1. Record your answers on SCANTRON form **882-E (It is green!)**
2. Print your name on your scantron in the space labeled **NAME**.
3. Print **CMSC 1513** in the space labeled **SUBJECT**.
4. Print the date, **2-14-2013**, in the space labeled **DATE**.
5. Print your **CRN, 21638,** in the space labeled **PERIOD**.
6. Print the test number and version, **T1/V1**, in the space labeled **TEST NO.**
7. Cellular phones are prohibited. The possessor of a cellular phone will receive a *zero* (*0*) if the phone rings or is visible during the test.
8. You may use your personal calculator on this test. You are prohibited from loaning your calculator or borrowing a calculator from another person enrolled in this course.
9. Mark the best selection that satisfies the question. If selection **b** is better that selections **a** and **d**, then mark selection **b**. Mark only *one* selection.
10. Darken your selections completely. Make a heavy black mark that completely fills your selection.
11. Answer all **25** questions.
12. Record your answers on SCANTRON form **882-E (It is green!)**

1. (1.2) Which component is NOT part of a computer?

    a. **CDU**
    b. **CPU**
    c. **CD**
    d. **RAM**

2. (1.3) Which programming language is NOT listed in Table 1.1 of your text?

    a. C++
    b. C
    c. C#
    d. C!

3. (1.6) What does IDE stand for?

    a. Interactive Development Environment
    b. Inference Design Engine
    c. Integrated Development Environment
    d. Interface Design Engine

4. (1.7) What is displayed by the program in the figure below?

```
package q03;
public class Q03 {
   public static void main(String[] args) {
     System.out.println(3.5*4/2-2.5);
   }
}
```

Figure 3. Program for question 3.

    a. 4.5
    b. -28
    c. -1.75
    d. 3.5

5. (1.8) What are the input and output of the Java compiler?

|	Input	Output
a.	JVM	Java Source Code File
b.	Java Source Code File	JVM
c.	Java Source Code File	Java Bytecode Executable File
d.	Java Bytecode Executable File	JVM

6. (1.9) Choose the figure that shows the output produced by the program given below?

```
package q05;
import javax.swing.JOptionPane;
public class Q05 {
   public static void main(String[] args) {
      JOptionPane.showMessageDialog(null, "Welcome to Java");
   }
}
```
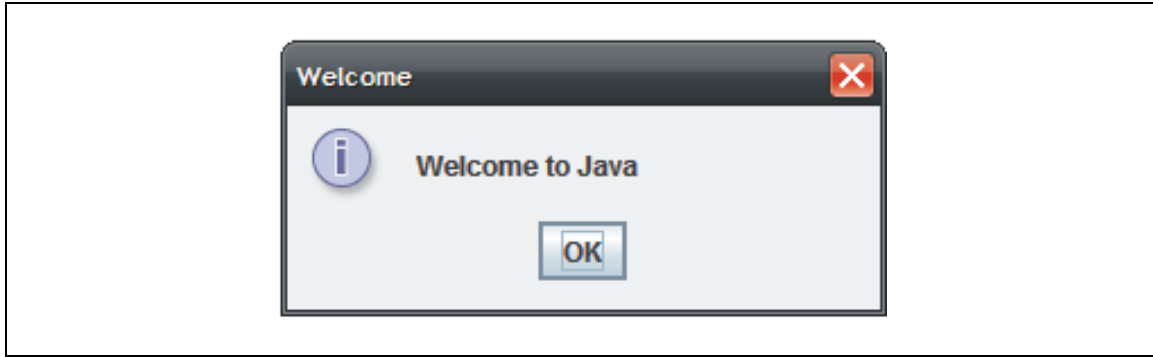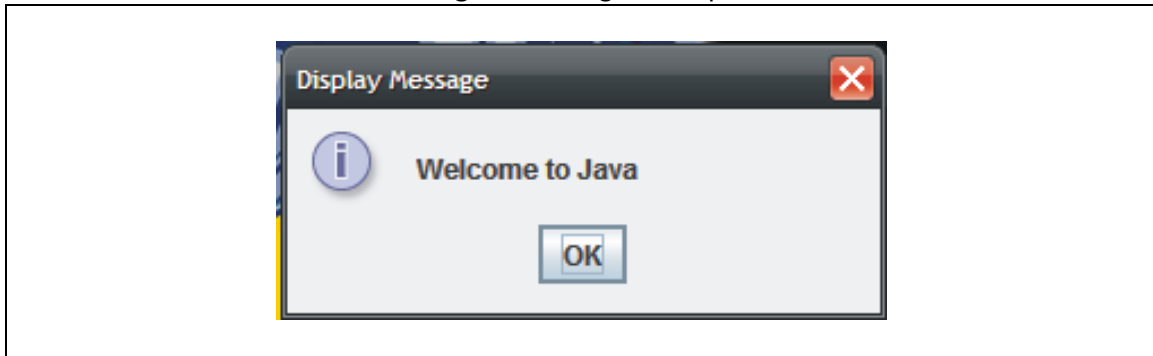
Figure 5. Program for Question 5
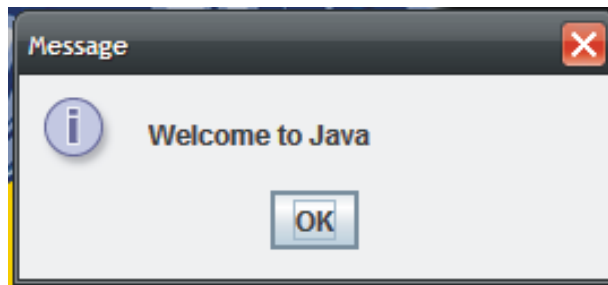
a. **Figure 5a.** Program output.
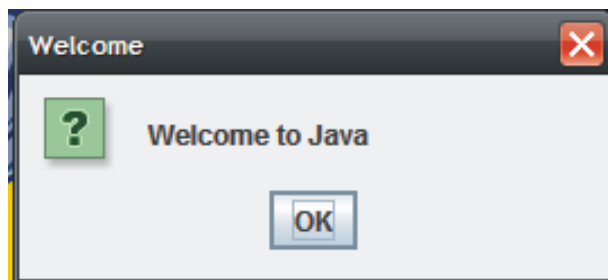
b. **Figure 5b.** Program output.

