CSE 142 Midterm
Cheat Sheet

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

if (test) {
    statement(s);
} else if (test) {
    statement(s);
} else {
    statement(s);
}

while (condition) {
    statement(s);
}

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

Math Method	Description
`Math.abs(`*value*`)`	absolute value
`Math.min(`*v1*`, `*v2*`)`	smaller of two values
`Math.sqrt(`*value*`)`	square root (returns `double`)
`Math.pow(`*b*`, `*e*`)`	base to the exponent power (returns `double`)
`Math.max(`*v1*`, `*v2*`)`	larger of two values
`Math.round(`*value*`)`	nearest whole number
`Math.floor(`*value*`)`	rounds down (truncates)
`Math.ceil(`*value*`)`	rounds up

Scanner Method	Description
`nextInt()`	reads/returns input token as `int`
`nextDouble()`	reads/returns input token as `double`
`next()`	reads/returns input token as `String`
`nextLine()`	reads/returns line of input as `String`

Random Method	Description
`nextInt(`*max*`)`	random integer from 0 to *max*-1 (both inclusive)

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

```
type name = value;                  // variable declaration and initialization
(type) value                        // type casting
Type objectName = new Type(parameters);   // object construction
```