

**Royal University of Phnom Penh**  
**Master of Information Technology Engineering**  
**Course: Distributed Systems**  
**Lecturer: Dr. Taing Nguonly**

**Assignment 1**

*19 July 2019*

**Submit to:** Google Class Room (by Team Leader)  
**Description:** Name all your team members  
**Due Date:** 31 July 2019

**Introduction**

This assignment will help students to understand the unique behavior of TCP protocol, reliable communication for implementing a file server. It also gives students a clue on how to divide a large file into smaller chunks and send those chunks continuously to server.

Based on TCPFileServer.java and TCPFileClient.java, students are asked to write a TCP File Server program which includes both client and server. By working individual or in pair, student must complete the assigned task with the following requirements:

**Server**

- Wait for client to connect on a specific port
- Support 3 commands from clients
  - get aaa.zip -> send file "aaa.zip" to client
  - put bbb.zip → receive file "bbb.zip" from client
  - quit → disconnect current client
- Server should detect file "aaa.zip" whether it exists and informs client about this information.
- Implement "while loop" at server to handle "get" and "put" operations so long as "quit" is received from client
- After "quit" received, server disconnects the current client session and still be able to accommodate another client

**Client**

- Connect to server on a specific port
- Possibly send 3 commands to server
  - get aaa.zip → download "aaa.zip" from server if the file exists at the server
  - put bbb.zip → upload "bbb.zip" to server if the file exists at client
  - quit → disconnect
- Client should detect file "bbb.zip" whether it exists and displays to client screen. If file does not exist, nothing is sent to server
- The "get" and "put" commands can be used as many times as client needs until "quit" is hit. To accomplish this task "while loop" should be implemented

### **Evaluation Criteria**

- This assignment accounts 10% of total mark
- Lecturer will evaluate the score based on:
  - How program meets the objective
  - The way to write a program
  - Code ethic and plagiarism

All the best!