

宿題

- 4.1. Ballクラスを拡張して, 星形が弾むクラスを作れ.
- 4.2 漢数字を好きな言語に翻訳する
NumberTrans.pde を書け.
 - 二 一 二 三 = two one two three

宿題4.1 解答例

■ Bouncing.pde

```
1.  Star tris[] = new Star[5];
2.  void setup() {
3.    size(400, 400);
4.    for (int i = 0; i < tris.length; ++i) {
5.      tris[i] = new Star(width/2, 0);
6.    }
7.  }

8.  void draw() {
9.    background(255);
10.   for (Star b: tris) {
11.     b.move();
12.     b.display();
13.   }
14. }
```

```
15. void mousePressed() {
16.   for (Star b: tris) {
17.     if (b.isFinished()) return;
18.   }
19. }
20. void display() {
21.   if (life == 0) return;
22.   --life;
23.   fill(0, life);
24.   triangle(x, y-w, x+w, y+w/2, x-
25.     w, y+w/2);
26.   triangle(x, y+w, x+w, y-w/2, x-
27.     w, y-w/2);
28. }
```

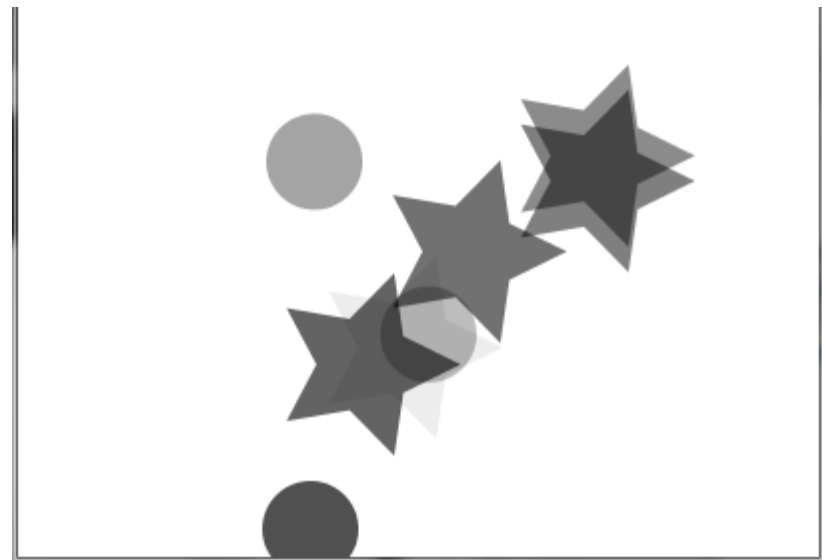


宿題4.1 ☆別解

■ Star.pde

```
1. class Star extends Ball {
2.   Star(int x, int y) {
3.     super(x, y);
4.   }
5.   void display() {
6.     if (life == 0) return;
7.     --life;
8.     fill(0, life);
9.     float t = 2*PI/5;
10.    float s = 2*PI/10;
11.    float z = w/2;
12.    pushMatrix();
13.    translate(x, y);
14.    beginShape();
15.    vertex(w * cos(0), w * sin(0));
16.    vertex(z * cos(t*0+s), z * sin(t*0+s));
17.    vertex(w * cos(t*1), w * sin(t*1));
18.    vertex(z * cos(t*1+s), z * sin(t*1+s));
19.    vertex(w * cos(t*2), w * sin(t*2));
```

```
20.    vertex(z * cos(t*2+s), z * sin(t*2+s));
21.    vertex(w * cos(t*3), w * sin(t*3));
22.    vertex(z * cos(t*3+s), z * sin(t*3+s));
23.    vertex(w * cos(t*4), w * sin(t*4));
24.    vertex(z * cos(t*4+s), z * sin(t*4+s));
25.    endShape();
26.    popMatrix();
27.  }
28. }
```



宿題4.2 解答例

■ NumberTrans.pde

```
1. dic.set("一", "I");
2. dic.set("二", "II");
3. dic.set("三", "III");
4. dic.set("四", "IV");
5. dic.set("五", "V");
6. dic.set("六", "VI");
7. dic.set("七", "VII");
8. dic.set("八", "VIII");
9. dic.set("九", "IX");
10. dic.set("十", "X");
```

```
11. println(dic);
12. String s[] = {"二", "一", "三", "三"};
13. print(join(s, " ") + " =");
14. for(int i = 0; i < s.length; ++i){
15.   print(dic.get(s[i]) + " ");
16. }
```

```
二 一 二 三 = II I II III
```