

1. Write down the values that will be printed to the screen.

```
// assume that nums is an array of integers as shown
// |8|6|7|5|3|0|9|
```

```
// 1A
int k = 1;
while (k < nums.length) {
    if (k > 5 && k < 9) {
        System.out.println(k + "," + nums[k]);
    }
    k++;
}
```

```
// 1B
for (k = 1; k < nums.length; k++) {
    if (nums[k-1] > nums[k]) {
        System.out.println(k + "," + nums[k]);
    }
}
```

```
// 1C
k = 1;
while (k < nums.length) {
    int val = nums[k] + 10;
    System.out.println(val);
    k = k + 2;
}
```

```
// 1D
int c = nums.length;
for (k = 0; k < nums.length; k++) {
    if (nums[k] % 2 == 1) {
        c--;
        System.out.println(c + "," + nums[k]);
    }
}
```

2. Write down the values that will be printed to the screen.

```
//          10          20          30
//          012345678901234567890123456789012345678
String s = "More Sample Midterm Questions | CSC 130";
String t = "m";
int k = -1;
int p = -1;
int q = -1;
```

```
// 2A
k = s.indexOf(t, 0);
System.out.println(k);
```

```
k = s.indexOf(t, 10);
System.out.println(k);
```

```
k = s.indexOf(t, 20);
System.out.println(k);
```

```
k = s.indexOf(t, 30);
System.out.println(k);
```

```
k = t.indexOf(s, 0);
System.out.println(k);
```

```
// 2B
t = s.substring(0, 3);
System.out.println(t);
```

```
q = s.length();
t = s.substring(q-7, q);
System.out.println(t);
```

```
t = t + s.substring(11, 19);
System.out.println(t);
```

```
// 2C
for (k = 0; k < s.indexOf("|", 0); k++) {
    t = s.substring(k, k+1);
    t = t.toLowerCase();
    if (s.indexOf(t, k) != k) {
        System.out.println(k + "," + t);
    }
}
```

3. Write method headers for the following descriptions.

median has one parameter (an array of integers) and returns an integer

slice takes three parameters (an array of booleans and two integers) and returns an array of booleans

4. Write code to create an array of 51 decimal-point numbers.

5. (On the actual exam, there will be at least one question in which you are given a method header and description of a method and asked to implement it. No such question is provided on this review sheet.)

6. State the type of error.

Assume *nums* is an array of integers and *s* and *t* are strings.

syntax: illegal Java code

runtime: legal Java code, but program will crash

semantic: legal Java code, doesn't crash, but an erroneous result

none: the code is legal, doesn't crash, and produces a correct result

```
// 6A: determine the sum of the numbers
int suma = 0;
for (int k = 0; k <= nums.length; k++) {
    suma = suma + nums[k];
}
```

```
// 6B: determine the sum of the numbers
int sumb = 0;
for (int k = nums.length - 1; k >= 0; k--) {
    sumb = sumb + nums[k];
}
```

```
// 6C: determine the sum of the numbers
int sumc = 0;
for (int k = 0; k < nums.length; k++) {
    sumc = sumc + nums(k);
}
```

```
// 6D: join two strings and convert to upper case
//     for example "Red" and "Blue" becomes "REDBLUE"
String newstr = s + t.toUpperCase();
```

```
// 6E: join two strings and convert to upper case
//     for example "Red" and "Blue" becomes "REDBLUE"
String joinstr = s + t;
joinstr.toUpperCase();
```

```
// 6F: if t appears inside of s, take t out of s
if (s.indexOf(t, 0) > -1)
    s = s - t;
}
```

```
// 6G: set t to be the characters of s in reverse
//     for example "Red" becomes "deR"
t = s.substring(s.length-1, 0);
```