

CSE 142 Midterm Cheat Sheet

```
// Loops:
for (initialization; test; update) {
    statement(s);
    ...
}

while (condition) {
    statement(s);
}

// variable declaration, initialization
type name = value;

// object variable declaration,
// construction
Type objectName = new Type (parameters);
```

```
// Method declaration:
public static type name (parameters) {
    statement(s);
    ...
    return expression;
}

// Conditional
if (test) {
    statement(s);
} else if (test) {
    statement(s);
} else {
    statement(s);
}
```

Math:

| Method | Description |
|-----------------------------------|-----------------------------------|
| Math.abs(<i>value</i>) | absolute value |
| Math.min(<i>v1</i> , <i>v2</i>) | smaller of two values |
| Math.max(<i>v1</i> , <i>v2</i>) | larger of two values |
| Math.round(<i>value</i>) | nearest whole number |
| Math.sqrt(<i>value</i>) | square root of <i>value</i> |
| Math.pow(<i>b</i> , <i>e</i>) | <i>b</i> to the power of <i>e</i> |
| | |

Scanner:

| Method | Description |
|--------------|-------------------------------|
| nextInt() | reads/returns input as int |
| nextDouble() | reads/returns input as double |
| next() | reads/returns input as String |

Random:

| Method | Description |
|-----------------------|---|
| nextInt(<i>max</i>) | random integer from 0 to <i>max</i> -1 (both inclusive) |

String:

| Method | Description |
|--|---|
| contains(<i>str</i>) | true if this string contains the other's characters inside it |
| endsWith(<i>str</i>), startsWith(<i>str</i>) | true if this string starts/ends with the other's characters |
| equals(<i>str</i>) | true if this string is the same as <i>str</i> |
| equalsIgnoreCase(<i>str</i>) | true if this string is the same as <i>str</i> , ignoring capitalization |
| indexOf(<i>str</i>) | index in this string where given string begins (-1 if not found) |
| length() | number of characters in this string |
| replace(<i>str1</i> , <i>str2</i>) | replace all occurrences in this string of <i>str1</i> with <i>str2</i> |
| substring(<i>i</i> , <i>j</i>) | characters in this string from index <i>i</i> (inclusive) to <i>j</i> (exclusive) |
| toLowerCase(), toUpperCase() | a new string with all lowercase or uppercase letters |
| charAt(<i>i</i>) | returns char at index <i>i</i> |

Truth table for boolean expressions:

| p | q | p && q | p q |
|-------|-------|--------|--------|
| true | true | true | true |
| true | false | false | true |
| false | true | false | true |
| false | false | false | false |