United International University
Department of Computer Science and Engineering
CSE 236 Assembly Programming Laboratory,
Assignment 3, Spring 2021

Problem 1 Description

Consider an **extended Fibonacci series** (we will call this **FibonacciEXT**) where the **first three numbers** are 0, 1 and 2. Each number in this series is the summation of the **previous three numbers**. Now, write a recursive procedure for calculating **FibonacciEXT**. You will have to-

- Implement the procedure using recursion

- **[3 marks]** Correctly handle the base case

- **[5 marks]** Correctly handle the recursive case

- **[1 mark]** Use the INDEC procedure (from the book) for taking an user input

- **[1 mark]** Use the OUTDEC procedure (from the book) for printing the calculated **FibonacciEXT**

Problem 2 Description

A recursive function for calculating the **GCD (Greatest Common Divisor)** is given below-

```
int GCD(int a, int b){
    if (b == 0) return a;
    else return GCD(b, a%b)
}
```

Implement a recursive procedure for calculating **GCD** following the code given above. You will have to-

- Implement the procedure using recursion

- **[2 marks]** Correctly handle the base case

- **[6 marks]** Correctly handle the recursive case (Use the DIV instruction for handling the modulo operation)

- **[1 mark]** Use the INDEC procedure (from the book) for taking an user input

- **[1 mark]** Use the OUTDEC procedure (from the book) for printing the calculated **GCD**

Assignment Rules

- **YOU CAN'T USE ANY LIBRARIES OR ANY OTHER INSTRUCTIONS THAT YOU FIND IN THE INTERNET THAT WASN'T COVERED IN CLASS. YOU WILL RECEIVE 0 IF THIS IS THE CASE.**

- Assignment must be submitted in eLMS. Submission via email won't be accepted. **YOU WON'T HAVE TO COPY THE CODES TO A .txt file. JUST ZIP THE TWO ASSEMBLY FILES.**

- Rename your zip file to your student id.

- Deadline for the assignment is 24/05/2021 at 9:00 AM.

- **DO NOT COPY ANY CODE**. Penalty for plagiarism is -100%. Also, powerful plagiarism checker is now included in eLMS. So, your submitted assignment will be automatically checked for plagiarism against your classmates and against the internet by eLMS.

- No request for extending assignment deadline will be entertained.