c. **Figure 5c.** Program output.

d. **Figure 5d.** Program output.

7. (1.10) Which of the following is NOT one of the recommendations given in our text.

    a. Include a summary at the beginning of the program that explains what the program does.
    b. Use javadoc comments (/** … */) for commenting an entire class or an entire method.
    c. Employ a consistent indentation style to make programs clear and easy to read.
    d. Always include a comment that identifies the author and the date of the program.

8. (1.11) Find the selection that corrects an error in the program shown below.

```
package q06;
public class Q06 {
   public static main(String[] args) {
     System.out.println("Welcome to Java);
   }
}
```

    a. The first line should be **package q06**.
    b. The second line should be **public static class Q06**.
    c. The third line should be **public static void main(String[] args) {**.
    d. The fourth line should be **System.out.println('Welcome to Java');**.

9. (2.2) Find the statement that does not apply to a *variable*.

   a. A variable represents a value stored in the computer's memory.
   b. A variable must be assigned a value before it can be used.
   c. A variable must be declared.
   d. A variable must have a type.

10. (2.3) What package must be imported to read data from the keyboard.

    a. java.util.Scanner
    b. java.util.Keyboard
    c. java.util.System.in
    d. java.util.Input

11. (2.3) Which statement creates an object that can be used to read input from the keyboard?

    a. Scanner input = new Scanner(System.in);
    b. Scanner keyboard = new Scanner(Keyboard);
    c. Scanner cin = new Scanner(Input);
    d. Scanner reader = new Scanner(system.in);

12. (2.3) Which of the following is NOT a method of class Scanner.

    a. nextByte()
    b. nextChar()
    c. nextInt()
    d. next()

13. (2.4) Which of the following statements is false?

    a. An identifier is a sequence of characters that consists of letters, digits, underscores, and dollar signs.
    b. An identifier must start with a letter, an underscore, or a dollar sign. It cannot start with a digit.
    c. An identifier cannot be a reserved word.
    d. An identifier is limited to 256 characters or fewer.

14. (2.5) Find the invalid declaration.

    a. int i=1,j=2;
    b. double pi,radius;
    c. real g;
    d. long k;

15. (2.6) Translate the expression for the monthly payment, shown below, to Java.

$$R = A \frac{i}{1 - (1 + i)^{-n}}$$

   a.   double R=A*i/(1-Math.pow(1+I,-n));
   b.   double R=A*i/(Math.pow(1+I,-n)-1);
   c.   double R=A*i/(1- (1+I)^-n);
   d.   double R=A*i/(1-Math.pow(1+I,n));

16. (2.7) Find the correct declaration for the named constant pi.

   a.   const double pi=3.14159;
   b.   fixed double pi=3.14159;
   c.   static double pi=3.14159;
   d.   final double pi=3.14159;

