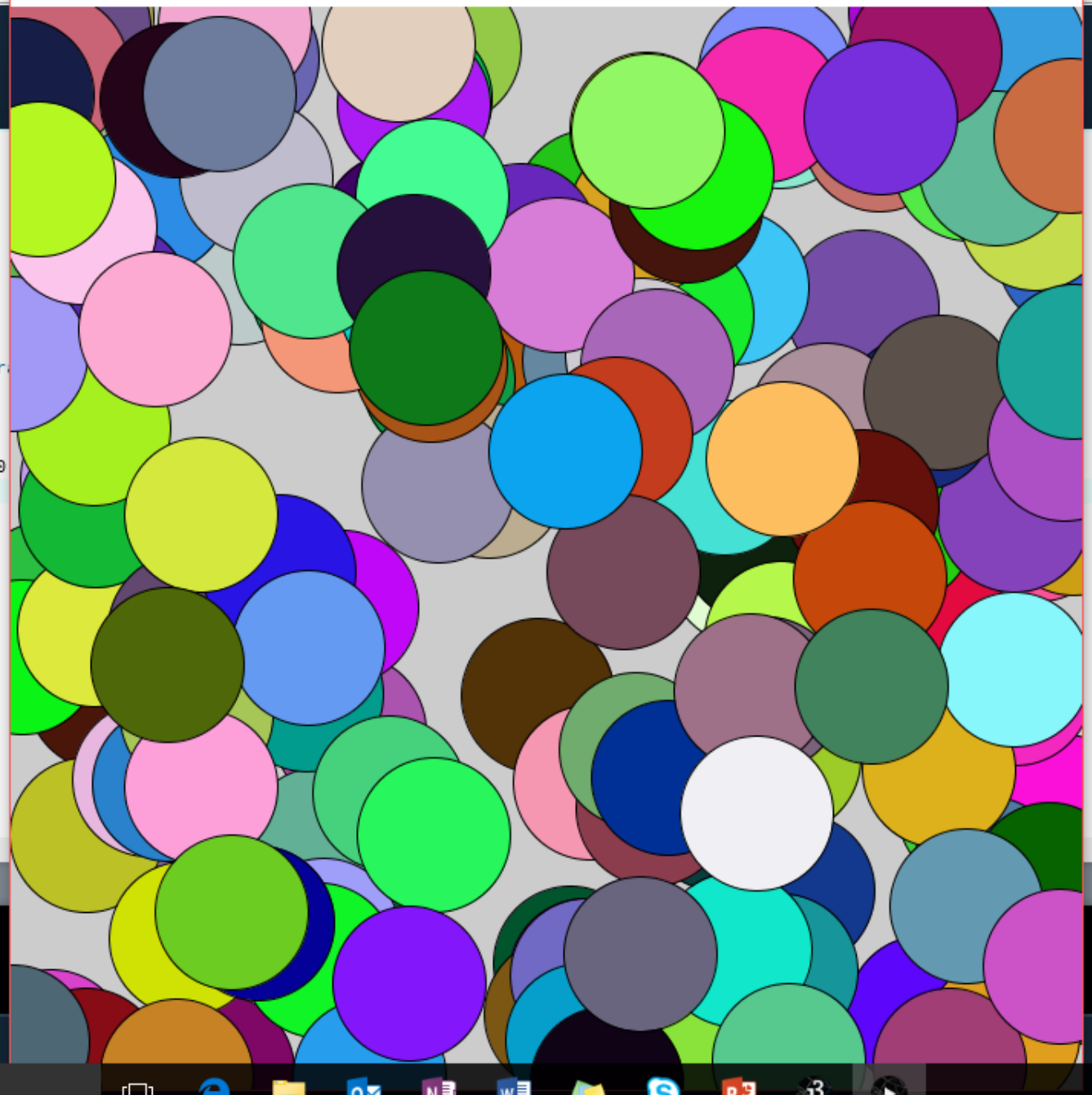
File Edit Sketch Debug Tools Help

Java ▾

rainbow_dots

```
float radius;
 float locationX;
  float locationY;
void setup(){
  size(700, 700);
}
void draw(){
// fill(0, 0, 0, 0);
  //rect(0, 0, width,height);
  fill(random(0, 255), random(0, 255), r
  radius = random(0, 200);
  locationX = random(0, 700);
    locationY = random(0, 700);
  ellipse(locationX, locationY, 100, 100
}
```

rainbow_dots



Console Errors

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6:21 PM
9/1/2016

rainbow_dots | Processing 3.2.1

File Edit Sketch Debug Tools Help

rainbow_dots

```
float radius;
 float locationX;
  float locationY;
void setup(){
  size(700, 700);
}
void draw(){
// fill(0, 0, 0, 0);
  //rect(0, 0, width,height);
  fill(random(0, 255), random(0, 255), random(0, 255));
  radius = random(0, 200);
  locationX = random(0, 700);
    locationY = random(0, 700);
  ellipse(locationX, locationY, mouseX, mouseY );
}
```

rainbow_dots | Processing 3.2.1

File Edit Sketch Debug Tools Help

Java ▾

rainbow_dots

```
float radius;
 float locationX;
  float locationY;
void setup(){
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}
void draw(){
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  radius = random(0, 200);
  locationX = random(0, 700);
    locationY = random(0, 700);
  ellipse(locationX, locationY, mouseX, mouseY );
}
```

