**King Fahd University of Petroleum & Minerals**

**College of Computer Sciences and Engineering**

**Information and Computer Science Department**

**ICS 108: Object Oriented Programming (3-3-4)**

Assignment 1 – Spring Semester 222

**Instructions:**

* Please submit 3 java files, one for each problem.
* DO NOT compress your files.
* Double check your files after submission by opening them on the browser or downloading them from Blackboard.

**Late submission policy:**

Submissions received within 24 hours after the deadline will be graded out of 60% of the overall grade.

No submissions will be accepted after 24 hours of the original deadline.

## Problem 1 (10 points)

(Find numbers divisible by 3 or 4, but not both) Write a program that displays all the numbers from 100 to 200, that are divisible by 3 or 4, but not both.

## Problem 2 (20 points)

(Sum the digits in an integer) Write a method that computes the sum of the digits in an integer. Use the following method header:

public static int sumDigits(long n)

For example, sumDigits(234) returns 9 (= 2 + 3 + 4).

(Hint: Use the % operator to extract digits and the / operator to remove the extracted digit. For instance, to extract 4 from 234, use 234 % 10 (= 4 ). To remove 4 from 234, use 234 / 10 (= 2 3 ). Use a loop to repeatedly extract and remove the digit until all the digits are extracted.

Write a test program that prompts the user to enter an integer then displays the sum of all its digits.

## Problem 3 (20 points)

(Occurrences of a specified character) Write a method that finds the number of occurrences of a specified character in a string using the following header:

public static int count(String str, char a)

For example, count("Welcome", 'e') returns 2.

Write a test program that prompts the user to enter a string followed by a character then displays the number of occurrences of the character in the string.