**Assignment Submission**

**Heading: Challenge 01**

**Approach:** [How did you understand and break down the problem in the lab? What approach did you select after research and analysis? Which methods and preprocessing techniques did you employ? How did you address challenges and seek help during problem-solving?]

**Solution:**

Understanding and breaking down the problem in a Cisco Packet Tracer lab involves first carefully reading and understanding the lab instructions. Then, we need to analyse the n/w topology provided in the lab scenario and identify the task or configs required to achieve the desired outcome. For example: If the lab involves setting up a n/w with router, switches, and PCs, we'll need to understand how these devices are connected and what configs are needed on each device.

After understanding the problem, the next step is to select an approach based on research and analysis. This involves reviewing documentation, textbooks, and online resources to understand relevant networking concepts and cmds. we'll also need to consider the specific requirements and constraints of the lab scenario. For instance, if the lab involves configuring routing protocols, we'll need to research the best practices for setting up those protocols and choose the most appropriate one for the given n/w topology.

Once we've selected an approach, we'll need to deploy various methods and preprocessing techniques to configure the n/w devices accordingly. This might include assigning IP addresses, configuring VLANs, setting up routing protocols, implementing security measures, and more. These steps ensure that the n/w is properly configured to meet the requirements of the lab scenario.

During problem-solving, it's important to address any challenges that arise promptly. This might involve troubleshooting issues with device configs, verifying connectivity, or resolves network errors. We can use built-in help features within Cisco Packet Tracer, such as tooltips and simulation mode, to assist with troubleshooting. Additionally, we can seek help from peers, instructors, or online resources like forums and community sites to find solutions to specific problems. Experimentation is also key trying different configs or approaches can help learn from the outcomes and improve our problem-solving skills. By following a systematic approach and available resources, we can effectively tackle Cisco Packet Tracer lab exercises.