17. (2.16) What is the monthly payment on a loan of $10,000 that is repaid in monthly installments over ten (10) years at 6%?

   a. $111.02
   b. $5000.00
   c. $59.96
   d. $179.69

18. (3.2) Select the Java equality operator.

   a.   **equ**
   b.   **.EQ.**
   c.   **=**
   d.   **==**

19. (3.2) Select the Java inequality operator.

   a.   **neq**
   b.   **!=**
   c.   **.NE.**
   d.   **<>**

20. (3.3) What is printed by the program below?

```java
package q20;
public class Q20 {
    public static void main(String[] args) {
        double cash=25.0;
        System.out.println("How much case do you have?");
        if (cash<100){
            System.out.println("Only $"+cash+"!");
            System.out.println("You wicked and slothful person.");
            System.out.println("I'd never go out with you.");
        } else {
            System.out.println("$"+cash+", you're flush!");
            System.out.println("Come on baby, let's have a good time tonight.");
        }
        System.out.println("See you later.");
    }
}
```

Figure 20. Program for question 20.

```
How much case do you have?
$100.0, you're flush!
Come on baby, let's have a good time tonight.
See you later.
```
a. Figure 20a. Program output.

```
How much case do you have?
Only $25.0!
You wicked and slothful person.
I'd never go out with you.
See you later.
```
b. Figure 20b. Program output.

```
How much case do you have? $100.0, you're flush!
Come on baby, let's have a good time tonight.
See you later.
```
c. Figure 20c. Program output.

```
How much case do you have? Only $25.0!
You wicked and slothful person.
I'd never go out with you.
See you later.
```
d. Figure 20d. Program output.

21. (3.3) What is printed by the program below?

```
package q21;
public class Q21 {
  public static void main(String[] args) {
    System.out.print('a'<'A');
    System.out.print(" ");
    System.out.print('b'>'B');
    System.out.println();
  }
}
```

Figure 21. Program for question 21.

    a. true false
    b. 1 0
    c. false true
    d. 0 1

22. (3.6) What is printed by the program in the figure below?

```
package q22;
public class Q22 {
  public static void main(String[] args) {
    int score=75;
    char grade='A';
    if    (score>= 0) grade='F';
    else if (score>=60) grade='D';
    else if (score>=70) grade='C';
    else if (score>=80) grade='B';
    else if (score>=90) grade='A';
    else         grade=' ';
    System.out.println("score="+score+" grade="+grade);

  }
}
```

Figure 22. Program for question 22.

    a. score=75 grade=F
    b. score=90 grade=A
    c. score=75 grade=C
    d. score=80 grade=B

23. (3.14) What is printed by program in the figure below?

```
package q23;
public class Q23 {
   public static void main(String[] args) {
      int a=1;
      switch (a+2) {
         case 1: System.out.print("One, ");
         case 2: System.out.println( "two, buckle my shoe.");
         case 3: System.out.print("Three, ");
         case 4: System.out.println("four, shut the door"); break;
      }
      System.out.println("Five, six, pick up sticks.");
   }
}
```

Figure 22. Program for question 23.

Five, six, pick up sticks.

a. Figure 23a. Program output.

Three, four, shut the door
Five, six, pick up sticks.

b. Figure 23b. Program output.

One, two, buckle my shoe.
Three, four, shut the door
Five, six, pick up sticks.

c. Figure 23c. Program output.

One, two, buckle my shoe.
Three, four, shut the door
Five, six, pick up sticks.
Seven, eight, lay them straight.

d. Figure 23d. Program output.

24. (Lecture note 4) You are promised a gift of $1000 that you will receive one year from today. Given an annual percentage rate of 6% and a simple interest computation, what is your gift worth today?

   a. $166.67
   b. $943.40
   c. $1,060.00
   d. $6000.00

25. (3.17) Mark the selection whose expression evaluates to the corresponding value in table 25.

Selection	Variables	Expression	Value
a	**int** *a*=**40**,*b*=**30**,*c*=**20**,*d*=**10**;	*a*+*b*/*c*-*d*	43
b	**int** *a*=**20**,*b*=**15**,*c*=**10**,*d*=**5**;	*a*-*b*%*c*+*d*	10
c	**int** *a*=**4**,*b*=**3**,*c*=**2**,*d*=**1**;	++*a**b-*c*---*d*[1]	11
d	**int** *a*=**14**,*b*=**3**,*c*=**12**,*d*=**11**;	--*d*+*c**-*a*/*b*++	-46

Table 25.

---

[1] There are three (3) minus sign characters between *c* and *d*.