Midterm Practice Exam #2

Write your answers to the questions below on this sheet. You may **NOT** discuss with others or lookup any information.

1.) Write a call to a method named `blah` with the parameters `5` and `6`.

2.) What is wrong with the following code, if anything?
```
public static int doSomething(int input) {
  switch (input) {
  case 1:
    return 2;
  case 2:
    return 3;
  }
}
```

3.) What is wrong with the following code, if anything?
```
public static int[] qwerty(int[] input) {
  return input[0];
}
```

4.) What is the output of the following code?
```
int[] a = new int[]{5, 4, 3, 2};
for (int x = 0; x < a.length - 1; x++) {
  System.out.println(a[x] + 1);
}
```

5.) Rewrite the code below to not use && and ||. The code you write should be equivalent. You may assume that variables a and b are of type int.

```
if (a > 2 && b < 1) {
  x = 1;
} else {
  x = 2;
}
```

6.) What is wrong with the following code, if anything?
```
public static void something(int x) {
  int x = 27;
  System.out.println("42");
}
```

7.) Rewrite the code below to not use && and ||. The code you write should be equivalent. You may assume that variables c and d are of type int.

```
if (c <= 3 || d >= 7) {
  x = 3;
} else {
  x = 4;
}
```

8.) What does the following code print, assuming it is run in jGrasp with jGrasp's "Run"
command?

```
public static void useX1(int x) {
  x = 5;
  System.out.println(x);
}
public static void useX2(int x) {
  useX1(x);
  System.out.println(x + 1);
  x = 8;
}
public static void main(String[] args) {
  int x = 42;
  useX2(x);
  System.out.println(x);
}
```

9.) What is wrong with the following code, if anything?

```java
public static String p3(String x) {
   return x;
}
public static void main(String[] args) {
   p3(5);
}
```

10.) Convert the following `for` loop into a `while` loop.

```java
for (int x = 0; x < 10; x++) {
   System.out.println(x);
}
```

11.) What is wrong with the following code, if anything?

```java
public class Foo {
   private int x;
   public Foo(int y) {
      int x = y;
   }
   public int getX() {
      return x;
   }
}
```

12.) What is wrong with the following code, if anything?

```
public static void foo(int x) {
  if (x == 8) {
    System.out.println(x);
  } else {
    System.out.println(42);
  }
  return 12;
}
```

13.) Assume a class named `Bar` is defined whose constructor takes a `long`, and that `long` is used to initialize an instance variable named `myLong`. With this in mind, write a memory diagram corresponding to the following code snippet:

```
Bar b1 = new Bar(7);
Bar b2 = b1;
b1 = new Bar(8);
```

14.) For each loop below, state the number of iterations each loop will perform. If the loop is an infinite loop, state "infinite".

- `for (int x = 0; x < 5; x++) { ... }`

- `for (int x = 0; x < 6; x += 2) { ... }`

- `for (int x = 5; x >= 0; x--) { ... }`

- `for (int x = 3; x > 10; x--) { ... }`

- `for (int x = 3; x >= 0; x) { ... }`