CS2401 Lab 2 – Josephus' Circle

Released on: Tuesday June, 18 **Due on:** Wednesday June 26 @ 11:59pm
How: Follow our TA instructions
What: a java file containing your solution

In this lab, you will learn about linked lists, their implementations and operations.

Problem: Flavius Josephus was a famous historian of the first century, but apparently, he would not have lived to become famous without the exercise of his computational and mathematical abilities. A legend says that during the Jewish-Roman war he was part of a band of 41 rebels trapped in a cave by the Romans. To avoid capture, the rebels decided to form a circle and proceeded to kill every third remaining person until no one was left. However, Josephus quickly calculated where he and a friend should stand to avoid all this non-sense.

Write a program that given two positive numbers:

a) the number of people in the circle,
b) the elimination number, for example, if this number is exactly two we eliminate every second person,

determines the survivor's number.

Note. You must populate a (circular) linked list and repeatedly delete elements from it until only one remains.

1/ Describe how **you want to solve** this problem: write this description as a comment at the top of your java file. The description should be free of typos and grammatically correct.

2/ Put together a **Java code** that addresses the above problem. Each instruction of your code should be commented to explain what it does and why the whole piece of code is an actual solution to the above problem.

What do you have to turn in? Your java file that is as follows:

1/ A java file containing your solution. Please follow your TA instructions on how to submit your assignment.

2/ The header of your java file is a comment containing the **clear description** of what you are trying to achieve.

3/ The body of **your code** (the java program) is **commented** so that each instruction is very clear.

Criteria for grading:

0/ [10 pts] Your lab is submitted according to specifications (proper file name, proper format)
1/ [20 pts] Description of what you want to accomplish (clear and grammatically correct)
2/ [50 pts] Code of your target solution or functionality
3/ [20 pts] Comments of your code (relevant and clear)