CS2420 Assessment Exam

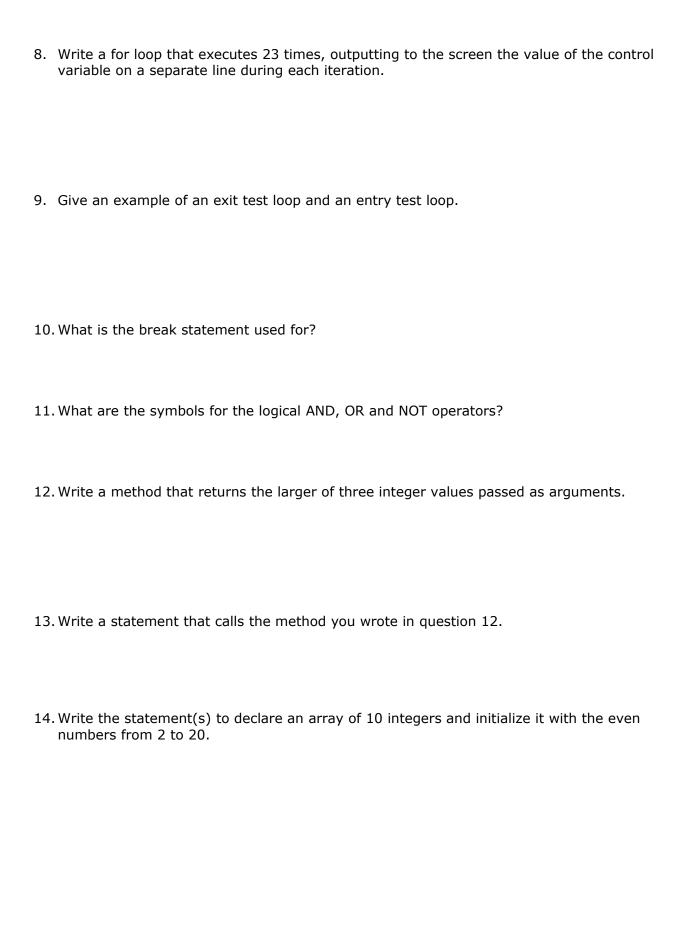
Purpose: To assess your familiarity with JAVA and fundamental object oriented concepts. This exam will not be graded.

Instructions: Answer each question as completely as you can

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istructions: Answer each question as completely as you can.			
asic	asic Java		
1.	What is bytecode?		
2.	What does the JVM do?		
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3.	What are the five arithmetic operators JAVA offers?		
4.	What is the difference between = and ==?		
5.	How does the conditional operator (?:) work?		
6.	Write a nested if statement.		
7.	What are the two different types of while loops?		

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Objects

15. Define the following terms: 1. class
2. object
3. instantiate
4. encapsulation
5. data abstraction
6. instance variable
7. inheritance
8. composition
9. polymorphism
16. What is the purpose of the class constructor method(s)?
17. How do static class variables differ from other class variables?
18. What is the purpose of an abstract class?

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Exception Handling

- 19. What is an exception?
- 20. Describe the purpose of each block:
 - 1. try
 - 2. catch
 - 3. finally

Files and Streams

```
21. Given the following declarations:
   int age;
   Scanner input = new Scanner( System.in );
   write a statement to assign a value to age from keyboard input.
```

22. Explain the difference between binary files and text files.

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23. Describe what the following program does:
       import java.util.*;
       import java.io.*;
       public class NamesFilter
          public static void main(String[] args)
          throws FileNotFoundException
              Scanner sc = new Scanner (new File(args[0]));
              PrintWriter pw = new PrintWriter(new File(args[1]));
              while(sc.hasNext()
              {
                 String fname = sc.next();
                 String Iname = sc.next();
                 pw.println(Iname + "," + fname);
              pw.close();
          }
       }
```

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UML

- 24. Define the purpose of the following UML diagrams
 Use caseActivitySequence/collaboration
 - 4. Class
- 25. Draw a class diagram for a Person class with String variables for first name and last name and an integer variable for age. Include a default constructor, parameterized constructor, and set and get methods for all class variables.

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GENERICS

- 26. Write a generic method header that accepts three values all of the same type and returns the largest of the three.
- 27. Explain the use of the following notation in a Java program

28. Explain why a Java program might use this statement:

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