**Week 5 Mon-Tue-Wed Lab Assignments**

* **Self-Test: Consider the following method:**

public static int mystery (int ex, double y, char ch)

{

int u;

if(‘A’ <= ch && ch <= ‘R’)

return (2 \* x + (int) (y));

else

return((int) (2 \* y) – x);

}

**What is the output of the following Java statements?**

* System.out.println(mystery(5, 4.3, ‘B’)); **14**
* System.out.println(mystery(4, 9.7, ‘v’)); **15**
* System.out.println(2 \* mystery(6, 3.9, ‘D’)); **30**
* **In the following program, number the marked statements to show the order in which they will execute (the logical order of execution).**

import java, util.\*;

public class Exercise6

{

static Scanner console = new Scanner(System.in);

public static void main(String[] args)

{

int num1;

int num2;

\_\_\_\_**1**\_\_\_\_System.out.println(“Please enter two integers on” +

separate lines”);

\_\_\_\_**2**\_\_\_\_num1 = console.nextInt();

\_\_\_\_**3**\_\_\_num2 = console.nextInt();

\_\_\_\_**4**\_\_\_\_func(num1, num2);

\_\_\_\_**8**\_\_\_\_System.out.println(“The two integers are “ + num1 +

“, “ + num2);

}//end of main()

public static void func(int val1, int val2)

{

int val3;

int val4;

\_\_\_**5**\_\_\_\_\_val3 = val1 + val2;

\_\_\_**6**\_\_\_\_\_val4 = val1 \* val2;

\_\_\_**7**\_\_\_\_\_System.out.println(“The sum and product are “ + val3 +

“ and “ + val4);

}//end of func()

}//end of class

* **Mark the following statements as True or False:**
* The instance variables of a class must be of the same type. **False**
* The methods of a class must be public. **True**
* A class can have more than one constructor. **True**
* A constructor can return a value of the int type. **False**
* An accessor method of a class access and modifies the data members of the class. **True**
* **Self-Test: Consider the definition of the following class:**

**public class CC**

**{**

**private int u;**

**private int v;**

**private double w;**

**public CC() Line 1**

**{}**

**public CC(int a) Line 2**

**{}**

**public CC(int x, int b) Line 3**

**{}**

**public CC(int a, int b, double d) Line 4**

**{}**

**}**

* Give the line number containing the constructor that is executed in each of the following declaration:
* CC one = new CC(); **Line 1**
* CC two = new CC(5, 6); **Line 3**
* CC three = new CC(2, 8, 3.5); **Line 4**
* Write the definition of the constructor in Line 1 so that the instance variables are initialized to 0.

**public CC(){**

**u = 0;**

**v = 0;**

**w = 0;**

**}**

* Write the definition of the constructor in Line 2 so that the instance variable u is initialized according to the value of the parameter, and the instance variable v and w are initialized to 0.

**public CC(int a){**

**u = a;**

**v = 0;**

**w = 0;**

**}**

* Write the definition of the constructor in Line 3 so that the instance variables u and v are initialized according to the values of the parameters a and b, respectively, and the instance variable w is initialized to 0.0.

**public CC(int x, int b){**

**u = x;**

**v = b;**

**w = 0;**

**}**

* Write the definitions of the constructors in Line 4 so that the instance variables u, v, and w are initialized according to the values of the parameters a, b, and d, respectively.

**public CC(int a, int b, double d){**

**u = a;**

**v = b;**

**w = d;**

**}**

* **Self-Test: Write the definition of a class that has the following properties:**
* The name of the class is **Secret**.
* The **class Secret** has four instance variables: **name** of type String, **age** and **weight** of type int, and **height** of type double.
* **The class Secret has the following methods:**
* **print** ---- outputs the data stored in the data members with the appropriate titles.
* **setName** ---- method to set the name
* **setAge** ---- method to set the age
* **setWeight** ---- method to set the weight
* **setHeight** ---- method to set the height
* **getName** ---- value returning method to return the name
* **getAge** ---- value returning method to return the age
* **getWeight** ---- value returning method to return the weight
* **getHeight** ---- value returning method to return the height
* **default constructor** ---- the default value of name is the empty string “”; the default values of age, weight, and height are 0.
* **constructor with parameters** --- sets the value of the instance variables name, age, weight, and height to the values specified by the user.
* Write the definitions of the method members of the class Secret, as described in Part C.

**public class Secret{**

**private String name = " ";**

**private int age = 0;**

**private int weight = 0;**

**private double height = 0;**

**// default constructor**

**public Secret(){**

**name = " ";**

**age = 0;**

**weight = 0;**

**height = 0;**

**}**

**public Secret(String nm, int ag, int wgt, double ht){**

**name = nm;**

**age = ag;**

**weight = wgt;**

**height = ht;**

**}**

**// print**

**public void print(){**

**System.out.println ("Name: " + name + "\nAge: " + age + "\nWeight: " + weight + "\nHeight: " + height);**

**}**

**// set**

**public void setName(String nm){**

**name = nm;**

**}**

**public void setAge(int ag){**

**age = ag;**

**}**

**public void setWeight(int wgt){**

**weight = wgt;**

**}**

**public void setWeight(int ht){**

**height = ht;**

**}**

**// get**

**public double getName(){**

**return eventName;**

**}**

**public int getAge(){**

**return eventAge;**

**}**

**public int getWeight(){**

**return eventWeight;**

**}**

**public double getHeight(){**

**return eventHeight;**

**}**

**}**