**LAB 2**

**TASK 1: Why Are We Using the Cisco 2911 Router and Not Others?**

**Reasons for Using the Cisco 2911 Router in Cisco Packet Tracer**

1. **Balanced Features and Performance**
   * **Performance**: The Cisco 2911 offers a well-rounded balance between performance and features, making it ideal for a variety of network simulation scenarios.
   * **Feature Set**: Supports advanced functionalities like security protocols, routing protocols (e.g., OSPF, EIGRP), and IP services, providing versatility for both basic and complex simulations.
2. **Educational Focus and Compatibility**
   * **Simulation Needs**: Chosen for its relevance to Cisco's networking curriculum, it provides a practical experience of configuring a mid-range router.
   * **Compatibility**: The 2911 router is well-suited to different network configurations, making it a valuable learning tool for students and networking professionals.

**TASK 2: Why Are We Using the Cisco 2950T or 2960 Switch and Not Others?**

**Reasons for Using the Cisco 2950T or 2960 Switch in Cisco Packet Tracer**

1. **Balanced Functionality and Educational Value**
   * **Feature Set**: Both the Cisco 2950T and 2960 offer essential Layer 2 switching features such as VLANs, Spanning Tree Protocol (STP), and port security, making them well-suited for learning and simulating core networking concepts.
   * **Educational Focus**: These switches are selected for their use in educational settings, helping learners understand basic and intermediate switching technologies.
2. **Compatibility and Real-World Relevance**
   * **Realistic Simulations**: The 2950T and 2960 are commonly deployed in real-world networks, making them ideal for simulating realistic network setups and configurations.
   * **Practical Application**: Their inclusion ensures Packet Tracer simulations align with real-world networking practices, allowing learners to gain experience with industry-standard devices.
3. **Comparison with Other Switch Models**
   * **Older or Basic Models**: While switches like the 2950 offer fundamental features, they lack some of the advanced capabilities found in newer switches. The 2950T, however, enhances performance with Gigabit Ethernet uplinks.
   * **Advanced Models**: More advanced switches may not be included in Packet Tracer due to complexity or resource constraints, while the 2960 and 2950T strike a practical balance between functionality and ease of use, making them ideal for educational simulations.