Examples

WEEK 6

Methods – 2 ERRORS???

```
public class test3 {
        public static void main(String[] args) {
                nPrintln(5, "Welcome to Java!");
        }

        public static void nPrintln(String message, int n) {
                int n = 1;
                for (int i = 0; i < n; i++)
                System.out.println(message);
        }
}
```

Argument order is wrong they have to be swapped.

Variable n is already declared. Should be deleted.

Methods – 4 ERRORS???

invalid method declaration; return type required error, so add a return type

<identifier> expected error, so int data type for parameter m is added

```
public class Test {
        public static   method1(int n ,  m)  {
                n += m;
                method2(3.4);
        }

        public static int method2(int n)  {
                if (n > 0)  return 1;
                else if (n == 0)  return 0;
                else if (n < 0)  return -1;
        }
}
```

```
public class Test {
        public static void method1(int n, int m)  {
                n += m;
                method2(3);
        }

        public static int method2(int n)  {
                if (n > 0)  return 1;
                else if (n == 0)  return 0;
                else return -1;
        }
```

incompatible type error, so change the value to integer

Missing return statement error, so deleted

Passing Arguments by Values – OUTPUT???

```java
public class Test {
        public static void main(String[] args) {
                int i = 0;
                while (i <= 4) {
                        method1(i);
                        i++;
                }
                System.out.println("i is " + i);
        }
        public static void method1(int i) {
                do {
                        if (i % 3 != 0)
                                System.out.print(i + " ");
                        i--;
                } while (i >= 1);
                System.out.println();
        }
}
```

Output:

```
1
2 1
2 1
4 2 1
i is 5
```

EXERCISE

- Re-code the Prime number problem by using the below two method headers:
  - `public static void printPrimeNumbers( int numOfPrimes )`
  - `public static boolean isPrime( int number)`

```
public class PrimeNumberMethod {
  public static void main(String[] args) {
    System.out.println("The first 50 prime numbers are \n");
    printPrimeNumbers(50);
  }

  public static void printPrimeNumbers(int numberOfPrimes) {

  }

  /** Check whether number is prime */
  public static boolean isPrime(int number) {

  }
}
```

```java
public class PrimeNumber {
  public static void main(String[] args) {
    final int NUMBER_OF_PRIMES = 50; // Number of primes to display
    final int NUMBER_OF_PRIMES_PER_LINE = 10; // Display 10 per line
    int count = 0; // Count the number of prime numbers
    int number = 2; // A number to be tested for primeness
    System.out.println("The first 50 prime numbers are \n");
    // Repeatedly find prime numbers
    while (count < NUMBER_OF_PRIMES) {
      // Assume the number is prime
      boolean isPrime = true; // Is the current number prime?
      // Test if number is prime
      for (int divisor = 2; divisor <= number / 2; divisor++) {
        if (number % divisor == 0) { // If true, number is not prime
          isPrime = false; // Set isPrime to false
          break; // Exit the for loop
        }
      }
      // Print the prime number and increase the count
      if (isPrime) {
        count++; // Increase the count
        if (count % NUMBER_OF_PRIMES_PER_LINE == 0) {
          // Print the number and advance to the new line
          System.out.println(number);
        }
        else
          System.out.print(number + " ");
      }
      // Check if the next number is prime
      number++;
    }
  }
}
```

Prime Numbers by Method

Intro to Java Programming, Y. Daniel Liang - PrimeNumberMethod.java (pearsoncmg.com)