

Winter 2013 Quiz 3

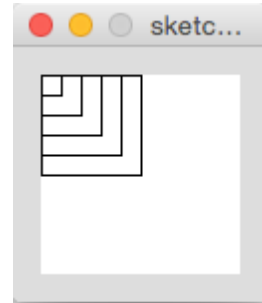
- 1.) Which static Processing sketch/program below reproduces the image to the right? It is the default 100x100 and does not change. The small square in the upper left corner is 10x10.

```
background(255); // Choice A
noFill();
for(int i = 0; i <= width/2; i = i + 10){
  rect(0,0,i,i);
}
```

```
background(255); // Choice B
for(int i = width/2; i > 0; i = i - 10){
  rect(0,0,i,i);
}
```

```
background(255); // Choice C
noFill();
int i = 0;
while(i <= width/2){
  rect(0,0,i,i);
  i = i + 10;
}
```

- D. All of A-C create the image.
E. None of A-C create the image.



- 2.) How many points are drawn by the following program? A.0 B.3 C.11 D.40 E. More than 40

```
for(int i = 1; i <= 40; i = i + 1){
  if(i % 11 == 0)
    point(i , i);
}
```

- 3.) What does this program print? The function print() is like println() except that it does not print a new line character after printing the value so if more than one of the print() statements execute all output will be on one line. WARNING! The indenting MAY be misleading.

```
int x = 10, y = 20, z = 30;
if (x == y)
  print("A");
  if (x < z)
    print("B");
else
  print("C");
```

- A. A
B. B
C. C
D. AB
E. AC

- 4.) How many rectangles are drawn?

```
int yPos = 0;
while (yPos != 50) {
  rect(yPos, yPos, 20, 40);
  yPos = yPos + 10;
}
```

- A. 0
B. 4
C. 5
D. 50
E. more than 50

- 5.) What expression can you put in the blank so this program shows a circle falling from the top center to the middle then stopping when it reaches the center of the display?

```
void draw(){
  background(120);
  ballY = ballY + _____;
  ellipse(width/2, ballY, ballDia, ballDia);
}
```

- A. frameCount/(height/2)
B. frameCount%(height/2)
C. (1-(ballY/(height/2)))
D. (1-(frameCount/height))
E. ballY/(height/2)

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6.) What does the following print?

```
for(int i = 1; i <= 4; ++i){
    print(i);
}
```

- | |
|---------|
| A. 123 |
| B. 234 |
| C. 1234 |
| D. 2345 |

7.) How many rectangles are drawn by the following processing sketch?

```
int i = 0;
if (i < 100){
    rect(i, i, 10, 10);
    i = i + 10;
}
```

- | |
|------------------|
| A. 0 |
| B. 1 |
| C. 10 |
| D. 100 |
| E. more than 100 |

8.) Which answer applies to this program?

```
int counter = 0;
void draw(){
    background(255);
    int xPos = width - counter*width;
    fill(0, 255, 0);
    ellipse(xPos, 25, 5, 5);
    fill(255, 0, 0);
    ellipse((2*counter)%width, 75, 5, 5);
    counter = counter + 1;
}
```

- | |
|--|
| A. The red circle is moving faster than the green circle |
| B. The red one is moving left to right and the green one right to left |
| C. Both A and B |
| D. Neither of A nor B |

9.) What is printed at the start of the second frame of this program?

```
int lengthOfCar = 200;
int carBodyHeight = lengthOfCar/4;
int wheelDiameter = lengthOfCar/4;
void draw(){
    println(lengthOfCar);
    println(carBodyHeight);
    println(wheelDiameter);
    // some code here to do the actual drawing
    lengthOfCar = lengthOfCar - 1; // shrink the car
}
```

A. 200 50 50	B. 199 50 50
C. 199 49.75 49.75	C. 199 49 49

10.) Pick the answer that best describes what is displayed by the following Processing sketch.

```
void setup(){
    size(400, 400);
    frameRate(10);
}
int maxXY = 0;
void draw(){
    background(255);
    if (maxXY > mouseX || maxXY > mouseY) maxXY = 0;
    for(int col = 0; col < maxXY; col = col + 10){
        for(int row = 0; row < maxXY; row = row + 10){
            rect(row, col, 10, 10);
        }
    }
    maxXY = maxXY + 10;
}
```

- A rectangular area filled with small squares with the lower right corner of the filled area near the current mouse position.
- A square area filled with small squares with the lower right corner of the filled area near (min(mouseX, mouseY), min(mouseX, mouseY)).
- A square area filled with small squares with the lower right corner of the filled area near (max(mouseX, mouseY), max(mouseX, mouseY)).
- A square area filled with small squares. The filled area starts with zero squares then increases in size each frame until it fills an area with the lower right corner of the filled area near (min(mouseX, mouseY), min(mouseX, mouseY)), then it starts over again with just one square.
- A square area filled with small squares. The filled area starts with zero squares then increases in size each frame until it fills an area with the lower right corner of the filled area near (max(mouseX, mouseY), max(mouseX, mouseY)), then it starts over again with just one square.