^_^ CSE 121 Final Exam Reference Sheet ^_^

(DO NOT WRITE ANY WORK YOU WANTED GRADED ON THIS REFERENCE SHEET. IT WILL NOT BE GRADED)

Examples of declaring and using arrays and 2D arrays

```
type[] name = new type[length];
type[] name = new type[] {VAL1, VAL2, VAL3, …};
type[] name = {VAL1, VAL2, VAL3, …};
name[index] = value;
name.length; // Number of elements in array

type[][] name = new type[numRows][numCols];
type[][] name = new type[][] {
                        {VAL1, VAL2, VAL3, …},
                        …
                        {VAL4, VAL5, VAL6, …}
                    };
name[rowNum][colNum] = value;
name.length; // Number of rows in the 2D array
name[0].length; // Number of columns in a row of the 2D array
```

String Method	Description
`charAt(i)`	Returns character in this String at index `i`
`contains(str)`	Returns `true` if this String contains `str` inside it, returns `false` otherwise
`startsWith(str)`	Returns `true` if this String starts with `str`, returns `false` otherwise
`endsWith(str)`	Returns `true` if this String ends with `str`, returns `false` otherwise
`equals(str)`	Returns `true` if this String is the same as `str`, returns `false` otherwise
`equalsIgnoreCase(str)`	Returns `true` if this String starts with `str` ignoring capitalization, returns `false` otherwise
`indexOf(str)`	Returns the first index this String where `str` begins (returns -1) if not found
`length()`	Returns the number of characters in this String
`replace(str, new)`	Returns a new String with all `str` in this String replaced with `new`
`substring(i)`	Returns characters in this String from index `i` (inclusive) to end (exclusive)
`substring(i, j)`	Returns characters in this String from index `i` (inclusive) to `j` (exclusive)
`toLowerCase()`	Returns an all-lowercase version of this String
`toUpperCase()`	Returns an all-uppercase version of this String

Random Method	Description
`nextInt(max)`	Returns a random integer from 0 (inclusive) to `max` (exclusive)
`nextInt(min, max)`	Returns a random integer from `min` (inclusive) to `max` (exclusive)

Math Method	Description
`Math.abs(val)`	Returns the absolute value of `val`
`Math.max(val1, val2)`	Returns the larger of the two values `val1` and `val2`
`Math.min(val1, val2)`	Returns the smaller of the two values `val1` and `val2`
`Math.pow(base, exp)`	Returns the value of `base` raised to the `exp` power
`Math.sqrt(num)`	Returns the square root of `num`

Scanner Method	Description
`next()`	Returns the next token as a String
`nextLine()`	Returns the entire line as a String
`nextInt()`	Returns the next token as an int, throws exception if cannot
`nextDouble()`	Returns the next token as a double, throws exception if cannot