

# TAE Coding Java Review

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## 1. First Program

### 1.1 HelloWorld Java Program

### 1.2 Declarationg and assignment

### 1.3 built-in functions

example	return type	value
Integer.parseInt("123")		
Double.parseDouble("1.2")		
Math.sqrt(3 * 3 + 4 * 4)		
Math.random()		
Math.round(3.141592)		
Math.max(1,5)		

### 1.4 type conversion

example	return type	value
(1 + 2) / 2.0		
Math.sqrt(4)		
"12" + 1		

example	return type	value
2 * 0.5		
(int)2 * 0.5		
2 * (int)0.5		
(int)(2 * 0.5)		

## 2. Flow control [Conditionals, loops]

### 1.1 absolute value of x

### 2.2 put the smaller value in x and the larger value in y

### 2.3 maximum of x and y

### 2.4 computes the largest power of 2 that is less than or equal to a given positive integer n.

### 2.5 compute a sum: $1 + 2 + 3 \dots + n$

2.6 compute a finiter product:  $1 * 2 * 3 * \dots * n$

### 3. Arrays

3.1 print the array, "a", one value per line

3.2 create an array, "a" with double n random values

3.3 find the maximum of the array values

3.4 compute the average of the array values

3.5 reverse the values within an array

3.6 copy sequence of values to another array

## 4. Function

4.1 Write a static method `max3()` that takes three int arguments and returns the value of the largest.

4.2 Write a main function that read 10 integers from a file called `file.in`

