

Chapter 7

Methods practice

//What does the following program print?

```
void setup() {
    int x = 5;
    it = x;
    printIt();
    it = 7;
    printIt();
    printIt();
}

int it;

void printIt() {
    println(it);
    it = 0;
}
```

//What does the following program print?

```
void setup() {  
    int x = 5;  
    printVal(x);  
    printVal(7);  
    println(x);  
}  
void printVal(int x) {  
    println(x);  
    x = 0;  
}
```

// What is printed by the following program?

```
void setup() {
    func1(1);
    func2(2);
    func2(func3(3));
}

void func1(int x) {
    println("func1 " + x);
}

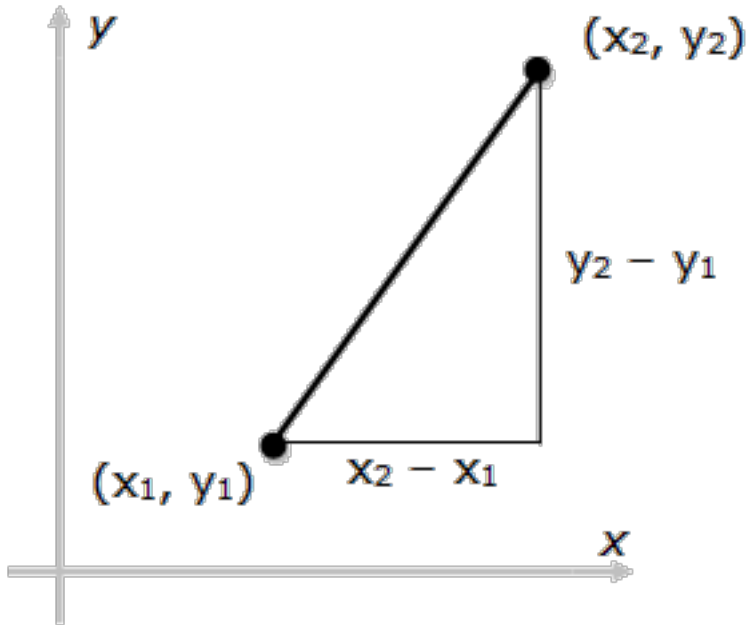
void func2(int x) {
    println("start func2");
    func1(x);
    println("end func2");
}

int func3(int x) {
    println("func3 " + x);
    return x*10;
}
```

Write a function that computes x^n . Assume that both x and n are integers and that n is greater than or equal to 0. The function should return a value (e.g. like the `dist()` function) and not print anything.

```
// Program to compute  $x^n$ 
void setup() {
    println(exp(3,4));
}
int exp(int x, int n) {
    int result = 1;
    while (n > 0) {
        result = result * x;
        n--;
    }
    return result;
}
```

Write a function called distance that computes the distance between two points. The function should take 4 parameters (all integers), and return the distance between the two points as a floating point value. Remember the Pythagorean theorem.



$$\text{distance} = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

// What is printed by the following program?

```
void setup() {  
    println(distance(0,0,10,10));  
}  
  
float distance(int x1, int y1, int x2, int y2) {  
    return sqrt((x2-x1)*(x2-x1) + (y2-y1)*(y2-y1));  
}
```

//Alternate solution:

```
/*  
  
float distance(int x1, int y1, int x2, int y2) {  
    return sqrt(sq(x2-x1) + sq(y2-y1));  
}  
  
*/
```