CS 2119
Exam 1
B-Term 2015

Question 1: ________ (20)
Question 2: ________ (35)
Question 3: ________ (10)
Question 4: ________ (20)
Question 5: ________ (15)
TOTAL: ________ (100%) * 2 = ________ Points
1. (20 points)
On the next page you will find a Java program that contains at least 6 syntactical errors. You should

- circle and number each error
- explain why each numbered circle causes a compilation error

I’ve circled, numbered, and explained the first error. You have to find the other five.

EXPLANATION OF ERRORS
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1  Names of Java built-in classes start with a capital letter.
package exam1Package;
import java.util.Scanner;

public class Problem1 {

    public static void main(String[] args) {
        Scanner keybd = new Scanner(System.in);
        String greeting = "Hello";
        String name = "Hamel";
        int month = 1;
        int i = 1;

        System.out.println(greeting());

        int num = keybd.nextInt();
        if (1 <= num <= 10) {
            num++;
        }

        while (int month <= 12) {
            System.out.println(month);
            month++;
        }

        do {
            System.out.println(i);
            i++;
            while (i < 10);
        }

        i = keybd.nextInt();
        while (i = 4) {
            System.out.println(i);
            i = keybd.nextInt();
        }
    }
}
(a) (15 points) Design a class that maintains information about an Employee. Each Employee has a name and an hourly wage (use data type double for the hourly wage). Write a complete Java class definition for an Employee. Your class should provide a constructor, and a method that satisfies the following purpose:

```java
// returns the weekly wage for this Employee, given the number of // hours worked in the week
```
(b) (20 points) Write a main method to test your Employee class. The main method should

- create an Employee
- prompt the user of the program to enter the number of hours worked in a week, and read in that value
- display the weekly wage for the Employee (using the user’s value for the number of hours worked)

Part of the main method is provided below to get you started:

```java
import java.util.Scanner;

public static void main (String[] args){
    Scanner keybd = new Scanner (System.in);

    // you need to provide the code to test your Employee class
    // as described above
```

3. (10 points) What is output on the console when the following snippet of Java code is executed?

```java
for (int i=1; i < 4; i++){
    int j = 1;
    do {
        j++;
        if (i > 2){
            System.out.println("A");
        }
        else{
            System.out.println("B");
        }
    } while (j < 3);
}
```
4. (20 points) The following class is defined:

```java
public class Student {
    private String name;
    private ArrayList<Integer> quizGrades;

    public Student (String name) {
        this.name = name;
        this.quizGrades = new ArrayList<Integer>();
    }

    // adds a quiz grade to this student’s list of quiz grades
    public void addGrade (int grade) {
        this.quizGrades.add(grade);
    }
}
```

You decide to add a new method to the Student class that returns the sum of all of the student’s quiz grades. The name of the method will be `sumQuizGrades`.

(a) Write the method `sumQuizGrades` as a stub.

(b) Now write the complete method definition for `sumQuizGrades`. Your solution must use an enhanced for loop.
5. (15 points) Provide a brief (1 or 2 sentence) definition of each of the following terms, as they pertain to Java programming:

activating object

Javadoc

constructor

(end of exam)