

COSC 120 Exam Review #2
Fall 2008

Write a method `xDividesY` which takes in two integers and returns a Boolean. The return value is true if `y` is a multiple of `x` and false if `y` is not a multiple of `x`.

Write the algorithm to get a newspaper. Use decomposition to simplify the algorithm with at least 2 methods.

Identify the formal parameter(s) and local variable(s) in the following method:

```
private int factorial(int n){
    int result =1;
    for (int i = 1; i<=n; i++){
        result*=i;
    }
    return result;
}
```

Give two examples of a control statement.

Write a description of what this Java code does.

```
int counter = 10;
for (int i=1; i <counter; i++){
    if (i<counter)
        System.out.println("We still have" + (counter-i) + "more loops");
    else
        System.out.println("This is the last loop");
}
```

Write Java code for the above example using a WHILE loop.

Find the errors in the following code and explain them.

```
public void run(){
    while(x<5{
        System.out.println("x=" , x)
        x--;
    }
}
```

Give the code that will ask for a number from the user and then sum the numbers from 1 to the number provided by the user. Use a while loop for this.

Give the code for the method `factorial`. Assume that you will be passing in the number as a parameter and returning the factorial of that number.

Give three possible correct configurations of an if statement.

Give the code for the method isEven. Assume that you will be passing in the number to be tested as a parameter and return a boolean indicating whether or not the number was even.

What is the difference between a method and a program?

You have three tools: if, for, and while. Pick the proper tool to use for each situation, and write a code snippet to demonstrate how you would do it:

- a. You need to display 6 identical circles.
- b. You need to check to see if the input was a number greater than 4.
- c. You need to print out the numbers 1-10.
- d. You need to continually ask the user for input until they put in -1 to quit the program.
- e. You want to see if the input equals "a" or "A".

How do you specify that a method requires 3 integers to be passed to it?

What is a foreseeable problem with this code?

```
int n = 20;
while( n > 0){
    println("Hi guys!");
    n++;
}
```

When will success be displayed in the following code?

```
if( letter == "a" || letter == "A" && (x > 5 && x < 10) ){
    println( "success!" );
}
```

What is wrong with the following code:

```
public class test {
    private int n1;

    private int foo(int x){
        return n1*x;
    }

    public void run() {
        n1 = x = 4;
        System.out.println("The answer is" + foo());
    }
}
```

Given the following class definition, what methods can be called?

```
public class Student{
    private String student_name;
    private int id_number;

    public Student(String name, int id){
        student_name = name;
        id_number = id;
    }

    public String toString() {
        return (student_name + “(#” + id_number + “)”);
    }

    public String getName() {
        return student_name;
    }

    public int getID() {
        return id_number;
    }
}
```

What is wrong with the following code:

```
import java.util.*;

public class foo {

    private n1;
    println(n1);

    public void run() {
        Scanner input = new Scanner (System.in);
        System.out.println(“Enter a number:);
        n1 = input.nextInt();

        n1 = n1*n1;
        System.out.println(n1)
    }
}
```