

Lecture 12: Loops Worksheet

1) When the following loops execute, how many times do they print "Duck"?

```
int i=0;
while (i <= 3) {
  println("Duck");
  i = i + 1;
}
println("Goose");

// How many ducks? _____
```

```
int i = 1;
while (i < 10) {
  println("Duck");
  i = i + 3;
}
println("Goose");

// How many ducks? _____
```

2) Fill in the table below detailing what happens on every iteration of the loop:

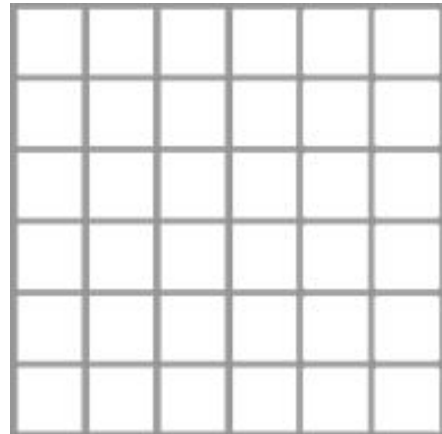
```
int v = 1;
while (v != -5) {
  rect(10*v, 10*v, 20, 20);
  v = -2*v+1;
}
```

Iteration	v	Condition	Executed
1	1	true	rect(10, 10, 20, 20);
2			
3			
4			

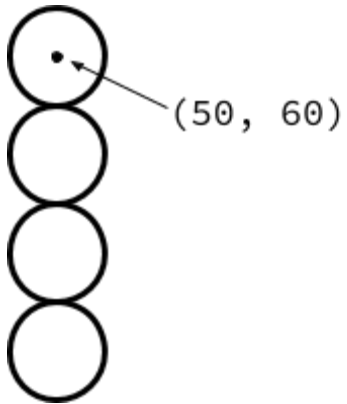
3) Given the loop below, draw the result on the grid using Processing's coordinate system:

```
noFill();
int i = 1;
while (i <= 3) {
  rect( 2*i-1, i, 4-i, 4-i );
  i = i + 1;
}
```

(0,0)



4) Complete the loop below to draw the 4 circles of *radius* 30 shown in the image:



```
int c = _____;  
while (c ___ _____) {  
    _____;  
    c = _____;  
}
```