Console Errors

rainbow_dots

Search the web and Windows

10:25 AM
8/31/2016

rainbow_dots | Processing 3.2.1

File Edit Sketch Debug Tools Help

Java ▾

rainbow_dots

```
float radius;
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void setup(){
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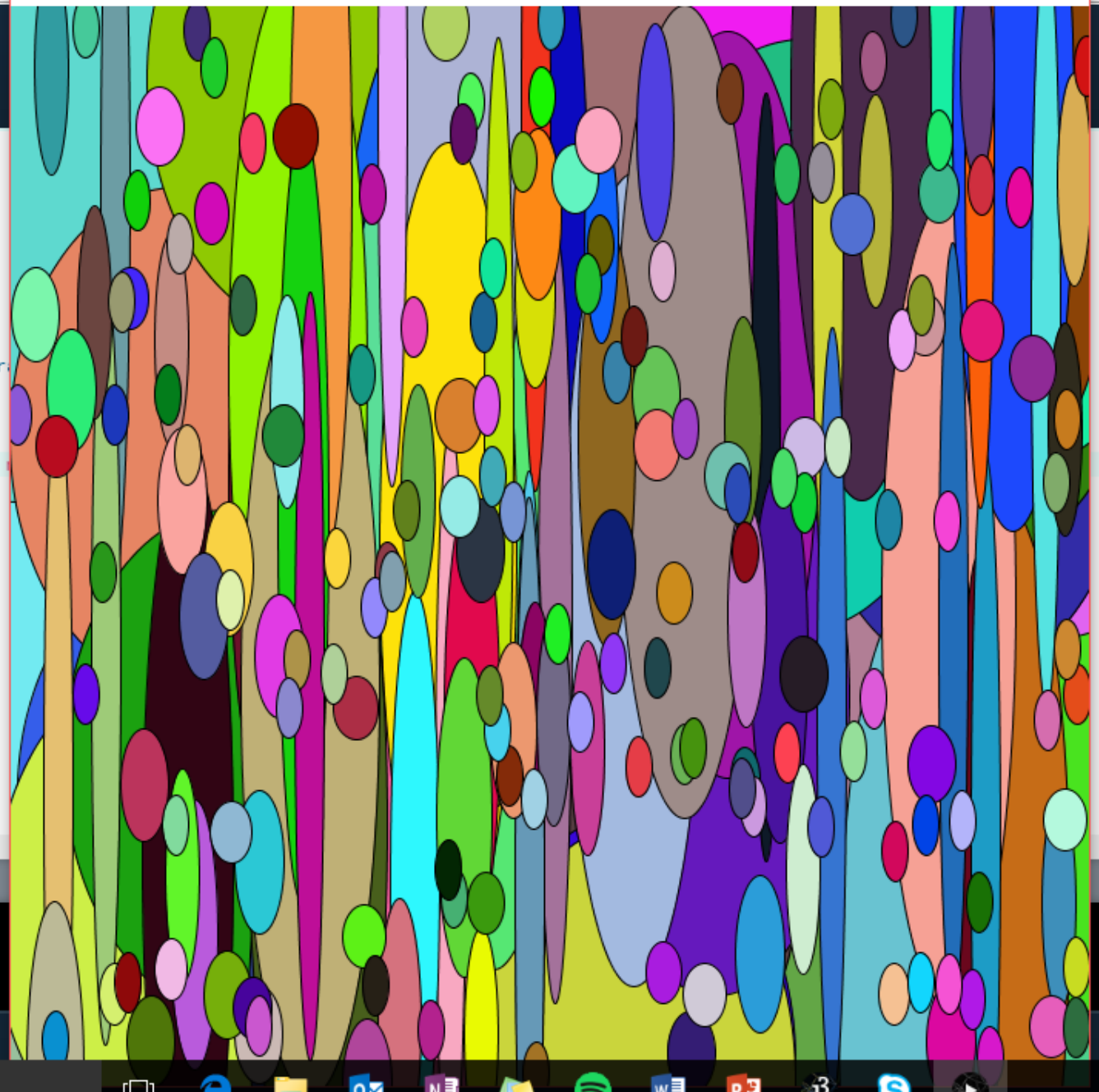
}
void draw(){
// fill(0, 0, 0, 0);
  //rect(0, 0, width,height);
  fill(random(0, 255), random(0, 255), r
  radius = random(0, 200);
  locationX = random(0, 700);
    locationY = random(0, 700);
  ellipse(locationX, locationY, mouseX,
}
```

rainbow_dots



Console Errors

Search the web and Windows

10:24 AM
8/31/2016

Processing:

- Graphics based IDE – made to create 2D or 3D shapes/effects
- Println()
- compiled

Eclipse:

- Lots of variety and add-ons
- One of the most common Java IDEs
- System.out.println();
- compiled

BUT!!

- Both programs have an easy to use API guide
- Both programs have the same basic Java resources: variable, functions, classes, etc.

Patch | Processing 3.1.1

File Edit Sketch Debug Tools Help

Java ▾

Patch ▾

```
// Bezier patch By Maritus Watz:
// http://www.openprocessing.org/sketch/57709
// Normal calculation added by Andres Colubri
// Direct port of sample code by Paul Bourke.
// Original code: http://paulbourke.net/geometry/bezier/

int ni=4, nj=5, RESI=ni*10, RESJ=nj*10;
PVector outp[][], inp[][];
PVector normp[][];
boolean autoNormals = false;

void setup() {
  size(1024, 768, P3D);
  build();
}

void draw() {
  background(255);
  translate(width/2,height/2);
  lights();
  scale(0.9);
  rotateY(map(mouseX,0,width,-PI,PI));
  rotateX(map(mouseY,0,height,-PI,PI));

  noStroke();
  fill(255);
  for(int i=0; i<RESI-1; i++) {
    beginShape(QUAD_STRIP);
```

The sketch has been automatically resized to fit the screen resolution

Console Errors

https://gencyber.camp/