Topics for exam:
if-statements
if-else statements
for-loops (not for-each loops)

(1) Given this block of Java-like code, describe in English when each of code blocks a-d would execute:

```java
if(booleanExpressionX) {
  //code block a
}
else if (booleanExpressionY) {
  //code block b
}
else if(booleanExpressionZ) {
  //code block c
}
else {
  //code block d
}
```

(2) Given this block of Java-like code, describe in English when each of code blocks a-d would execute:

```java
if(booleanExpressionX || booleanExpressionX2) {
  //code block a
}
else {
  //code block b
}

if(boolean ExpressionY) {
  //code block c

  if(booleanExpressionZ) {
    //code block d
  }
}
```

(3) Given this block of Java-like code, describe in English when each of code blocks a-d would execute:

```java
if(booleanExpressionX) {
  //code block a
}
if(booleanExpressionY && booleanExpressionY2) {
  //code block b
}

if(boolean ExpressionZ) {
```

```
      //code block c
    }
    else {
      //code block d
    }
```

(4) Use the following for-loop definition to answer parts a – d. Parts e & f do not use the same code.

```
for(int count = 1; count < 9; count++) {
    _canvas.add(new graphics.Rectangle());
}
```

   a) What is the initial value of this loop's counter variable?
   b) What is the value of this loop's counter variable when the loop is done executing?
   c) Circle the part of the code above that is considered the loop body.
   d) How many times would this loop execute?

(5) Which of the following would be the correct choice to fill in the blank in the code to make this loop execute 5 times?

```
for (int count = 1; _____; count++) {
      //some code for loop
}
```

   a) `count < 5`
   b) `count <= 5`
   c) `count <= 6`

(6) Write a loop that puts 10 rectangles into a drawing canvas named canvas.

(7) Given the following declaration of a variable named map, answer parts a-d that follow:

java.util.HashMap<Student, Grade> map = new java.util.HashMap<Student,Grade>();

   a) What is the type of the keys used in map?
   b) What is the type of the values stored in map?
   c) Write the code to put something into map?
   d) Suppose you had a reference to a student named stu. How would you write the code to retrieve the Grade object associated with stu from the map?