Hands-On #2

1. Why is stranded rather than solid cable used for patch cables?

Patch cables are used to connect devices within a limited distance, typically less than 10 meters, and they are designed to transmit high-frequency signals with low signal loss. Stranded cable is preferred over solid cable for patch cables due to its better flexibility, lower signal loss, better shielding, and cost-effectiveness.

2. Why is it critical not to score the jacket too deeply when stripping the cable?

Stripping the insulation from the copper conductors in a cable is a crucial step in preparing the cable for termination or repair. It is critical not to score the jacket too deeply when stripping the cable because it can cause damage to the conductors, increase the risk of signal loss, make it more difficult to terminate the cable properly and reduce the life of the cable.

3. Why is it recommended to expose more than .5 inches of the wire pairs?

Exposing more than 0.5 inches of wire pairs is recommended because it facilitates easier termination and installation of connectors, provides better flexibility for troubleshooting and repairs, and helps prevent accidental damage during installation or maintenance activities.

4. Why is it critical to use the proper pin colors in order?

If we don't properly pin colors in order, the connection will not work. It will be difficult to find the issue later.

5. Why is it critical to cut the wire pairs off .5 inches or less before inserting them into the connector?

Cutting the wire pairs off .5 inches or less before inserting them into the connector is critical to prevent wire damage, ease insertion, and reduce interference. This ensures a secure connection and reliable data transmission.

6. Why is it critical to make sure that all of the wires are pushed to the end of the connector?

pushing all of the wires to the end of an RJ-45 connector is critical for establishing a secure and reliable connection, maintaining proper wire order and alignment, minimizing cross-talk, and providing strain relief to prevent cable damage.

7. Why is it recommended to double-check the wire order and make sure the wires are to the end before crimping?

Double-checking the wire order and ensuring that the wires are fully seated before crimping is essential to avoid errors, ensure proper connectivity, and prevent damage to the wires. If not, we will have to start all over again.

8. How is a continuity tester different from a certification tester?

Here are the key differences between a continuity tester and a certification tester:

1. Purpose: A continuity tester is used to test the continuity of an electrical circuit, while a certification tester is used to test the safety and performance of electrical equipment.

2. Functionality: A continuity tester typically consists of two probes or leads that are connected to the circuit and a display screen that shows the test results, while a certification tester may test the equipment's insulation, grounding, and other safety features.

3. Applications: A continuity tester is typically used in the installation and maintenance of electrical systems, while a certification tester is used to ensure that electrical equipment meets industry standards and regulations before it is sold or used in a particular application.